



Safety Data Sheet

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|------------------------|-----------|-------------------------|----------|
| Document Group: | 32-0785-9 | Version Number: | 5.00 |
| Issue Date: | 11/19/20 | Supersedes Date: | 05/04/16 |

SECTION 1: Identification

1.1. Product identifier

3M™ Glass Cleaner and Protector, Ready-To-Use

Product Identification Numbers

| | | | |
|------------------------|------------------|----------------|-------------------|
| ID Number | UPC | ID Number | UPC |
| 70-0715-9584-0 | 00-48011-59982-8 | 70-0716-5815-0 | 500-51125-85788-3 |
| 7100020793, 7100038228 | | | |

1.2. Recommended use and restrictions on use

Recommended use

Hard Surface Cleaner

1.3. Supplier's details

| | |
|----------------------|---|
| MANUFACTURER: | 3M |
| DIVISION: | Commercial Solutions Division |
| ADDRESS: | 3M Center, St. Paul, MN 55144-1000, USA |
| Telephone: | 1-888-3M HELPS (1-888-364-3577) |

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Not classified as hazardous according to OSHA Hazard Communication Standard, 29 CFR 1910.1200.

2.2. Label elements

Signal word

Not applicable.

Symbols

Not applicable.

Pictograms

Not applicable.

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|--|-------------------|---------------------------|
| WATER | 7732-18-5 | > 99 Trade Secret * |
| C9-11 Alcohols Ethoxylated | 68439-46-3 | < 1 Trade Secret * |
| GLYCERIN | 56-81-5 | < 1 Trade Secret * |
| Isopropanol | 67-63-0 | < 1 Trade Secret * |
| SODIUM LAURYL SULFATE | 151-21-3 | < 1 Trade Secret * |
| 3M Protector | Trade Secret* | < 1 Trade Secret * |
| Chromophore substituted poly (oxy alkylene) | Trade Secret* | < 1 Trade Secret * |
| Fragrance | Trade Secret* | < 1 Trade Secret * |
| Non-Ionic Surfactants (NJTSRN 04499600-6633) | Trade Secret* | < 1 Trade Secret * |
| Methylchloroisothiazolinone | 26172-55-4 | < 0.001115 Trade Secret * |
| Methylisothiazolinone | 2682-20-4 | < 0.000375 Trade Secret * |

NJTS or NJTSRN: New Jersey Trade Secret Registry Number.

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation:**

Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:

Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:

No need for first aid is anticipated.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures**5.1. Suitable extinguishing media**

Material will not burn. Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products**Substance****Condition**

Carbon monoxide
Carbon dioxide

During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Ventilate the area with fresh air. Observe precautions from other sections.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with water. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Keep out of reach of children. Avoid release to the environment.

7.2. Conditions for safe storage including any incompatibilities

No special storage requirements.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|-------------|------------|--------|--|--------------------------------|
| GLYCERIN | 56-81-5 | OSHA | TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3 | |
| Isopropanol | 67-63-0 | ACGIH | TWA:200 ppm;STEL:400 ppm | A4: Not class. as human carcin |
| Isopropanol | 67-63-0 | OSHA | TWA:980 mg/m3(400 ppm) | |

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use in a well-ventilated area.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Safety Glasses with side shields

Skin/hand protection

No chemical protective gloves are required.

Respiratory protection

None required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state

Liquid

Color

Light Blue

Odor

Apple

Odor threshold

No Data Available

pH

6.5 - 8.5 Units not avail. or not appl.

Melting point

No Data Available

Boiling Point

212 °F

Flash Point

No flash point

Evaporation rate

No Data Available

Flammability (solid, gas)

Not Applicable

Flammable Limits(LEL)

Not Applicable

Flammable Limits(UEL)

Not Applicable

Vapor Pressure

No Data Available

Vapor Density

No Data Available

Density

No Data Available

Specific Gravity

1

Solubility in Water

Complete

Solubility- non-water

No Data Available

Partition coefficient: n-octanol/ water

No Data Available

Autoignition temperature

No Data Available

Decomposition temperature

No Data Available

Viscosity

5 centipoise - 10 centipoise

Molecular weight

No Data Available

Volatile Organic Compounds

< 0.1 %

VOC Less H2O & Exempt Solvents

< 2000 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity

This material is considered to be non reactive under normal use conditions.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products**Substance****Condition**

None known.

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects**Signs and Symptoms of Exposure**

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Sprayed material may cause irritation of the respiratory system. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin Contact:

Contact with the skin during product use is not expected to result in significant irritation.

Eye Contact:

Sprayed material may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion:

No known health effects.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

| Name | Route | Species | Value |
|--|----------------------|---------|--|
| Overall product | Ingestion | | No data available; calculated ATE >5,000 mg/kg |
| Non-Ionic Surfactants (NJTSRN 04499600-6633) | Dermal | Rabbit | LD50 > 11,200 mg/kg |
| Non-Ionic Surfactants (NJTSRN 04499600-6633) | Ingestion | Rat | LD50 3,730 mg/kg |
| Isopropanol | Dermal | Rabbit | LD50 12,870 mg/kg |
| Isopropanol | Inhalation-Vapor (4) | Rat | LC50 72.6 mg/l |

| | hours) | | |
|-----------------------------|--------------------------------|--------|------------------------------------|
| Isopropanol | Ingestion | Rat | LD50 4,710 mg/kg |
| C9-11 Alcohols Ethoxylated | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| C9-11 Alcohols Ethoxylated | Ingestion | Rat | LD50 1,378 mg/kg |
| SODIUM LAURYL SULFATE | Dermal | Rabbit | LD50 580 mg/kg |
| SODIUM LAURYL SULFATE | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 0.975 mg/l |
| SODIUM LAURYL SULFATE | Ingestion | Rat | LD50 1,650 mg/kg |
| GLYCERIN | Dermal | Rabbit | LD50 estimated to be > 5,000 mg/kg |
| GLYCERIN | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Methylchloroisothiazolinone | Dermal | Rabbit | LD50 87 mg/kg |
| Methylchloroisothiazolinone | Inhalation-Dust/Mist (4 hours) | Rat | LC50 0.33 mg/l |
| Methylchloroisothiazolinone | Ingestion | Rat | LD50 40 mg/kg |
| Methylisothiazolinone | Dermal | Rabbit | LD50 87 mg/kg |
| Methylisothiazolinone | Inhalation-Dust/Mist (4 hours) | Rat | LC50 0.33 mg/l |
| Methylisothiazolinone | Ingestion | Rat | LD50 40 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|-----------------------------|-------------------------|---------------------------|
| Isopropanol | Multiple animal species | No significant irritation |
| C9-11 Alcohols Ethoxylated | Rabbit | Irritant |
| SODIUM LAURYL SULFATE | Rabbit | Irritant |
| GLYCERIN | Rabbit | No significant irritation |
| Methylchloroisothiazolinone | Rabbit | Corrosive |
| Methylisothiazolinone | Rabbit | Corrosive |

Serious Eye Damage/Irritation

| Name | Species | Value |
|-----------------------------|------------------------|---------------------------|
| Isopropanol | Rabbit | Severe irritant |
| C9-11 Alcohols Ethoxylated | Professional judgement | Corrosive |
| SODIUM LAURYL SULFATE | Rabbit | Corrosive |
| GLYCERIN | Rabbit | No significant irritation |
| Methylchloroisothiazolinone | Rabbit | Corrosive |
| Methylisothiazolinone | Rabbit | Corrosive |

Skin Sensitization

| Name | Species | Value |
|-----------------------------|------------------|----------------|
| Isopropanol | Guinea pig | Not classified |
| C9-11 Alcohols Ethoxylated | Guinea pig | Not classified |
| GLYCERIN | Guinea pig | Not classified |
| Methylchloroisothiazolinone | Human and animal | Sensitizing |
| Methylisothiazolinone | Human and animal | Sensitizing |

Photosensitization

| Name | Species | Value |
|-----------------------------|------------------|-----------------|
| Methylchloroisothiazolinone | Human and animal | Not sensitizing |
| Methylisothiazolinone | Human and animal | Not sensitizing |

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

| Name | Route | Value |
|-----------------------------|----------|--|
| Isopropanol | In Vitro | Not mutagenic |
| Isopropanol | In vivo | Not mutagenic |
| C9-11 Alcohols Ethoxylated | In Vitro | Not mutagenic |
| Methylchloroisothiazolinone | In vivo | Not mutagenic |
| Methylchloroisothiazolinone | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Methylisothiazolinone | In vivo | Not mutagenic |
| Methylisothiazolinone | In Vitro | Some positive data exist, but the data are not sufficient for classification |

Carcinogenicity

| Name | Route | Species | Value |
|-----------------------------|------------|---------|--|
| Isopropanol | Inhalation | Rat | Some positive data exist, but the data are not sufficient for classification |
| GLYCERIN | Ingestion | Mouse | Some positive data exist, but the data are not sufficient for classification |
| Methylchloroisothiazolinone | Dermal | Mouse | Not carcinogenic |
| Methylchloroisothiazolinone | Ingestion | Rat | Not carcinogenic |
| Methylisothiazolinone | Dermal | Mouse | Not carcinogenic |
| Methylisothiazolinone | Ingestion | Rat | Not carcinogenic |

Reproductive Toxicity

Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|-----------------------------|------------|--|---------|-----------------------|----------------------|
| Isopropanol | Ingestion | Not classified for development | Rat | NOAEL 400 mg/kg/day | during organogenesis |
| Isopropanol | Inhalation | Not classified for development | Rat | LOAEL 9 mg/l | during gestation |
| C9-11 Alcohols Ethoxylated | Dermal | Not classified for female reproduction | Rat | NOAEL 250 mg/kg/day | 2 generation |
| C9-11 Alcohols Ethoxylated | Dermal | Not classified for development | Rat | NOAEL 250 mg/kg/day | 2 generation |
| C9-11 Alcohols Ethoxylated | Dermal | Not classified for male reproduction | Rat | NOAEL 100 mg/kg/day | 2 generation |
| GLYCERIN | Ingestion | Not classified for female reproduction | Rat | NOAEL 2,000 mg/kg/day | 2 generation |
| GLYCERIN | Ingestion | Not classified for male reproduction | Rat | NOAEL 2,000 mg/kg/day | 2 generation |
| GLYCERIN | Ingestion | Not classified for development | Rat | NOAEL 2,000 mg/kg/day | 2 generation |
| Methylchloroisothiazolinone | Ingestion | Not classified for female reproduction | Rat | NOAEL 10 mg/kg/day | 2 generation |
| Methylchloroisothiazolinone | Ingestion | Not classified for male reproduction | Rat | NOAEL 10 mg/kg/day | 2 generation |
| Methylchloroisothiazolinone | Ingestion | Not classified for development | Rat | NOAEL 15 | during |

| | | | | | |
|-----------------------|-----------|--|-----|--------------------|----------------------|
| | | | | mg/kg/day | organogenesis |
| Methylisothiazolinone | Ingestion | Not classified for female reproduction | Rat | NOAEL 10 mg/kg/day | 2 generation |
| Methylisothiazolinone | Ingestion | Not classified for male reproduction | Rat | NOAEL 10 mg/kg/day | 2 generation |
| Methylisothiazolinone | Ingestion | Not classified for development | Rat | NOAEL 15 mg/kg/day | during organogenesis |

Target Organ(s)

Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|-----------------------------|------------|-----------------------------------|--|------------------------|---------------------|------------------------|
| Isopropanol | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Isopropanol | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| Isopropanol | Inhalation | auditory system | Not classified | Guinea pig | NOAEL 13.4 mg/l | 24 hours |
| Isopropanol | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | poisoning and/or abuse |
| C9-11 Alcohols Ethoxylated | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Not available | NOAEL Not available | not available |
| SODIUM LAURYL SULFATE | Inhalation | respiratory irritation | May cause respiratory irritation | similar health hazards | NOAEL Not available | |
| Methylchloroisothiazolinone | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL Not available | |
| Methylisothiazolinone | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL Not available | |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|----------------------------|------------|---|----------------|---------|------------------------|-------------------|
| Isopropanol | Inhalation | kidney and/or bladder | Not classified | Rat | NOAEL 12.3 mg/l | 24 months |
| Isopropanol | Inhalation | nervous system | Not classified | Rat | NOAEL 12 mg/l | 13 weeks |
| Isopropanol | Ingestion | kidney and/or bladder | Not classified | Rat | NOAEL 400 mg/kg/day | 12 weeks |
| C9-11 Alcohols Ethoxylated | Dermal | kidney and/or bladder hematopoietic system | Not classified | Rat | NOAEL 125 mg/kg/day | 13 weeks |
| GLYCERIN | Inhalation | respiratory system heart liver kidney and/or bladder | Not classified | Rat | NOAEL 3.91 mg/l | 14 days |
| GLYCERIN | Ingestion | endocrine system hematopoietic system liver kidney and/or bladder | Not classified | Rat | NOAEL 10,000 mg/kg/day | 2 years |

Aspiration Hazard

For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations**13.1. Disposal methods**

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Prior to disposal, consult all applicable authorities and regulations to insure proper classification. Dispose of waste product in a permitted industrial waste facility. Empty and clean product containers may be disposed as non-hazardous waste. Consult your specific regulations and service providers to determine available options and requirements.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information**15.1. US Federal Regulations**

Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:**Physical Hazards**

Not applicable

Health Hazards

Not applicable

Additional TSCA Information

| Components | CAS No | Additional Information |
|--------------|--------------|--|
| 3M Protector | Trade Secret | Allowed use(s): Protective coating additive. |

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA. One or more of the components in this material is not listed on the TSCA inventory, but is approved for specific commercial use(s) under a US EPA low volume exemption.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 0 **Flammability:** 0 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: 0 **Flammability:** 0 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® IV) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® IV ratings are to be used with a fully implemented HMIS® IV program. HMIS® is a registered mark of the American Coatings Association (ACA).

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|------------------------|-----------|-------------------------|----------|
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| Issue Date: | 11/19/20 | Supersedes Date: | 05/04/16 |

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Safety Data Sheet

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Supersedes Date: 01/08/18

SECTION 1: Identification

1.1. Product identifier

3M™ Peroxide Cleaner Concentrate (Product No. 34, 3M™ Chemical Management Systems)

Product Identification Numbers

61-0000-6416-4, 70-0716-5820-0

7010315335, 7010364157

1.2. Recommended use and restrictions on use

Recommended use

Peroxide Cleaning Solution, no fragrance added., Hard Surface Cleaner

1.3. Supplier's details

MANUFACTURER: 3M

DIVISION: Commercial Solutions Division

ADDRESS: 3M Center, St. Paul, MN 55144-1000, USA

Telephone: 1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Serious Eye Damage/Irritation: Category 1.

Skin Corrosion/Irritation: Category 2.

2.2. Label elements

Signal word

Danger

Symbols

Corrosion |

Pictograms

**Hazard Statements**

Causes serious eye damage.

Causes skin irritation.

Precautionary Statements**Prevention:**

Wear protective gloves and eye/face protection.

Wash thoroughly after handling.

Response:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF ON SKIN: Wash with plenty of soap and water.

Immediately call a POISON CENTER or doctor/physician.

If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

2.3. Hazards not otherwise classified

May cause chemical gastrointestinal burns.

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|----------------------------|-------------------|----------------------------|
| WATER | 7732-18-5 | 60 - 90 Trade Secret * |
| ETHOXYLATED C9-11 ALCOHOLS | 68439-46-3 | 7 - 13 Trade Secret * |
| HYDROGEN PEROXIDE | 7722-84-1 | 3 - 7 Trade Secret * |
| Dequest 2010 | 2809-21-4 | 0.05 - 1.0 Trade Secret * |
| Sodium Hydroxide | 1310-73-2 | 0.02 - 0.05 Trade Secret * |

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation:**

Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:

Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue

rinsing. Immediately get medical attention.

If Swallowed:

Rinse mouth. Do not induce vomiting. Get immediate medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures**5.1. Suitable extinguishing media**

Non-combustible. Use a fire fighting agent suitable for surrounding fire.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products**Substance**

Carbon monoxide

Carbon dioxide

Oxides of Nitrogen

Oxides of Phosphorus

Condition

During Combustion

During Combustion

During Combustion

During Combustion

5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with water. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

This product is not intended to be used without prior dilution as specified on the product label. Grounding or safety shoes with electrostatic dissipating soles (ESD) are not required with a chemical dispensing system. Keep out of reach of children. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke

when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities

Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|-------------------|------------|--------|----------------------|------------------------------|
| Sodium Hydroxide | 1310-73-2 | ACGIH | CEIL:2 mg/m3 | |
| Sodium Hydroxide | 1310-73-2 | OSHA | TWA:2 mg/m3 | |
| HYDROGEN PEROXIDE | 7722-84-1 | ACGIH | TWA:1 ppm | A3: Confirmed animal carcin. |
| HYDROGEN PEROXIDE | 7722-84-1 | OSHA | TWA:1.4 mg/m3(1 ppm) | |

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

NOTE: When used with a chemical dispensing system as directed, special ventilation is not required. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

NOTE: When used with a chemical dispensing system as directed, eye contact with the concentrate is not expected to occur. If the product is not used with a chemical dispensing system or if there is an accidental release, wear protective eye/face protection. Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Full Face Shield

Indirect Vented Goggles

Skin/hand protection

NOTE: When used with a chemical dispensing system as directed, skin contact with the concentrate is not expected to occur. If product is not used with a chemical dispensing system or if there is an accidental release:

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.

Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.

Gloves made from the following material(s) are recommended: Polymer laminate

Respiratory protection

NOTE: When used with a chemical dispensing system as directed, respiratory protection is not required.

If product is not used with a chemical dispensing system or if there is an accidental release:

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

| | |
|--|-------------------------------------|
| Appearance | |
| Physical state | Liquid |
| Color | Colorless |
| Odor | Odorless |
| Odor threshold | <i>No Data Available</i> |
| pH | 4 - 6 Units not avail. or not appl. |
| Melting point | <i>Not Applicable</i> |
| Boiling Point | 212 °F |
| Flash Point | No flash point |
| Evaporation rate | <i>No Data Available</i> |
| Flammability (solid, gas) | Not Applicable |
| Flammable Limits(LEL) | <i>Not Applicable</i> |
| Flammable Limits(UEL) | <i>Not Applicable</i> |
| Vapor Pressure | 17.5 mmHg [@ 20 °C] |
| Vapor Density | <i>No Data Available</i> |
| Density | 1.02 - 1.03 g/ml |
| Specific Gravity | 1.02 - 1.03 [Ref Std: WATER=1] |
| Solubility In Water | <i>No Data Available</i> |
| Solubility- non-water | <i>No Data Available</i> |
| Partition coefficient: n-octanol/ water | <i>No Data Available</i> |
| Autoignition temperature | <i>No Data Available</i> |
| Decomposition temperature | <i>No Data Available</i> |
| Viscosity | <i>No Data Available</i> |
| Molecular weight | <i>No Data Available</i> |
| Volatile Organic Compounds | < 0.1 % weight |
| VOC Less H2O & Exempt Solvents | 610 - 625 g/l |

SECTION 10: Stability and reactivity**10.1. Reactivity**

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

Strong oxidizing agents

10.6. Hazardous decomposition products

Substance

Condition

None known.

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin Contact:

Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.

Eye Contact:

Corrosive (Eye Burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Ingestion:

Gastrointestinal Corrosion: Signs/symptoms may include severe mouth, throat and abdominal pain; nausea; vomiting; and diarrhea; blood in the feces and/or vomitus may also be seen.

Additional Health Effects:

Single exposure may cause target organ effects:

Dermal Effects: Signs/symptoms may include changes in skin pigmentation and/or coloration.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

| Name | Route | Species | Value |
|----------------------------|-----------|---------|--|
| Overall product | Dermal | | No data available; calculated ATE >5,000 mg/kg |
| Overall product | Ingestion | | No data available; calculated ATE >5,000 mg/kg |
| ETHOXYLATED C9-11 ALCOHOLS | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| ETHOXYLATED C9-11 ALCOHOLS | Ingestion | Rat | LD50 1,378 mg/kg |

| | | | |
|-------------------|--------------------------------|--------|--------------------|
| HYDROGEN PEROXIDE | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| HYDROGEN PEROXIDE | Inhalation-Dust/Mist (4 hours) | Rat | LC50 2 mg/l |
| HYDROGEN PEROXIDE | Ingestion | Rat | LD50 1,193 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|----------------------------|---------|-----------|
| ETHOXYLATED C9-11 ALCOHOLS | Rabbit | Irritant |
| HYDROGEN PEROXIDE | Rabbit | Corrosive |
| Sodium Hydroxide | Rabbit | Corrosive |

Serious Eye Damage/Irritation

| Name | Species | Value |
|----------------------------|------------------------|-----------|
| Overall product | In vitro data | Corrosive |
| ETHOXYLATED C9-11 ALCOHOLS | Professional judgement | Corrosive |
| HYDROGEN PEROXIDE | Rabbit | Corrosive |
| Sodium Hydroxide | Rabbit | Corrosive |

Skin Sensitization

| Name | Species | Value |
|----------------------------|------------|----------------|
| ETHOXYLATED C9-11 ALCOHOLS | Guinea pig | Not classified |
| HYDROGEN PEROXIDE | Guinea pig | Not classified |
| Sodium Hydroxide | Human | Not classified |

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

| Name | Route | Value |
|----------------------------|----------|--|
| ETHOXYLATED C9-11 ALCOHOLS | In Vitro | Not mutagenic |
| HYDROGEN PEROXIDE | In vivo | Not mutagenic |
| HYDROGEN PEROXIDE | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Sodium Hydroxide | In Vitro | Not mutagenic |

Carcinogenicity

| Name | Route | Species | Value |
|-------------------|-----------|-------------------------|--|
| HYDROGEN PEROXIDE | Dermal | Multiple animal species | Some positive data exist, but the data are not sufficient for classification |
| HYDROGEN PEROXIDE | Ingestion | Mouse | Some positive data exist, but the data are not sufficient for classification |

Reproductive Toxicity

Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|----------------------------|--------|--|---------|---------------------|-------------------|
| ETHOXYLATED C9-11 ALCOHOLS | Dermal | Not classified for female reproduction | Rat | NOAEL 250 mg/kg/day | 2 generation |

| | | | | | |
|----------------------------|-----------|--|-----|---------------------|------------------|
| ETHOXYLATED C9-11 ALCOHOLS | Dermal | Not classified for development | Rat | NOAEL 250 mg/kg/day | 2 generation |
| ETHOXYLATED C9-11 ALCOHOLS | Dermal | Not classified for male reproduction | Rat | NOAEL 100 mg/kg/day | 2 generation |
| HYDROGEN PEROXIDE | Ingestion | Not classified for female reproduction | Rat | LOAEL 5 mg/kg/day | 6 months |
| HYDROGEN PEROXIDE | Ingestion | Not classified for male reproduction | Rat | LOAEL 5 mg/kg/day | 6 months |
| HYDROGEN PEROXIDE | Ingestion | Not classified for development | Rat | LOAEL 5 mg/kg/day | during gestation |

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|----------------------------|------------|------------------------|--|---------------|---------------------|------------------------|
| ETHOXYLATED C9-11 ALCOHOLS | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Not available | NOAEL Not available | not available |
| HYDROGEN PEROXIDE | Inhalation | respiratory irritation | May cause respiratory irritation | Human | NOAEL Not available | |
| HYDROGEN PEROXIDE | Ingestion | nervous system | Some positive data exist, but the data are not sufficient for classification | Human | LOAEL Not available | poisoning and/or abuse |
| Sodium Hydroxide | Inhalation | respiratory irritation | May cause respiratory irritation | Human | NOAEL Not available | |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|----------------------------|-----------|--|----------------|---------|----------------------|-------------------|
| ETHOXYLATED C9-11 ALCOHOLS | Dermal | kidney and/or bladder hematopoietic system | Not classified | Rat | NOAEL 125 mg/kg/day | 13 weeks |
| HYDROGEN PEROXIDE | Ingestion | hematopoietic system | Not classified | Rat | NOEL 0.005 mg/kg/day | 6 months |
| HYDROGEN PEROXIDE | Ingestion | liver kidney and/or bladder | Not classified | Mouse | NOAEL Not available | 35 weeks |

Aspiration Hazard

For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations**13.1. Disposal methods**

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product in a permitted industrial waste facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): D009 (Mercury)

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:

| Physical Hazards |
|------------------|
| Not applicable |

| Health Hazards |
|--|
| Hazard Not Otherwise Classified (HNOC) |
| Serious eye damage or eye irritation |
| Skin Corrosion or Irritation |

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 3 **Flammability:** 0 **Instability:** 1 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: 3 **Flammability:** 0 **Physical Hazard:** 1 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® IV) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® IV ratings are to be used with a fully implemented HMIS® IV program. HMIS® is a registered mark of the American Coatings Association (ACA).

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Safety Data Sheet

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| | | | |
|------------------------|-----------|-------------------------|----------|
| Document Group: | 28-4553-5 | Version Number: | 3.01 |
| Issue Date: | 01/17/18 | Supersedes Date: | 07/02/14 |

SECTION 1: Identification

1.1. Product identifier

Scotchgard™ UHS 25 Floor Finish

Product Identification Numbers

| ID Number | UPC | ID Number | UPC |
|----------------|-------------------|----------------|-------------------|
| 70-0715-9148-4 | 000-48011-59277-0 | 70-0715-9154-2 | 500-48011-59276-8 |
| 70-0715-9159-1 | 000-48011-59275-6 | 70-0716-8337-2 | 000-48011-59277-0 |
| 70-0716-8338-0 | 500-48011-59276-8 | 70-0716-8339-8 | 000-48011-59275-6 |

1.2. Recommended use and restrictions on use

Recommended use

Hard Floor Maintenance

1.3. Supplier's details

| | |
|----------------------|---|
| MANUFACTURER: | 3M |
| DIVISION: | Commercial Solutions Division |
| ADDRESS: | 3M Center, St. Paul, MN 55144-1000, USA |
| Telephone: | 1-888-3M HELPS (1-888-364-3577) |

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Serious Eye Damage/Irritation: Category 2B.

2.2. Label elements

Signal word

Warning

Symbols

Not applicable

Pictograms

Not applicable

Hazard Statements

Causes eye irritation.

Precautionary Statements

Prevention:

Wash thoroughly after handling.

Response:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

19% of the mixture consists of ingredients of unknown acute oral toxicity.

20% of the mixture consists of ingredients of unknown acute dermal toxicity.

27% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|-----------------------------------|------------|--------------------------|
| WATER | 7732-18-5 | 60 - 90 Trade Secret * |
| ACRYLIC COPOLYMER | 63744-68-3 | 10 - 30 Trade Secret * |
| DIETHYLENE GLYCOL MONOETHYL ETHER | 111-90-0 | 1 - 5 Trade Secret * |
| TRI(BUTOXYETHYL) PHOSPHATE | 78-51-3 | 1 - 5 Trade Secret * |
| ACRYLIC COPOLYMER | 67892-91-5 | 0.5 - 1.5 Trade Secret * |
| ETHOXYLATED ALCOHOLS | 84133-50-6 | 0.5 - 1.5 Trade Secret * |

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:

Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

Substance

Carbon monoxide
Carbon dioxide

Condition

During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with water. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid eye contact. For industrial or professional use only. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|--------------------------------------|------------|--------|-----------------------|---------------------|
| DIETHYLENE GLYCOL MONOETHYL ETHER | 111-90-0 | AIHA | TWA:140 mg/m3(25 ppm) | |

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Indirect Vented Goggles

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.

Gloves made from the following material(s) are recommended: Butyl Rubber

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Full facepiece air-purifying respirator suitable for organic vapors

Half facepiece or full facepiece air-purifying respirator suitable for ammonia/methylamine

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:

Liquid

Odor, Color, Grade:

Milky white homogeneous emulsion with acrylic odor

Odor threshold

No Data Available

pH

8.1 - 9.1

Melting point

No Data Available

Boiling Point

> 212 °F

Flash Point

No flash point

Evaporation rate

No Data Available

Flammability (solid, gas)

Not Applicable

Flammable Limits(LEL)

No Data Available

| | |
|---|---|
| Flammable Limits(UEL) | No Data Available |
| Vapor Pressure | No Data Available |
| Vapor Density | No Data Available |
| Density | No Data Available |
| Specific Gravity | Approximately 1 [Ref Std:WATER=1] |
| Solubility in Water | Complete |
| Solubility- non-water | No Data Available |
| Partition coefficient: n-octanol/ water | No Data Available |
| Autoignition temperature | No Data Available |
| Decomposition temperature | No Data Available |
| Viscosity | No Data Available |
| Volatile Organic Compounds | < 0.5 % weight |
| VOC Less H2O & Exempt Solvents | 140 - 160 g/l [Test Method:calculated per CARB title 2] |

SECTION 10: Stability and reactivity

10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

| <u>Substance</u> | <u>Condition</u> |
|------------------|------------------|
|------------------|------------------|

| | |
|-------------|--|
| None known. | |
|-------------|--|

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

Skin Contact:

Contact with the skin during product use is not expected to result in significant irritation.

Eye Contact:

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

| Name | Route | Species | Value |
|-----------------------------------|--------------------------------|---------|--|
| Overall product | Dermal | | No data available; calculated ATE >5,000 mg/kg |
| Overall product | Inhalation-Vapor(4 hr) | | No data available; calculated ATE >50 mg/l |
| Overall product | Ingestion | | No data available; calculated ATE >5,000 mg/kg |
| DIETHYLENE GLYCOL MONOETHYL ETHER | Dermal | Rabbit | LD50 9,143 mg/kg |
| DIETHYLENE GLYCOL MONOETHYL ETHER | Ingestion | Rat | LD50 5,400 mg/kg |
| TRI(BUTOXYETHYL) PHOSPHATE | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| TRI(BUTOXYETHYL) PHOSPHATE | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 6.4 mg/l |
| TRI(BUTOXYETHYL) PHOSPHATE | Ingestion | Rat | LD50 4,700 mg/kg |
| ETHOXYLATED ALCOHOLS | Dermal | Rabbit | LD50 1,127 mg/kg |
| ETHOXYLATED ALCOHOLS | Inhalation-Dust/Mist (4 hours) | Rat | LC50 1.1 mg/l |
| ETHOXYLATED ALCOHOLS | Ingestion | Rat | LD50 412 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|-----------------------------------|---------|---------------------------|
| DIETHYLENE GLYCOL MONOETHYL ETHER | Rabbit | No significant irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|-----------------------------------|---------|-------------------|
| DIETHYLENE GLYCOL MONOETHYL ETHER | Rabbit | Moderate irritant |

Skin Sensitization

| Name | Species | Value |
|-----------------------------------|---------|----------------|
| DIETHYLENE GLYCOL MONOETHYL ETHER | Human | Not classified |

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

| Name | Route | Value |
|-----------------------------------|----------|---------------|
| DIETHYLENE GLYCOL MONOETHYL ETHER | In Vitro | Not mutagenic |
| DIETHYLENE GLYCOL MONOETHYL ETHER | In vivo | Not mutagenic |

Carcinogenicity

For the component/components, either no data are currently available or the data are not sufficient for classification.

Reproductive Toxicity**Reproductive and/or Developmental Effects**

| Name | Route | Value | Species | Test Result | Exposure Duration |
|-----------------------------------|------------|--------------------------------------|---------|-----------------------|----------------------|
| DIETHYLENE GLYCOL MONOETHYL ETHER | Dermal | Not classified for development | Rat | NOAEL 5,500 mg/kg/day | during organogenesis |
| DIETHYLENE GLYCOL MONOETHYL ETHER | Ingestion | Not classified for development | Mouse | NOAEL 5,500 mg/kg/day | during organogenesis |
| DIETHYLENE GLYCOL MONOETHYL ETHER | Inhalation | Not classified for development | Rat | NOAEL 0.6 mg/l | during organogenesis |
| DIETHYLENE GLYCOL MONOETHYL ETHER | Ingestion | Not classified for male reproduction | Rat | NOAEL 2,200 mg/kg/day | 2 generation |

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|-----------------------------------|------------|------------------------|--|---------|---------------------|-------------------|
| DIETHYLENE GLYCOL MONOETHYL ETHER | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | | NOAEL Not available | |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|-----------------------------------|-----------|---|--|---------|-----------------------|-------------------|
| DIETHYLENE GLYCOL MONOETHYL ETHER | Dermal | kidney and/or bladder | Not classified | Rabbit | NOAEL 1,000 mg/kg/day | 12 weeks |
| DIETHYLENE GLYCOL MONOETHYL ETHER | Ingestion | liver | Some positive data exist, but the data are not sufficient for classification | Pig | NOAEL 167 mg/kg/day | 90 days |
| DIETHYLENE GLYCOL MONOETHYL ETHER | Ingestion | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 2,700 mg/kg/day | 90 days |
| DIETHYLENE GLYCOL MONOETHYL ETHER | Ingestion | endocrine system | Not classified | Rat | NOAEL 2,500 mg/kg/day | 90 days |
| DIETHYLENE GLYCOL MONOETHYL ETHER | Ingestion | heart hematopoietic system nervous system | Not classified | Mouse | NOAEL 8,100 mg/kg/day | 90 days |

Aspiration Hazard

For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:

Physical Hazards

Not applicable

Health Hazards

Serious eye damage or eye irritation

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

| <u>Ingredient</u> | <u>C.A.S. No</u> | <u>% by Wt</u> |
|--|------------------|----------------|
| DIETHYLENE GLYCOL MONOETHYL ETHER (GLYCOL ETHERS) | 111-90-0 | 1 - 5 |
| TRI(BUTOXYETHYL) PHOSPHATE (GLYCOL ETHERS) | 78-51-3 | 1 - 5 |

15.2. State Regulations

Contact 3M for more information.

California Proposition 65

| <u>Ingredient</u> | <u>C.A.S. No.</u> | <u>Listing</u> |
|--------------------------|--------------------------|---------------------------|
| Methyl Alcohol | 67-56-1 | Developmental Toxin |
| Arsenic | 7440-38-2 | Carcinogen |
| Cadmium | 7440-43-9 | Male reproductive toxin |
| Cadmium | 7440-43-9 | Carcinogen |
| Cadmium | 7440-43-9 | Developmental Toxin |
| Mercury | 7439-97-6 | Developmental Toxin |
| Formaldehyde | 50-00-0 | Carcinogen |
| Nickel | 7440-02-0 | Carcinogen |
| Lead | 7439-92-1 | Female reproductive toxin |
| Lead | 7439-92-1 | Male reproductive toxin |
| Lead | 7439-92-1 | Carcinogen |
| Lead | 7439-92-1 | Developmental Toxin |
| Cobalt | 7440-48-4 | Carcinogen |

15.3. Chemical Inventories

The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

| |
|--|
| This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200. |
|--|

SECTION 16: Other information

NFPA Hazard Classification

Health: 1 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: 2 **Flammability:** 1 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® IV) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® IV ratings are to be used with a fully implemented HMIS® IV program. HMIS® is a registered mark of the American Coatings Association (ACA).

| | | | |
|------------------------|-----------|-------------------------|----------|
| Document Group: | 28-4553-5 | Version Number: | 3.01 |
| Issue Date: | 01/17/18 | Supersedes Date: | 07/02/14 |

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CANBERRA CORPORATION SAFETY DATA SHEET

1. Identification

Product Identifier: TEPE TSS TUB-N-TILE FOAMING RESTROOM CLEANER

Application or recommended use: Hard surface disinfectant cleaner

Restrictions on use: Do not use in any fashion not specified on the product label.

Manufacturer / supplier: Canberra Corporation

3610 N. Holland-Sylvania Rd.

Toledo, Ohio 43615 USA

Telephone: 419-841-6616 **Emergency phone:** 800-832-8992 **National Poison Center:** 800-222-1222

2. Hazards Identification

GHS Classification: Classification of this mixture in accordance with paragraph (d) of §1910.1200.

Skin Corrosion/Irritation - Category 1C

Eye Damage/Irritation - Category 1

Label Elements:



Symbol:

Signal word:

DANGER

Hazard statements: Causes severe skin burns and serious eye damage.

Precautionary statements: Do not breathe mist/vapors/spray.

Wash hands, face and any skin contact thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

See 4. First-Aid Measures for specific treatment.

Store locked up.

Dispose of contents/container to an approved disposal facility.

Other Hazards: Harmful if swallowed.

3. Composition / Information on Ingredients

Chemical characterization: Phosphoric acid solution, blended with detergents, germicides and auxiliary agents.

Hazardous ingredients:

8.7% Phosphoric acid CAS 7664-38-2, EINECS/ELINCS 231-633-2

2.3% Oxalic acid CAS 144-62-7, EINECS/ELINCS 205-634-3

1.5% Dialkyl dimethyl ammonium chlorides CAS 68424-95-3, EINECS/ELINCS 270-331-5

1.0% Alkyl dimethylbenzyl ammonium chlorides CAS 68424-85-1, EINECS/ELINCS 270-325-2

Other ingredients (> 1%):

> 84% Water CAS 7732-18-5, EINECS/ELINCS 231-791-2

4. First-Aid Measures

Symptoms: Causes irritation or burning sensation. Causes severe skin burns and serious eye damage. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

Inhalation: Move person to fresh air. If respiratory irritation or dizziness occurs, seek immediate medical assistance.

Skin Contact: Remove contaminated clothing and wash before reuse. Wash contaminated area with soap and water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Eye Contact: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

4. First-Aid Measures (cont.)

Ingestion: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to a person who is unconscious or convulsing. If vomiting occurs, keep head below hips to reduce risk of aspiration. Probable mucosal damage may contraindicate the use of gastric lavage.

Note to Physician: Treat exposed patients symptomatically.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Not applicable. Product is not a fire hazard.

Unsuitable Extinguishing Media: High pressure water jet.

Specific hazards in case of fire: None known.

Special Fire Fighting Precautions: Fire fighters should wear appropriate protective equipment, including self-contained breathing apparatus and impervious clothing.

6. Accidental Release Measures

Emergency Procedures: Depending on the extent of release, consider the need for emergency responders with adequate personal protective equipment for clean up, need for evacuation or restriction of access to spill area.

Personal Precautions: Provide adequate ventilation. Do not eat, drink or smoke during clean up. If necessary, use self-contained respirator, or filtered mask. Wear protective clothing, eye protection and impervious gloves (e.g. neoprene). Wash thoroughly after clean up.

Environmental Precautions: Prevent spills from entering storm sewers/drains or contact with soil.

Clean up Methods: Small spills may be wiped up and rinsed with water. For larger spills, neutralize with sodium carbonate and absorb on fire retardant material (e.g. sand). Pick up absorbent and dispose of at an appropriate waste disposal facility.

7. Handling and Storage

Precautions for Safe Handling: Read label before use. Do not use on any surface damaged by acid materials. Do not breathe mist/vapors. Wash hands, face and any skin contact thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves, protective clothing, eye protection, face protection. Use product only according to label directions. If unsure about safe use, contact your supervisor.

Conditions for Safe Storage: Keep out of reach of children. Do not contaminate water, food or feed by storage and disposal. Store locked up in tightly closed, original, corrosive resistant container in a cool (10° - 30°C), dry area.

Incompatibility: Chlorine bleach, alkali.

8. Exposure Controls / Personal Protection

Components with occupational exposure limits:

| Component | Reference | TWA | PEL |
|-----------------|-----------|---------------------|---------------------|
| Phosphoric Acid | ACGIH | 1 mg/M ³ | |
| | OSHA | | 1 mg/M ³ |
| Oxalic Acid | ACGIH | 1 mg/M ³ | |
| | OSHA | | 1 mg/M ³ |

Engineering Controls: Proper ventilation in accordance with good industrial hygiene should be provided.

Personal Protective Equipment

Respiratory: Respiratory protection is not necessary under normal conditions of use. If necessary to prevent exposure above occupational limits, use an approved cartridge style respirator.

Gloves: Use water impervious gloves (latex or neoprene rubber). No breakthrough time has been established.

Eye Protection: Chemical resistant goggles and face protection.

Other: Protective clothing (long sleeves, pants), eyewash, safety shower are always advisable when working with chemicals.

9. Physical and Chemical Properties

| | | | |
|------------------------------------|-------------------|------------------------------------|--------------------------------|
| Physical State - | Liquid | Auto-ignition temperature - | Not applicable |
| Color - | Green | Flash Point - | None |
| Odor - | Fresh floral | Flammability - | Not applicable |
| Odor Threshold - | No data available | Flammability Limits - | Not applicable |
| Boiling Point - | 212°F | Partition coefficient - | Not applicable |
| Decomposition temperature - | No data available | Solubility (Water) - | Complete |
| Freezing Point - | 0°F | Vapor Density - | No data available |
| pH (Neat) - | < 1 | Vapor Pressure - | No data available |
| pH (RTU) - | 1 - 2 | Viscosity - | Water thin |
| Relative Density - | 1.050 | % VOC - | < 0.5 (Excluding LVP material) |
| Evaporation Rate - | Similar to water | | |

10. Stability and Reactivity

Reactivity: No specific reactivity test data is available. Under normal conditions of storage and use, hazardous reactions are not expected.

Incompatible materials: Mixing with bleach or alkali may generate toxic gases (chlorine) or extreme heat.

Chemical stability: This product is stable at ambient temperatures and pressures.

Conditions to avoid: Temperatures above 50°C or below 10°C.

Hazardous decomposition products: None known.

11. Toxicological Information

Acute Toxicity: Toxicity data is not available for this mixture. Data below are estimates based on summation methods.

| Test | Results | Classification (A.0.4.1(c)) | Basis (A.1.3.6.1) |
|------------------------|-------------|-----------------------------|--|
| Oral | > 2000mg/kg | Not applicable | Ingredient literature (Additive formula) |
| Dermal | > 2000mg/kg | Not applicable | Ingredient literature (Additive formula) |
| Inhalation | > 20 mg/L | Not applicable | Ingredient literature (Additive formula) |
| Eye Damage/Irritation | Corrosion | Category 1 | Ingredient literature |
| Skin Damage/Irritation | Corrosion | Category 1C | Ingredient literature |

Summary: Skin and eye contact are most likely routes of exposure. Exposure causes skin burns and serious eye damage.

Subchronic/Chronic Toxicity:

| Test | Results | Classification | Basis |
|--------------------|------------------|----------------|------------------------|
| Skin Sensitization | Not a sensitizer | Not applicable | Ingredient literature. |

Summary: Repeated or prolonged contact causes skin burns and eye damage.

Carcinogens - Ingredients are not listed on the NTP Report on Carcinogens, IARC Monographs or by OSHA

Other data - No other toxicological information is available for this mixture.

12. Ecological Information

This material has not been tested for acute environmental effects.

Persistence and degradability: Material is not persistent. All organic components > 1% are inherently biodegradable.

Bio-accumulative potential: No evidence to suggest bio-accumulation will occur.

Mobility: Accidental spillage may lead to penetration of soil and groundwater. However, due to degradability, no evidence suggests this would cause adverse ecological effects. Material will lower pH of affected area.

13. Disposal Considerations

RCRA Class - D002. Do not contaminate water, food or feed by disposal. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray, or mixture of rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label directions, contact your State Pesticide or Environmental Control Agency, or the hazardous waste representative at the nearest EPA Regional Office for guidance. **Container Disposal:** Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container promptly after emptying. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incinerate, or if allowed by state and local authorities, burn. If burned, stay out of smoke. If container is one gallon or less, wrap empty container in plastic bag and discard in trash.

14. Transport Information

Proper Shipping Name: UN1803 Phosphoric acid solution **RQ** - 5000 Lbs. (Phosphoric Acid)

Shipping emergency phone: 800-424-9300

Transport hazard class: 8

Hazard Label: Corrosive (When shipped as a Limited Quantity, labeling is not required.)

Packing Group: III

Emergency Guide No.: 154

Marine Pollutant: No

15. Regulatory Information

Inventory status: All components are listed on TSCA(US), EINECS/ELINCS(EU), DSL(Canada), AICS(Australia), ENCS(Japan).

FIFRA: This product is a U.S. EPA Registered pesticide, EPA Reg. No. 6836-86-16791, and is subject to certain labeling requirements under Federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide products. The hazard information required on the pesticide label is reproduced here.

DANGER. Corrosive. Causes irreversible eye damage and skin burns. Do not get in eyes, on skin, or on clothing. Wear protective eyewear (goggles, safety glasses or face shield), protective clothing and protective gloves (rubber or chemical resistant) when handling. Do not breathe spray. May be fatal if swallowed. Avoid contamination of food. Wash thoroughly with soap and water after handling and before eating, drinking, using tobacco, chewing gum or using the toilet. Remove contaminated clothing and wash clothing before reuse. The pesticide label also includes other important information, including directions for use.

15. Regulatory Information (cont.)

OSHA Hazard Communication Standard: This product meets the §1910.1200 definition of a "Hazardous Chemical".

Superfund Amendments and Reauthorization Act of 1986 Title III (EPCRA) Sections 311 and 312

| | | | |
|--|-----|--|----|
| Immediate (Acute) Health Hazard | Yes | Delayed (Chronic) Health Hazard | No |
| Fire Hazard | No | Reactive Hazard | No |
| Sudden Release of Pressure Hazard | No | | |

Superfund Amendments and Reauthorization Act of 1986 Title III (EPCRA) Section 313

*Chemicals marked with an asterisk in "**3. Composition/Information on Ingredients**" are subject to reporting requirements for Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40CFR Part 372.

Pennsylvania/New Jersey/Massachusetts Right to Know

See "**3. Composition/Information on Ingredients**" for hazardous and top five ingredients over 1% (w/w).

California Proposition 65: This product does not contain a listed substance known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

16. Other information

Date issued: 31. 12. 2014

F415-004 Revision: N/A

Disclaimer: No representation or warranty, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature, is made with respect to information concerning the product referred to in this document. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, it is impossible to foresee every health effect or exposure risk incurred by the use of this product. All chemicals present some degree of hazard and should be used with caution. The information and recommendations contained herein are presented in good faith. The user should review this information in conjunction with their knowledge of the application intended to determine the suitability of this product for such purpose. In no event will the supplier be responsible for any damages of any nature whatsoever, resulting from the use, reliance upon, or the misuse of this information. Furthermore, it is the direct responsibility of the user to comply with all applicable regulations governing the use and disposal of this material. **Prepared by:** R&D, Canberra Corporation



Propane

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations
Revision Date: 09/15/2015 Date of Issue: 09/15/2015

Version: 1.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Propane

1.2. Intended Use of the Product

Use of the substance/mixture: Fuel

1.3. Name, Address, and Telephone of the Responsible Party

Company

Crestwood Midstream Partners LP

801 Cherry St.

Suite 3400

Fort Worth, TX 76102

817-339-5400

www.crestwoodlp.com

1.4. Emergency Telephone Number

Emergency Number

800-424-9300 Chemtrec - Company Code: C459

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Simple Asphyxiant

Flam. Gas 1 H220

Liquefied gas H280

Full text of H-phrases: see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



Signal Word (GHS-US)

: Danger

Hazard Statements (GHS-US)

: H220 - Extremely flammable gas.

H280 - Contains gas under pressure; may explode if heated.

- May displace oxygen and cause rapid suffocation.

Precautionary Statements (GHS-US)

: P210 - Keep away from extremely high or low temperatures, ignition sources, and incompatible materials. - No smoking.

P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

P381 - Eliminate all ignition sources if safe to do so.

P403 - Store in a well-ventilated place.

P410+P403 - Protect from sunlight. Store in a well-ventilated place.

2.3. Other Hazards

Exposure may aggravate the eye with pre-existing eye, skin, or respiratory conditions. Contact with gas escaping the container can cause frostbite.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

| Name | Product Identifier | % | Classification (GHS-US) |
|---------|--------------------|------|---|
| Propane | (CAS No) 74-98-6 | > 85 | Simple Asphyxiant Flam. Gas 1, H220 Liquefied gas, H280 |

Propane

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| | | | |
|-----------|-------------------|-------|--|
| Propene | (CAS No) 115-07-1 | < 10 | Simple Asphyxiant Flam. Gas 1, H220 Liquefied gas, H280 |
| Isobutane | (CAS No) 75-28-5 | < 5 | Simple Asphyxiant Flam. Gas 1, H220 Liquefied gas, H280 |
| Pentane | (CAS No) 109-66-0 | < 0.5 | Flam. Liq. 1, H224 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411 |

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). If frostbite or freezing occurs, immediately flush with plenty of lukewarm water to GENTLY warm the affected area. Do not use hot water. Do not rub affected area. Get immediate medical attention.

First-aid Measures After Inhalation: Obtain medical attention if breathing difficulty persists. First, take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate respiratory protective equipment, use the buddy system), then remove the exposed person to fresh air. Keep at rest in a position comfortable for breathing.

First-aid Measures After Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists. Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention.

First-aid Measures After Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/Injuries: May cause frostbite on contact with the liquid. Asphyxia by lack of oxygen: risk of death.

Symptoms/Injuries After Inhalation: In elevated concentrations may cause asphyxiation, central nervous system effects, and increased breathing rate. Symptoms of asphyxiation include headache, dizziness, rapid breathing, increased pulse, mood changes, tremors, cyanosis, muscular weakness, narcosis, numbness of the extremities, unconsciousness and death.

Symptoms/Injuries After Skin Contact: Contact with gas/liquid escaping the container can cause frostbite and freeze burns.

Symptoms/Injuries After Eye Contact: Contact with gas/liquid escaping the container can cause frostbite, freeze burns, and permanent eye damage.

Symptoms/Injuries After Ingestion: Not considered a potential route of exposure, but contact with gas/liquid escaping the container can cause freeze burns and frostbite.

Chronic Symptoms: None expected under normal conditions of use.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Do not extinguish burning gas if flow cannot be shut off immediately. Extinguish secondary FIRES with appropriate materials.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Extremely flammable gas.

Explosion Hazard: May form flammable/explosive vapor-air mixture. Container may explode in heat of fire.

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so. Fight fire remotely due to the risk of explosion.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Other Information: Use water spray to disperse vapors. Do not allow run-off from fire fighting to enter drains or water courses.

Propane

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Eliminate every possible source of ignition. Do not breathe gas.

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

Evacuate unnecessary personnel, isolate, and ventilate area. Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Stop leak, if possible without risk. As an immediate precautionary measure, isolate spill or leak area in all directions.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill. Stop the source of the release, if safe to do so. Consider the use of water spray to disperse vapors. Isolate the area until gas has dispersed. Ventilate and gas test area before entering.

6.4. Reference to Other Sections

See Heading 8. Exposure controls and personal protection. See Section 13, Disposal Considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Handle empty containers with care because residual vapors are flammable. Ruptured cylinders may rocket. Do not pressurize, cut, or weld containers. Asphyxiating gas at high concentrations.

Precautions for Safe Handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid prolonged contact with eyes, skin and clothing. Do not breathe gas. Employ good maintenance practices to prevent leaks. Use good process control measures to prevent releases.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations. Proper grounding procedures to avoid static electricity should be followed.

Storage Conditions: Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Keep in fireproof place. Cylinders should be stored upright with valve protection cap in place and firmly secured to prevent falling.

Incompatible Products: Strong acids, strong bases, strong oxidizers.

Special Rules on Packaging: Ethyl mercaptan might, under certain conditions (when oxygen, water, iron oxide or other oxidizers are present in containers and piping) react with oxidizers which diminish or eliminate entirely its distinct smell, thereby reducing or eliminating the ability of a person to detect a leak. The passage of odorized propane through soil because of an underground leak will also diminish or eliminate entirely the smell of odorized propane. If you suspect a leak, use a combustible gas indicator or similar device to check for gas leaks.

7.3. Specific End Use(s)

Fuel

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), or OSHA (PEL).

| Propane (74-98-6) | | |
|--------------------|--------------------------------------|------------------------|
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 1800 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (ppm) | 1000 ppm |
| USA IDLH | US IDLH (ppm) | 2100 ppm (10% LEL) |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 1800 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (ppm) | 1000 ppm |
| Propene (115-07-1) | | |
| USA ACGIH | ACGIH TWA (ppm) | 500 ppm |

09/15/2015

EN (English US)

3/1

Propane

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| USA ACGIH | ACGIH chemical category | Not Classifiable as a Human Carcinogen |
|----------------------------|--|--|
| Isobutane (75-28-5) | | |
| USA ACGIH | ACGIH STEL (ppm) | 1000 ppm |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 1900 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (ppm) | 800 ppm |
| Pentane (109-66-0) | | |
| USA ACGIH | ACGIH TWA (ppm) | 1000 ppm |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 350 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (ppm) | 120 ppm |
| USA NIOSH | NIOSH REL (ceiling) (mg/m ³) | 1800 mg/m ³ |
| USA NIOSH | NIOSH REL (ceiling) (ppm) | 610 ppm |
| USA IDLH | US IDLH (ppm) | 1500 ppm (10% LEL) |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 2950 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (ppm) | 1000 ppm |

8.2. Exposure Controls

Appropriate Engineering Controls

: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. Gas detectors should be used when flammable gases or vapors may be released. Use explosion-proof equipment. Oxygen detectors should be used when asphyxiating gases may be released.

Personal Protective Equipment

: Gloves. Protective clothing. Protective goggles. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing

Hand Protection

Eye Protection

Skin and Body Protection

Respiratory Protection

: Wear fire/flammable resistant/retardant clothing.

: Wear protective gloves.

: Chemical safety goggles.

: Wear suitable protective clothing.

: Use a NIOSH-approved self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

: Wear thermally resistant protective clothing.

Thermal Hazard Protection

Other Information

: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State

: Gas

Appearance

: Colorless

Odor

: Odorless, unless odorant added then odor of Ethyl Mercaptan

Odor Threshold

: No data available

pH

: No data available

Evaporation Rate

: Gas at normal ambient conditions

Melting Point

: No data available

Freezing Point

: -305 °F

Boiling Point

: -45 °F @14.7 psia

Flash Point

: -156 °F (TCC)

Auto-ignition Temperature

: 842 °F

Decomposition Temperature

: No data available

Flammability (solid, gas)

: Extremely flammable gas

Lower Flammable Limit

: 2.3%

Upper Flammable Limit

: 9.5%

Vapor Pressure

: 188 psia @ 100 °F

Propane

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| | |
|--|---|
| Relative Vapor Density at 20 °C | : 2 (Air=1) |
| Relative Density | : 0.504 @ 60 °F |
| Solubility | : Water: <0.1% |
| Partition Coefficient: N-Octanol/Water | : No data available |
| Viscosity | : No data available |
| Molecular Weight | : 44.0 |
| Explosive Properties | : Contains gas under pressure; may explode if heated. |

9.2. Other Information

Gas Group : Liquefied gas

SECTION 10: STABILITY AND REACTIVITY

- 10.1. **Reactivity:** Hazardous reactions will not occur under normal conditions.
- 10.2. **Chemical Stability:** Contains gas under pressure; may explode if heated.
- 10.3. **Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. **Conditions to Avoid:** Direct sunlight, extremely high or low temperatures, open flames, sources of ignition and incompatible materials.
- 10.5. **Incompatible Materials:** Strong acids, strong bases, strong oxidizers.
- 10.6. **Hazardous Decomposition Products:** Normal combustion produces carbon dioxide; incomplete combustion can produce carbon monoxide.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity: Not classified

| | |
|----------------------------|---|
| Propane (74-98-6) | |
| LCSO Inhalation Rat | 658 mg/l/4h |
| Propene (115-07-1) | |
| LCSO Inhalation Rat | 658 mg/l/4h |
| Isobutane (75-28-5) | |
| LCSO Inhalation Rat | 658 mg/l/4h |
| LCSO Inhalation Rat | 11000 ppm |
| Pentane (109-66-0) | |
| LD50 Dermal Rabbit | 3000 mg/kg |
| LCSO Inhalation Rat | 364 g/m ³ (Exposure time: 4 h) |

Skin Corrosion/Irritation: Not classified

Serious Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Not classified

Propene (115-07-1)

IARC group : 3

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: In elevated concentrations may cause asphyxiation, central nervous system effects, and increased breathing rate. Symptoms of asphyxiation include headache, dizziness, rapid breathing, increased pulse, mood changes, tremors, cyanosis, muscular weakness, narcosis, numbness of the extremities, unconsciousness and death.

Symptoms/Injuries After Skin Contact: Contact with gas/liquid escaping the container can cause frostbite and freeze burns.

Symptoms/Injuries After Eye Contact: Contact with gas/liquid escaping the container can cause frostbite, freeze burns, and permanent eye damage.

Symptoms/Injuries After Ingestion: Not considered a potential route of exposure, but contact with gas/liquid escaping the container can cause freeze burns and frostbite.

Chronic Symptoms: None expected under normal conditions of use.

Propane

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

| | |
|---------------------------|---|
| Pentane (109-66-0) | |
| LC50 Fish 1 | 9.87 mg/l (Exposure time: 96 h - Species: <i>Oncorhynchus mykiss</i>) |
| EC50 Daphnia 1 | 9.74 mg/l (Exposure time: 48 h - Species: <i>Daphnia magna</i>) |
| LC 50 Fish 2 | 11.59 mg/l (Exposure time: 96 h - Species: <i>Pimephales promelas</i>) |

12.2. Persistence and Degradability

| | |
|--------------------------------------|---|
| Propane | |
| Persistence and Degradability | May cause long-term adverse effects in the environment. |

12.3. Bioaccumulative Potential

| | |
|----------------------------------|------------------|
| Propane | |
| Bioaccumulative Potential | Not established. |
| Propane (74-98-6) | |
| Log Pow | 2.3 |
| Propene (115-07-1) | |
| Log Pow | <= 2.8 |
| Isobutane (75-28-5) | |
| BCF fish 1 | 1.57 - 1.97 |
| Log Pow | 2.88 (at 20 °C) |
| Pentane (109-66-0) | |
| Log Pow | 3.39 |

12.4. Mobility in Soil No additional information available

12.5. Other Adverse Effects

Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, and international regulations.

Additional Information: Container may remain hazardous when empty. Continue to observe all precautions. Handle empty containers with care because residual vapors are flammable. Empty gas cylinders should be returned to the vendor for recycling or refilling. Do not puncture or incinerate container.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT

Proper Shipping Name(s) : PROPANE
PETROLEUM GASES, LIQUEFIED
Hazard Class : 2.1
Identification Number : UN1978
UN1075
Label Codes : 2.1
ERG Number : 115



14.2. In Accordance with IMDG

Proper Shipping Name(s) : PROPANE
PETROLEUM GASES, LIQUEFIED
Hazard Class : 2
Division : 2.1
Identification Number : UN1978
UN1075
Label Codes : 2.1
EmS-No. (Fire) : F-D
EmS-No. (Spillage) : S-U



14.3. In Accordance with IATA

Proper Shipping Name(s) : PROPANE
PETROLEUM GASES, LIQUEFIED

Propane

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Identification Number : UN1978
UN1075
Hazard Class : 2
Label Codes : 2.1
Division : 2.1
ERG Code (IATA) : 10L



SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

| | |
|---|--|
| Propane | |
| SARA Section 311/312 Hazard Classes | Fire hazard Sudden release of pressure hazard Immediate (acute) health hazard |
| Propane (74-98-6) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Propene (115-07-1) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| SARA Section 313 - Emission Reporting | 1.0 % |
| Isobutane (75-28-5) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Pentane (109-66-0) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| EPA TSCA Regulatory Flag | T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA. |

15.2 US State Regulations

| | |
|---|--|
| Propane (74-98-6) | |
| U.S. - Massachusetts - Right To Know List | |
| U.S. - New Jersey - Right to Know Hazardous Substance List | |
| U.S. - Pennsylvania - RTK (Right to Know) List | |
| Propene (115-07-1) | |
| U.S. - Massachusetts - Right To Know List | |
| U.S. - New Jersey - Right to Know Hazardous Substance List | |
| U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List | |
| U.S. - Pennsylvania - RTK (Right to Know) List | |
| Isobutane (75-28-5) | |
| U.S. - Massachusetts - Right To Know List | |
| U.S. - New Jersey - Right to Know Hazardous Substance List | |
| U.S. - Pennsylvania - RTK (Right to Know) List | |
| Pentane (109-66-0) | |
| U.S. - Massachusetts - Right To Know List | |
| U.S. - New Jersey - Right to Know Hazardous Substance List | |
| U.S. - Pennsylvania - RTK (Right to Know) List | |

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 09/15/2015
Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

| | |
|-------------------|--|
| Aquatic Acute 2 | Hazardous to the aquatic environment - Acute Hazard Category 2 |
| Aquatic Chronic 2 | Hazardous to the aquatic environment - Chronic Hazard Category 2 |
| Asp. Tox. 1 | Aspiration hazard Category 1 |
| Flam. Gas 1 | Flammable gases Category 1 |
| Flam. Liq. 1 | Flammable liquids Category 1 |

Propane

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| | |
|---------------|---|
| Liquefied gas | Gases under pressure Liquefied gas |
| STOT SE 3 | Specific target organ toxicity (single exposure) Category 3 |
| H220 | Extremely flammable gas |
| H224 | Extremely flammable liquid and vapor |
| H280 | Contains gas under pressure; may explode if heated |
| H304 | May be fatal if swallowed and enters airways |
| H336 | May cause drowsiness or dizziness |
| H401 | Toxic to aquatic life |
| H411 | Toxic to aquatic life with long lasting effects |

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)

1. Identification

Product identifier Q.T. PLUS (1:128)

Other means of identification

SDS number 538N-02A

Product code HIL00824RTU

Product registration number 6836-77-1658

Recommended use Disinfectant/Cleaner

Recommended restrictions For Labeled Use Only

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name HILLYARD INDUSTRIES

Address 302 North Fourth St.
St. Joseph, MO 64501

Contact person Regulatory Affairs

Telephone number (816) 233-1321 (Ext. 8285)

Fax (816) 383-8485

E-mail regulatoryaffairs@hillyard.com

Emergency telephone # (800) 424-9300

(Only in the event of chemical emergency involving a spill, leak, fire, exposure or accident involving chemicals)

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law in compliance with applicable federal, state and local requirements. CONTAINER DISPOSAL: Triple rinse (or equivalent), then offer clean, dry container for recycling or reconditioning.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

The manufacturer lists no ingredients as hazardous to health according to OSHA 29 CFR 1910.1200.

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

| | |
|---|--|
| Inhalation | Move to fresh air. Call a physician if symptoms develop or persist. |
| Skin contact | Get medical attention if irritation develops and persists. Repeated contact with the concentrate may cause skin irritation. |
| Eye contact | Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if irritation develops and persists. |
| Ingestion | Rinse mouth. Get medical attention if symptoms occur. |
| Most important symptoms/effects, acute and delayed | Direct contact with eyes may cause temporary irritation. |
| Indication of immediate medical attention and special treatment needed | Treat symptomatically. |
| General information | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |

5. Fire-fighting measures

| | |
|--|---|
| Suitable extinguishing media | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂). |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | During fire, gases hazardous to health may be formed. |
| Special protective equipment and precautions for firefighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| Fire fighting equipment/instructions | Move containers from fire area if you can do so without risk. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. |
| General fire hazards | No unusual fire or explosion hazards noted. |

6. Accidental release measures

| | |
|--|---|
| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. For personal protection, see section 8 of the SDS. |
| Methods and materials for containment and cleaning up | <p>This product is miscible in water.</p> <p>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.</p> |
| Environmental precautions | Avoid discharge into drains, water courses or onto the ground. |

7. Handling and storage

| | |
|---|---|
| Precautions for safe handling | Avoid prolonged exposure. Observe good industrial hygiene practices. |
| Conditions for safe storage, including any incompatibilities | Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Do not contaminate water, food or feed by storage or disposal. Pesticide Storage: Open dumping is prohibited. Store in original container in areas inaccessible to children. |

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

| | |
|---|--|
| Biological limit values | No biological exposure limits noted for the ingredient(s). |
| Appropriate engineering controls | No special ventilation requirements. |

Individual protection measures, such as personal protective equipment

| | |
|---------------------------------------|---|
| Eye/face protection | Avoid contact with eyes. Where splashing of concentrate is a concern, use protective glasses with side shield |
| Skin protection | |
| Hand protection | Use protective gloves when dealing with the concentrate. |
| Other | None normally required. If unable to avoid prolonged or repeated contact with skin, wear impervious clothing. |
| Respiratory protection | Not normally required with adequate ventilation. |
| Thermal hazards | None known. |
| General hygiene considerations | Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. |

9. Physical and chemical properties

| | |
|---|---------------------------------------|
| Appearance | Clear, slightly yellow liquid |
| Physical state | Liquid. |
| Form | Liquid. |
| Color | Slight yellow |
| Odor | Lemon odor |
| Odor threshold | Not available. |
| pH | 9 - 10 |
| Melting point/freezing point | Not applicable / Not available |
| Initial boiling point and boiling range | 209 °F (98.33 °C) |
| Flash point | > 209.0 °F (> 98.3 °C) Tag Closed Cup |
| Evaporation rate | < 1 Ethyl ether = 1 |
| Flammability (solid, gas) | Not applicable. |
| Upper/lower flammability or explosive limits | |
| Explosive limit - lower (%) | Not available. |
| Explosive limit - upper (%) | Not available. |
| Vapor pressure | 17.53 mm Hg |
| Vapor density | 0.62 Air = 1 |
| Relative density | 1.001 at 77°F |
| Solubility(ies) | |
| Solubility (water) | 100 % Complete |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |
| Other information | |
| Density | 8.34 lb/gal |
| Explosive properties | Not explosive. |
| Oxidizing properties | Not oxidizing. |
| Percent volatile | > 99 % |
| VOC | 0.01 % |

10. Stability and reactivity

| | |
|---|---|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. |

| | |
|---|---|
| Conditions to avoid | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials. |
| Incompatible materials | Strong oxidizing agents. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information

Information on likely routes of exposure

| | |
|---------------------|--|
| Inhalation | Prolonged inhalation may be harmful. |
| Skin contact | No adverse effects due to skin contact are expected. |
| Eye contact | Direct contact with eyes may cause temporary irritation. |
| Ingestion | Expected to be a low ingestion hazard. |

Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity

| Product | Species | Test Results |
|-------------------|---------|----------------------|
| Q.T. PLUS (1:128) | | |
| Acute | | |
| Dermal | | |
| LD50 | Rabbit | 3.16e+009 mg/kg |
| Inhalation | | |
| LC50 | Rat | 568100 mg/l, 4 Hours |
| Oral | | |
| LD50 | Rat | 6.532e+006 mg/kg |

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

| | |
|----------------------------------|---|
| Respiratory sensitization | Not a respiratory sensitizer. |
| Skin sensitization | This product is not expected to cause skin sensitization. |

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

| Product | Species | | Test Results |
|-------------------------------|---|---------|-------------------------------------|
| Q.T. PLUS (1:128) | | | |
| Aquatic | | | |
| Crustacea | EC50 | Daphnia | 15557.5371 mg/l, 48 hours estimated |
| Fish | LC50 | Fish | 12665.6426 mg/l, 96 hours estimated |
| Persistence and degradability | No data is available on the degradability of this product. | | |
| Bioaccumulative potential | | | |
| Mobility in soil | No data available. | | |
| Other adverse effects | No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component. | | |

13. Disposal considerations

| | |
|--|--|
| Disposal instructions | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Pesticide Disposal: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance. |
| Local disposal regulations | Dispose in accordance with all applicable regulations. |
| Hazardous waste code | This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. The waste code should be assigned in discussion between the user, the producer and the waste disposal company. |
| Waste from residues / unused products | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Waste from normal product use may be sewerred to a public owned treatment works (POTW) in compliance with applicable Federal, State, and local pretreatment requirements. |
| Contaminated packaging | Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. Container Disposal: Nonrefillable container. Do not reuse or refill this container. Wrap empty container and put in trash. |

14. Transport information

| | |
|---|------------------|
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | Not established. |
|---|------------------|

15. Regulatory information

| | |
|-------------------------------|--|
| US federal regulations | This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. |
|-------------------------------|--|

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Contains component(s) regulated under the Safe Drinking Water Act.

FIFRA Information

FIFRA: This product is a U.S. EPA Registered pesticide, EPA Reg. No. 6836-77-1658, and is subject to certain labeling requirements under Federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide products. The hazard information required on the pesticide label is reproduced here.

PRECAUTIONARY STATEMENTS – HAZARDS TO HUMANS AND DOMESTIC ANIMALS.

DANGER

Corrosive. Causes irreversible eye damage and skin burns. Do not get in eyes, on skin, or on clothing. Wear protective eyewear (goggles, face shield, or safety glasses), protective clothing and protective (rubber or chemical resistant) gloves. Harmful if swallowed or if absorbed through the skin. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash clothing before reuse.

FIRST AID: IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye. IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Call a poison control center or doctor for treatment advice. Have the product container or label with you when calling a poison control center or doctor or going for treatment.

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|---|------------------------|
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

| | |
|---------------|--|
| Issue date | 05-11-2015 |
| Revision date | 07-29-2020 |
| Version # | 06 |
| HMIS® ratings | Health: 1 Flammability: 0 Physical hazard: 0 |

Disclaimer

No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose, or of any nature are made with respect to the product(s) or information contained in this material safety data sheet. The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate. The buyer or user assumes all risks associated with the use, misuse or disposal of this product. The buyer or user is responsible to comply with all federal, state or local regulations concerning the use, misuse or disposal of these products.

Revision information

This document has undergone significant changes and should be reviewed in its entirety.



Safety Data Sheet

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Document Group: 18-1456-5
Issue Date: 10/09/18

Version Number: 11.00
Supersedes Date: 05/21/18

SECTION 1: Identification

1.1. Product identifier

3M™ HB Quat Disinfectant Cleaner Concentrate (Product No. 25, 3M™ Chemical Management Systems)

Product Identification Numbers

| ID Number | UPC | ID Number | UPC |
|----------------|------------------|----------------|------------------|
| 61-0000-6350-5 | | 61-0000-6351-3 | |
| 61-0000-6386-9 | | 61-0000-6387-7 | |
| 61-0000-6414-9 | | 70-0715-9166-6 | 00-48011-59741-1 |
| 70-0715-9183-1 | 00-48011-23550-4 | 70-0715-9184-9 | 00-48011-23582-5 |
| 70-0715-9187-2 | 00-48011-23551-1 | 70-0715-9189-8 | 00-48011-23581-8 |
| 70-0716-5819-2 | | | |

7010340864, 7000053094, 7000053093, 7100134180, 7010316439, 7010328504, 7010291304, 7010292383, 7010364145, 7010385953, 7010364156

1.2. Recommended use and restrictions on use

Recommended use

Disinfectant

1.3. Supplier's details

MANUFACTURER: 3M
DIVISION: Commercial Solutions Division
ADDRESS: 3M Center, St. Paul, MN 55144-1000, USA
Telephone: 1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

The label elements below were prepared in accordance with OSHA Hazard Communication Standard, 29 CFR 1910.1200. This information may be different from the actual product label information for labels regulated by other agencies.

2.1. Hazard classification

Corrosive to metal: Category 1.

Flammable Liquid: Category 3.
Serious Eye Damage/Irritation: Category 1.
Skin Corrosion/Irritation: Category 1B.

2.2. Label elements

Signal word

Danger

Symbols

Flame | Corrosion |

Pictograms



Hazard Statements

May be corrosive to metals.
Flammable liquid and vapor.

Causes severe skin burns and eye damage.

Precautionary Statements

Prevention:

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/bond container and receiving equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Keep container tightly closed.
Keep only in original container.
Use explosion-proof electrical/ventilating/lighting equipment.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wear protective gloves, protective clothing, and eye/face protection.
Wash thoroughly after handling.

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.
Wash contaminated clothing before reuse.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.
Absorb spillage to prevent material damage.

Storage:

Store in a corrosive resistant container with a resistant inner liner.
Store in a well-ventilated place. Keep cool.
Store locked up.

Disposal:

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Hazards not otherwise classified

May cause chemical gastrointestinal burns.

13% of the mixture consists of ingredients of unknown acute oral toxicity.

19% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---|------------|------------------------|
| WATER | 7732-18-5 | 40 - 70 Trade Secret * |
| ALKYL (68% C12, 32% C14) DIMETHYL ETHYLBENZYL AMMONIUM CHLORIDE | 68391-01-5 | 13.238 |
| ALKYL (60% C14, 30% C16, 5% C12, 5% C18) DIMETHYL BENZYL AMMONIUM CHLORIDE | 68956-79-6 | 13.238 |
| ETHOXYLATED C12-C15 ALCOHOLS | 68131-39-5 | 5 - 10 Trade Secret * |
| TETRASODIUM ETHYLENEDIAMINETETRAACETATE | 64-02-8 | 3 - 7 Trade Secret * |
| ETHYL ALCOHOL | 64-17-5 | 1 - 5 Trade Secret * |

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation:**

Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:

Immediately flush with large amounts of water for at least 15 minutes. Remove contaminated clothing. Get immediate medical attention. Wash clothing before reuse.

Eye Contact:

Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately get medical attention.

If Swallowed:

Rinse mouth. Do not induce vomiting. Get immediate medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable.

SECTION 5: Fire-fighting measures**5.1. Suitable extinguishing media**

In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

5.2. Special hazards arising from the substance or mixture

Closed containers exposed to heat from fire may build pressure and explode.

5.3. Special protective actions for fire-fighters

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

Contain spill. Cover spill area with a fire-extinguishing foam designed for use on solvents, such as alcohols and acetone, that can dissolve in water. An AR - AFFF type foam is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Absorb spillage to prevent material damage. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for use in transportation by appropriate authorities. The container must be lined with polyethylene plastic or contain a plastic drum liner made of polyethylene. Clean up residue with water. Cover, but do not seal for 48 hours. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

For industrial/occupational use only. Not for consumer sale or use. This product is not intended to be used without prior dilution as specified on the product label. Grounding or safety shoes with electrostatic dissipating soles (ESD) are not required with a chemical dispensing system. Keep out of reach of children. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Keep away from reactive metals (eg. Aluminum, zinc etc.) to avoid the formation of hydrogen gas that could create an explosion hazard. Wear low static or properly grounded shoes. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapor accumulation. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep cool. Keep container tightly closed. Keep only in original container. Store in a corrosive resistant container with a resistant inner liner. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|---------------|------------|--------|--------------------------|------------------------------|
| ETHYL ALCOHOL | 64-17-5 | ACGIH | STEL:1000 ppm | A3: Confirmed animal carcin. |
| ETHYL ALCOHOL | 64-17-5 | OSHA | TWA:1900 mg/m3(1000 ppm) | |

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

NOTE: When used with a chemical dispensing system as directed, special ventilation is not required. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment. Use explosion-proof ventilation equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

NOTE: When used with a chemical dispensing system as directed, eye contact with the concentrate is not expected to occur. If the product is not used with a chemical dispensing system or if there is an accidental release, wear protective eye/face protection. Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Full Face Shield

Indirect Vented Goggles

Skin/hand protection

NOTE: When used with a chemical dispensing system as directed, skin contact with the concentrate is not expected to occur. If product is not used with a chemical dispensing system or if there is an accidental release:

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.

Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.

Gloves made from the following material(s) are recommended: Butyl Rubber

Nitrile Rubber

Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary.

If product is not used with a chemical dispensing system or if there is an accidental release:

Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended:

Apron – Butyl rubber

Apron – Nitrile

Apron - polymer laminate

Respiratory protection

NOTE: When used with a chemical dispensing system as directed, respiratory protection is not required.

If product is not used with a chemical dispensing system or if there is an accidental release:

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapors

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|--|
| General Physical Form: | Liquid |
| Specific Physical Form: | Liquid |
| Odor, Color, Grade: | Clear to slightly golden yellow liquid with neutral fragrance. |
| Odor threshold | No Data Available |
| pH | 12.1 - 13.3 |
| Melting point | Not Applicable |
| Boiling Point | > 133 °F |
| Flash Point | Approximately 133 °F [Test Method: Tagliabue Closed Cup] |
| Evaporation rate | No Data Available |
| Flammability (solid, gas) | Not Applicable |
| Flammable Limits(LEL) | No Data Available |
| Flammable Limits(UEL) | No Data Available |
| Vapor Pressure | No Data Available |
| Vapor Density | No Data Available |
| Density | No Data Available |
| Specific Gravity | 1.009 - 1.023 [Ref Std: WATER=1] |
| Solubility in Water | Complete |
| Solubility- non-water | No Data Available |
| Partition coefficient: n-octanol/ water | No Data Available |
| Autoignition temperature | No Data Available |
| Decomposition temperature | No Data Available |
| Viscosity | 22.9 - 27.9 sec [Details: (Zahn #2)] |
| Volatile Organic Compounds | 3 - 7 % weight |
| Percent volatile | 40 - 75 % |
| VOC Less H2O & Exempt Solvents | 70 - 120 g/l |

SECTION 10: Stability and reactivity

10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Not determined

10.5. Incompatible materials

Strong acids

10.6. Hazardous decomposition products

| <u>Substance</u> | <u>Condition</u> |
|--------------------|------------------|
| Carbon monoxide | Not Specified |
| Carbon dioxide | Not Specified |
| Oxides of Nitrogen | Not Specified |

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects**Signs and Symptoms of Exposure**

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin Contact:

Corrosive (Skin Burns): Signs/symptoms may include localized redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction.

Eye Contact:

Corrosive (Eye Burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Ingestion:

May be harmful if swallowed.

Gastrointestinal Corrosion: Signs/symptoms may include severe mouth, throat and abdominal pain; nausea; vomiting; and diarrhea; blood in the feces and/or vomitus may also be seen.

Additional Information:

This product contains ethanol. Alcoholic beverages and ethanol in alcoholic beverages have been classified by the International Agency for Research on Cancer as carcinogenic to humans. There are also data associating human consumption of alcoholic beverages with developmental toxicity and liver toxicity. Exposure to ethanol during the foreseeable use of this product is not expected to cause cancer, developmental toxicity, or liver toxicity.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

| Name | Route | Species | Value |
|---|----------------------------|---------------|---|
| Overall product | Dermal | | No data available; calculated ATE >5,000 mg/kg |
| Overall product | Ingestion | | No data available; calculated ATE 2,000 - 5,000 mg/kg |
| ALKYL (68% C12, 32% C14) DIMETHYL ETHYLBENZYL AMMONIUM CHLORIDE | Dermal | Not available | LD50 > 2,000 mg/kg |
| ALKYL (68% C12, 32% C14) DIMETHYL ETHYLBENZYL AMMONIUM CHLORIDE | Ingestion | Not available | LD50 500 mg/kg |
| ETHOXYLATED C12-C15 ALCOHOLS | Dermal | Rat | LD50 5,000 mg/kg |
| ETHOXYLATED C12-C15 ALCOHOLS | Ingestion | Rat | LD50 1,200 mg/kg |
| ETHYL ALCOHOL | Dermal | Rabbit | LD50 > 15,800 mg/kg |
| ETHYL ALCOHOL | Inhalation-Vapor (4 hours) | Rat | LC50 124.7 mg/l |
| ETHYL ALCOHOL | Ingestion | Rat | LD50 17,800 mg/kg |
| TETRASODIUM ETHYLENEDIAMINETETRAACETATE | Ingestion | Rat | LD50 1,658 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|---|-----------------------|---------------------------|
| ALKYL (68% C12, 32% C14) DIMETHYL ETHYLBENZYL AMMONIUM CHLORIDE | Professional judgment | Corrosive |
| ETHYL ALCOHOL | Rabbit | No significant irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|---|-----------------------|-----------------|
| ALKYL (68% C12, 32% C14) DIMETHYL ETHYLBENZYL AMMONIUM CHLORIDE | Professional judgment | Corrosive |
| ETHOXYLATED C12-C15 ALCOHOLS | Not available | Corrosive |
| ETHYL ALCOHOL | Rabbit | Severe irritant |

Skin Sensitization

| Name | Species | Value |
|---------------|---------|----------------|
| ETHYL ALCOHOL | Human | Not classified |

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

| Name | Route | Value |
|---------------|----------|--|
| ETHYL ALCOHOL | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| ETHYL ALCOHOL | In vivo | Some positive data exist, but the data are not sufficient for classification |

Carcinogenicity

| Name | Route | Species | Value |
|---------------|-----------|-------------------------|--|
| ETHYL ALCOHOL | Ingestion | Multiple animal species | Some positive data exist, but the data are not sufficient for classification |

Reproductive Toxicity

Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|---------------|------------|--------------------------------|---------|-----------------------|------------------------------|
| ETHYL ALCOHOL | Inhalation | Not classified for development | Rat | NOAEL 38 mg/l | during gestation |
| ETHYL ALCOHOL | Ingestion | Not classified for development | Rat | NOAEL 5,200 mg/kg/day | premating & during gestation |

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|------------|-----------------------------------|--|-------------------------|---------------------|-------------------|
| ALKYL (68% C12, 32% C14) DIMETHYL ETHYLBENZYL AMMONIUM CHLORIDE | Inhalation | respiratory irritation | May cause respiratory irritation | | NOAEL Not available | |
| ETHYL ALCOHOL | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | LOAEL 2.6 mg/l | 30 minutes |
| ETHYL ALCOHOL | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | LOAEL 9.4 mg/l | not available |
| ETHYL ALCOHOL | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Multiple animal species | NOAEL not available | |
| ETHYL ALCOHOL | Ingestion | kidney and/or bladder | Not classified | Dog | NOAEL 3,000 mg/kg | |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---------------|------------|--------------------------------------|--|---------|-----------------------|-------------------|
| ETHYL ALCOHOL | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Rabbit | LOAEL 124 mg/l | 365 days |
| ETHYL ALCOHOL | Inhalation | hematopoietic system immune system | Not classified | Rat | NOAEL 25 mg/l | 14 days |
| ETHYL ALCOHOL | Ingestion | liver | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 8,000 mg/kg/day | 4 months |
| ETHYL ALCOHOL | Ingestion | kidney and/or bladder | Not classified | Dog | NOAEL 3,000 mg/kg/day | 7 days |

Aspiration Hazard

For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information**Ecotoxicological information**

A 3M Product Environmental Data Sheet (PED) is available.

Chemical fate information

A 3M Product Environmental Data Sheet (PED) is available.

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate in a permitted waste incineration facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable), D002 (Corrosive)

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

EPCRA 311/312 Hazard Classifications:

Physical Hazards

Corrosive to metal

Flammable (gases, aerosols, liquids, or solids)

Health Hazards

Hazard Not Otherwise Classified (HNOC)

Serious eye damage or eye irritation

Skin Corrosion or Irritation

FIFRA

Status

Registered

Registration Number

61178-5-10350

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER

KEEP OUT OF REACH OF CHILDREN:

Corrosive. Causes irreversible eye damage and skin burns. Do not get in eyes, on skin, or on clothing. Harmful if swallowed. Wear protective eyewear (goggles, face shield or safety glasses). Wear protective clothing and rubber gloves. Avoid contamination of food. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash clothing before reuse.

STATEMENT OF PRACTICAL TREATMENT:

FIRST AID

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 - 20 minutes. Call a poison control center or doctor for treatment advice.

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice. Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For additional medical advice, call the following emergency phone number: (651) 737-6501 OR 1-800-364-3577.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

PHYSICAL OR CHEMICAL HAZARDS

Combustible. Do not use or store near heat or open flame.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

STORAGE Do not store on side. Avoid creasing or impacting of side walls. Store securely in closed original container. Avoid storage at temperature extremes or in sunlight. Avoid shipping or storing below freezing. If product freezes, thaw at room temperature and shake gently to remix components. Use locked storage in an area that will prevent cross-contamination of other pesticides, fertilizer, food and feed. Store in locked area inaccessible to children.

PESTICIDE DISPOSAL Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal Law. If these wastes cannot be disposed of according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Discard rinsate. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available.

15.2. State Regulations

15.3. Chemical Inventories

The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

15.4. International Regulations

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 3 **Flammability:** 2 **Instability:** 0 **Special Hazards:** None
Acid/Base: Alkaline **Corrosive:** Yes

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: 3 **Flammability:** 2 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® IV) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® IV ratings are to be used with a fully implemented HMIS® IV program. HMIS® is a registered mark of the American Coatings Association (ACA).

| | | | |
|------------------------|-----------|-------------------------|----------|
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LOCTITE® Quicktite® Instant Adhesive Gel

October 2005

PRODUCT DESCRIPTION

LOCTITE® Quicktite® Instant Adhesive Gel provides the following product characteristics:

| | |
|-----------------------------|---|
| Technology | Cyanoacrylate |
| Chemical Type | Ethyl cyanoacrylate |
| Appearance (uncured) | Transparent, colorless gel ^{LMS} |
| Components | One part - requires no mixing |
| Viscosity | Gel |
| Cure | Humidity |
| Application | Bonding |
| Key Substrates | Wood, Paper, Leather and Fabric |

LOCTITE® Quicktite® Instant Adhesive Gel is designed for the rapid bonding of a wide range of materials, including metals, plastics and elastomers. LOCTITE® Quicktite® Instant Adhesive Gel is particularly suited for bonding porous or absorbent materials such as wood, paper, leather and fabric. The gel consistency prevents adhesive flow even on vertical surfaces.

TYPICAL PROPERTIES OF UNCURED MATERIAL

| | |
|--------------------------------------|---------------------------|
| Specific Gravity @ 25 °C | 1.1 |
| Flash Point - See MSDS | |
| Casson Viscosity, 25 °C, mPa·s (cP): | |
| Cone and plate rheometer | 100 to 450 ^{LMS} |

TYPICAL CURING PERFORMANCE

Under normal conditions, the atmospheric moisture initiates the curing process. Although full functional strength is developed in a relatively short time, curing continues for at least 24 hours before full chemical/solvent resistance is developed.

Cure Speed vs. Substrate

The rate of cure will depend on the substrate used. The table below shows the fixture time achieved on different materials at 22 °C / 50 % relative humidity. This is defined as the time to develop a shear strength of 0.1 N/mm².

| | |
|----------------------------------|--------------------|
| Fixture Time, ISO 4587, seconds: | |
| Steel (grit blasted) | 30 |
| Neoprene | 60 |
| PVC | 15 |
| Paper | ≤30 ^{LMS} |

Cure Speed vs. Bond Gap

The rate of cure will depend on the bondline gap. Thin bond lines result in high cure speeds, increasing the bond gap will decrease the rate of cure.

Cure Speed vs. Humidity

The rate of cure will depend on the ambient relative humidity. Higher relative humidity levels result in more rapid speed of cure.

Cure Speed vs. Activator

Where cure speed is unacceptably long due to large gaps, applying activator to the surface will improve cure speed. However, this can reduce ultimate strength of the bond and therefore testing is recommended to confirm effect.

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

Cured for 24 hours @ 22 °C

Block Shear Strength, ISO 13445:

| | | |
|-----|-------------------|---------|
| PVC | N/mm ² | 7.0 |
| | (psi) | (1,010) |

Lap Shear Strength, ISO 4587:

| | | |
|----------------------|-------------------|---------|
| Steel (grit blasted) | N/mm ² | 20.2 |
| | (psi) | (2,930) |
| Neoprene | N/mm ² | *1.2 |
| | (psi) | (*170) |

* substrate failure

GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials.

For safe handling information on this product, consult the Material Safety Data Sheet (MSDS).

Directions for use

1. For best performance bond surfaces should be clean and free from grease.
2. This product performs best in thin bond gaps (0.05 mm).
3. Excess adhesive can be dissolved with Loctite cleanup solvents, nitromethane or acetone.

Loctite Material Specification^{LMS}

LMS dated March 19, 2002. Test reports for each batch are available for the indicated properties. LMS test reports include selected QC test parameters considered appropriate to specifications for customer use. Additionally, comprehensive controls are in place to assure product quality and consistency. Special customer specification requirements may be coordinated through Henkel Quality.

Storage

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage: 2 °C to 8 °C. Storage below 2 °C or greater than 8 °C can adversely affect product properties.

Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Technical Service Center or Customer Service Representative.

Conversions

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$

$\text{kV/mm} \times 25.4 = \text{V/mil}$

$\text{mm} / 25.4 = \text{inches}$

$\mu\text{m} / 25.4 = \text{mil}$

$\text{N} \times 0.225 = \text{lb}$

$\text{N/mm} \times 5.71 = \text{lb/in}$

$\text{N/mm}^2 \times 145 = \text{psi}$

$\text{MPa} \times 145 = \text{psi}$

$\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$

$\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$

$\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$

$\text{mPa}\cdot\text{s} = \text{cP}$

Note

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Reference 1.0



Safety Data Sheet

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Version Number: 13.01

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Supersedes Date: 10/02/14

SECTION 1: Identification

1.1. Product identifier

3M™ Glass Cleaner (Concentrate), P.N. 38099, 38100, 38101, 38300, 38399

Product Identification Numbers

| | | | |
|----------------|----------------|----------------|----------------|
| ID Number | UPC | ID Number | UPC |
| 60-4400-7339-7 | | 60-4400-9627-3 | 051131-38399-9 |
| 60-4400-9628-1 | 051131-38300-5 | | |

1.2. Recommended use and restrictions on use

Recommended use

Automotive, Glass Cleaner

1.3. Supplier's details

MANUFACTURER: 3M
DIVISION: Automotive Aftermarket
ADDRESS: 3M Center, St. Paul, MN 55144-1000, USA
Telephone: 1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

The label elements below were prepared in accordance with OSHA Hazard Communication Standard, 29 CFR 1910.1200. This information may be different from the actual product label information for labels regulated by other agencies.

2.1. Hazard classification

Flammable Liquid: Category 2.
Serious Eye Damage/Irritation: Category 2A.
Skin Corrosion/Irritation: Category 2.
Specific Target Organ Toxicity (single exposure): Category 3.

2.2. Label elements

Signal word

Danger

Symbols

Flame | Exclamation mark |

Pictograms**Hazard Statements**

Highly flammable liquid and vapor.

Causes serious eye irritation.

Causes skin irritation.

May cause drowsiness or dizziness.

Precautionary Statements**General:**

Keep out of reach of children.

Prevention:

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Keep container tightly closed.

Use explosion-proof electrical/ventilating/lighting equipment.

Use only outdoors or in a well-ventilated area.

Wear protective gloves, protective clothing, and eye/face protection.

Wash thoroughly after handling.

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

If eye irritation persists: Get medical advice/attention.

If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

Call a POISON CENTER or doctor/physician if you feel unwell.

In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

Storage:

Store in a well-ventilated place. Keep container tightly closed.

Keep cool.

Store locked up.

Disposal:

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|-------------------|------------|------------------------|
| 2-Butoxyethanol | 111-76-2 | 20 - 40 Trade Secret * |
| Acetone | 67-64-1 | 20 - 40 Trade Secret * |
| Isopropyl Alcohol | 67-63-0 | 20 - 40 Trade Secret * |

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:

Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

5.2. Special hazards arising from the substance or mixture

Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance

Carbon monoxide
Carbon dioxide

Condition

During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

Contain spill. Cover spill area with a fire-extinguishing foam designed for use on solvents, such as alcohols and acetone, that can dissolve in water. An AR - AFFF type foam is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with water. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Keep out of reach of children. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Wear low static or properly grounded shoes. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapor accumulation. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store away from heat. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational exposure limits**

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|-------------------|------------|--------|--------------------------|--------------------------------|
| 2-Butoxyethanol | 111-76-2 | ACGIH | TWA:20 ppm | A3: Confirmed animal carcin. |
| 2-Butoxyethanol | 111-76-2 | OSHA | TWA:240 mg/m3(50 ppm) | SKIN |
| Isopropyl Alcohol | 67-63-0 | ACGIH | TWA:200 ppm;STEL:400 ppm | A4: Not class. as human carcin |
| Isopropyl Alcohol | 67-63-0 | OSHA | TWA:980 mg/m3(400 ppm) | |
| Acetone | 67-64-1 | ACGIH | TWA:250 ppm;STEL:500 ppm | A4: Not class. as human carcin |
| Acetone | 67-64-1 | OSHA | TWA:2400 mg/m3(1000 ppm) | |

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment. Use explosion-proof ventilation equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Indirect Vented Goggles

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.

Gloves made from the following material(s) are recommended: Butyl Rubber
Fluoroelastomer

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended:

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapors

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---------------------------|--------------------------------|
| General Physical Form: | Liquid |
| Odor, Color, Grade: | Blue Color, Solvent Odor |
| Odor threshold | No Data Available |
| pH | Not Applicable |
| Melting point | No Data Available |
| Boiling Point | 130 - 135 °F |
| Flash Point | 1 °F [Test Method: Closed Cup] |
| Evaporation rate | No Data Available |
| Flammability (solid, gas) | Not Applicable |
| Flammable Limits(LEL) | No Data Available |
| Flammable Limits(UEL) | No Data Available |

| | |
|---|--|
| Vapor Pressure | <=27 psia [@ 131 °F] |
| Vapor Density | No Data Available |
| Density | 0.82 g/ml |
| Specific Gravity | 0.82 [Ref Std: WATER=1] |
| Solubility in Water | Complete |
| Solubility- non-water | No Data Available |
| Partition coefficient: n-octanol/ water | No Data Available |
| Autoignition temperature | No Data Available |
| Decomposition temperature | No Data Available |
| Viscosity | 1 - 10 centipoise |
| Hazardous Air Pollutants | 0 lb HAPS/gal [Test Method: Calculated] |
| Molecular weight | No Data Available |
| Volatile Organic Compounds | 492 g/l [Test Method: calculated SCAQMD rule 443.1] |
| Volatile Organic Compounds | 60.0 % weight [Test Method: calculated per CARB title 2] |
| Percent volatile | 100 % weight |
| VOC Less H2O & Exempt Solvents | 842 g/l [Test Method: calculated SCAQMD rule 443.1] |

SECTION 10: Stability and reactivity

10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Sparks and/or flames

Heat

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

| <u>Substance</u> | <u>Condition</u> |
|------------------|------------------|
|------------------|------------------|

| | |
|-------------|--|
| None known. | |
|-------------|--|

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

Skin Contact:

Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.

Eye Contact:

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:

May be harmful if swallowed.

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

| Name | Route | Species | Value |
|-------------------|----------------------------|------------|---|
| Overall product | Inhalation-Vapor(4 hr) | | No data available; calculated ATE >50 mg/l |
| Overall product | Ingestion | | No data available; calculated ATE 2,000 - 5,000 mg/kg |
| Acetone | Dermal | Rabbit | LD50 > 15,688 mg/kg |
| Acetone | Inhalation-Vapor (4 hours) | Rat | LC50 76 mg/l |
| Acetone | Ingestion | Rat | LD50 5,800 mg/kg |
| 2-Butoxyethanol | Dermal | Guinea pig | LD50 > 2,000 mg/kg |
| 2-Butoxyethanol | Inhalation-Vapor (4 hours) | Guinea pig | LC50 > 2.6 mg/l |
| 2-Butoxyethanol | Ingestion | Guinea pig | LD50 1,414 mg/kg |
| Isopropyl Alcohol | Dermal | Rabbit | LD50 12,870 mg/kg |
| Isopropyl Alcohol | Inhalation-Vapor (4 hours) | Rat | LC50 72.6 mg/l |
| Isopropyl Alcohol | Ingestion | Rat | LD50 4,710 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|------|---------|-------|
|------|---------|-------|

| | | |
|-------------------|-------------------------|---------------------------|
| Acetone | Mouse | Minimal irritation |
| 2-Butoxyethanol | Rabbit | Irritant |
| Isopropyl Alcohol | Multiple animal species | No significant irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|-------------------|---------|-----------------|
| Acetone | Rabbit | Severe irritant |
| 2-Butoxyethanol | Rabbit | Severe irritant |
| Isopropyl Alcohol | Rabbit | Severe irritant |

Skin Sensitization

| Name | Species | Value |
|-------------------|------------|----------------|
| 2-Butoxyethanol | Guinea pig | Not classified |
| Isopropyl Alcohol | Guinea pig | Not classified |

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

| Name | Route | Value |
|-------------------|----------|--|
| Acetone | In vivo | Not mutagenic |
| Acetone | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| 2-Butoxyethanol | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Isopropyl Alcohol | In Vitro | Not mutagenic |
| Isopropyl Alcohol | In vivo | Not mutagenic |

Carcinogenicity

| Name | Route | Species | Value |
|-------------------|---------------|-------------------------|--|
| Acetone | Not Specified | Multiple animal species | Not carcinogenic |
| 2-Butoxyethanol | Inhalation | Multiple animal species | Some positive data exist, but the data are not sufficient for classification |
| Isopropyl Alcohol | Inhalation | Rat | Some positive data exist, but the data are not sufficient for classification |

Reproductive Toxicity**Reproductive and/or Developmental Effects**

| Name | Route | Value | Species | Test Result | Exposure Duration |
|-----------------|------------|--------------------------------------|----------|-----------------------|----------------------|
| Acetone | Ingestion | Not classified for male reproduction | Rat | NOAEL 1,700 mg/kg/day | 13 weeks |
| Acetone | Inhalation | Not classified for development | Rat | NOAEL 5.2 mg/l | during organogenesis |
| 2-Butoxyethanol | Dermal | Not classified for development | Rat | NOAEL 1,760 mg/kg/day | during gestation |
| 2-Butoxyethanol | Ingestion | Not classified for development | Rat | NOAEL 100 mg/kg/day | during organogenesis |
| 2-Butoxyethanol | Inhalation | Not classified for development | Multiple | NOAEL 0.48 | during |

| | | | animal species | mg/l | organogenesis |
|-------------------|------------|--------------------------------|----------------|---------------------|----------------------|
| Isopropyl Alcohol | Ingestion | Not classified for development | Rat | NOAEL 400 mg/kg/day | during organogenesis |
| Isopropyl Alcohol | Inhalation | Not classified for development | Rat | LOAEL 9 mg/l | during gestation |

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|-------------------|------------|-----------------------------------|--|-------------------------|---------------------|------------------------|
| Acetone | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Acetone | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| Acetone | Inhalation | immune system | Not classified | Human | NOAEL 1.19 mg/l | 6 hours |
| Acetone | Inhalation | liver | Not classified | Guinea pig | NOAEL Not available | |
| Acetone | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | poisoning and/or abuse |
| 2-Butoxyethanol | Dermal | endocrine system | Not classified | Rabbit | NOAEL 902 mg/kg | 6 hours |
| 2-Butoxyethanol | Dermal | liver | Not classified | Rabbit | LOAEL 72 mg/kg | not available |
| 2-Butoxyethanol | Dermal | kidney and/or bladder | Not classified | Rabbit | LOAEL 451 mg/kg | 6 hours |
| 2-Butoxyethanol | Dermal | blood | Not classified | Multiple animal species | NOAEL Not available | |
| 2-Butoxyethanol | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| 2-Butoxyethanol | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| 2-Butoxyethanol | Inhalation | blood | Not classified | Multiple animal species | NOAEL Not available | |
| 2-Butoxyethanol | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Professional judgment | NOAEL Not available | |
| 2-Butoxyethanol | Ingestion | blood | Not classified | Multiple animal species | NOAEL Not available | |
| 2-Butoxyethanol | Ingestion | kidney and/or bladder | Not classified | Human | NOAEL Not available | poisoning and/or abuse |
| Isopropyl Alcohol | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Isopropyl Alcohol | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| Isopropyl Alcohol | Inhalation | auditory system | Not classified | Guinea pig | NOAEL 13.4 mg/l | 24 hours |
| Isopropyl Alcohol | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | poisoning and/or abuse |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---------|------------|-----------------|----------------|------------|---------------------|-------------------|
| Acetone | Dermal | eyes | Not classified | Guinea pig | NOAEL Not available | 3 weeks |
| Acetone | Inhalation | hematopoietic | Not classified | Human | NOAEL 3 | 6 weeks |

| | | | | | | |
|-------------------|------------|--|----------------|-------------------------|------------------------|---------------|
| | | system | | | mg/l | |
| Acetone | Inhalation | immune system | Not classified | Human | NOAEL 1.19 mg/l | 6 days |
| Acetone | Inhalation | kidney and/or bladder | Not classified | Guinea pig | NOAEL 119 mg/l | not available |
| Acetone | Inhalation | heart liver | Not classified | Rat | NOAEL 45 mg/l | 8 weeks |
| Acetone | Ingestion | kidney and/or bladder | Not classified | Rat | NOAEL 900 mg/kg/day | 13 weeks |
| Acetone | Ingestion | heart | Not classified | Rat | NOAEL 2,500 mg/kg/day | 13 weeks |
| Acetone | Ingestion | hematopoietic system | Not classified | Rat | NOAEL 200 mg/kg/day | 13 weeks |
| Acetone | Ingestion | liver | Not classified | Mouse | NOAEL 3,896 mg/kg/day | 14 days |
| Acetone | Ingestion | eyes | Not classified | Rat | NOAEL 3,400 mg/kg/day | 13 weeks |
| Acetone | Ingestion | respiratory system | Not classified | Rat | NOAEL 2,500 mg/kg/day | 13 weeks |
| Acetone | Ingestion | muscles | Not classified | Rat | NOAEL 2,500 mg/kg | 13 weeks |
| Acetone | Ingestion | skin bone, teeth, nails, and/or hair | Not classified | Mouse | NOAEL 11,298 mg/kg/day | 13 weeks |
| 2-Butoxyethanol | Dermal | blood | Not classified | Multiple animal species | NOAEL Not available | not available |
| 2-Butoxyethanol | Dermal | endocrine system | Not classified | Rabbit | NOAEL 150 mg/kg/day | 90 days |
| 2-Butoxyethanol | Inhalation | liver | Not classified | Rat | NOAEL 2.4 mg/l | 14 weeks |
| 2-Butoxyethanol | Inhalation | kidney and/or bladder | Not classified | Rat | NOAEL 0.15 mg/l | 14 weeks |
| 2-Butoxyethanol | Inhalation | blood | Not classified | Rat | LOAEL 0.15 mg/l | 6 months |
| 2-Butoxyethanol | Inhalation | endocrine system | Not classified | Dog | LOAEL 1.9 mg/l | 8 days |
| 2-Butoxyethanol | Ingestion | blood | Not classified | Rat | LOAEL 69 mg/kg/day | 13 weeks |
| 2-Butoxyethanol | Ingestion | kidney and/or bladder | Not classified | Multiple animal species | NOAEL Not available | not available |
| Isopropyl Alcohol | Inhalation | kidney and/or bladder | Not classified | Rat | NOAEL 12.3 mg/l | 24 months |
| Isopropyl Alcohol | Inhalation | nervous system | Not classified | Rat | NOAEL 12 mg/l | 13 weeks |
| Isopropyl Alcohol | Ingestion | kidney and/or bladder | Not classified | Rat | NOAEL 400 mg/kg/day | 12 weeks |

Aspiration Hazard

For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material

and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate in a permitted waste incineration facility. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:

Physical Hazards

Flammable (gases, aerosols, liquids, or solids)

Health Hazards

Serious eye damage or eye irritation

Skin Corrosion or Irritation

Specific target organ toxicity (single or repeated exposure)

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

| <u>Ingredient</u> | <u>C.A.S. No</u> | <u>% by Wt</u> |
|---------------------------------|------------------|----------------|
| 2-Butoxyethanol (GLYCOL ETHERS) | 111-76-2 | 20 - 40 |

15.2. State Regulations

Contact 3M for more information.

California Proposition 65

| <u>Ingredient</u> | <u>C.A.S. No.</u> | <u>Listing</u> |
|-------------------|-------------------|-------------------------|
| Cadmium | 7440-43-9 | Male reproductive toxin |
| Cadmium | 7440-43-9 | Carcinogen |
| Cadmium | 7440-43-9 | Developmental Toxin |
| Ethylene Glycol | 107-21-1 | Developmental Toxin |
| Mercury | 7439-97-6 | Developmental Toxin |

| | | |
|------|-----------|---------------------------|
| Lead | 7439-92-1 | Female reproductive toxin |
| Lead | 7439-92-1 | Male reproductive toxin |
| Lead | 7439-92-1 | Carcinogen |
| Lead | 7439-92-1 | Developmental Toxin |

15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 2 **Flammability:** 2 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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Safety Data Sheet

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| | | | |
|------------------------|-----------|-------------------------|----------|
| Document Group: | 20-9719-4 | Version Number: | 6.00 |
| Issue Date: | 10/09/17 | Supersedes Date: | 05/15/17 |

SECTION 1: Identification

1.1. Product identifier

3M™ Glass Cleaner Ready-To-Use

Product Identification Numbers

| | | | |
|----------------|------------------|-----------|-----|
| ID Number | UPC | ID Number | UPC |
| 70-0713-1192-5 | 00-48011-35142-6 | | |

1.2. Recommended use and restrictions on use

Recommended use

Fast-drying, non-streaking cleaner. For cleaning windows, glass and mirrors., Hard Surface Cleaner

1.3. Supplier's details

| | |
|----------------------|---|
| MANUFACTURER: | 3M |
| DIVISION: | Commercial Solutions Division |
| ADDRESS: | 3M Center, St. Paul, MN 55144-1000, USA |
| Telephone: | 1-888-3M HELPS (1-888-364-3577) |

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Not classified as hazardous according to OSHA Hazard Communication Standard, 29 CFR 1910.1200.

2.2. Label elements

Signal word

Not applicable.

Symbols

Not applicable.

Pictograms

Not applicable.

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|--|-------------------|--------------------------|
| WATER | 7732-18-5 | > 90 |
| 2-METHOXYMETHYLETHOXYPROPANOL | 34590-94-8 | 0.5 - 1.5 Trade Secret * |
| TETRASODIUM ETHYLENEDIAMINETETRAACETATE | 64-02-8 | < 0.1 Trade Secret * |
| Poly(oxy-1,2-ethanediyl), .alpha.-octyl-.omega.-hydroxy- | 27252-75-1 | < 0.1 Trade Secret * |
| Fragrance | Trade Secret* | < 0.05 Trade Secret * |

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation:**

No need for first aid is anticipated.

Skin Contact:

No need for first aid is anticipated.

Eye Contact:

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:

No need for first aid is anticipated.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures**5.1. Suitable extinguishing media**

Material will not burn. Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Observe precautions from other sections.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with water. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Keep out of reach of children. Avoid release to the environment.

7.2. Conditions for safe storage including any incompatibilities

No special storage requirements.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational exposure limits**

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|--------------------------------|-------------------|---------------|--------------------------|----------------------------|
| 2-METHOXYMETHYLETHOXY PROPANOL | 34590-94-8 | ACGIH | TWA:100 ppm;STEL:150 ppm | SKIN |
| 2-METHOXYMETHYLETHOXY PROPANOL | 34590-94-8 | OSHA | TWA:600 mg/m3(100 ppm) | SKIN |

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls**8.2.1. Engineering controls**

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)**Eye/face protection**

None required.

Skin/hand protection

No chemical protective gloves are required.

Respiratory protection

None required.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

| | |
|--|--|
| General Physical Form: | Liquid |
| Specific Physical Form: | Liquid |
| Odor, Color, Grade: | Clear blue liquid with sweet odor |
| Odor threshold | <i>No Data Available</i> |
| pH | 10 - 11 |
| Melting point | <i>Not Applicable</i> |
| Boiling Point | > 212 °F |
| Flash Point | No flash point |
| Evaporation rate | <i>No Data Available</i> |
| Flammability (solid, gas) | Not Applicable |
| Flammable Limits(LEL) | <i>Not Applicable</i> |
| Flammable Limits(UEL) | <i>Not Applicable</i> |
| Vapor Pressure | 17.5 mmHg [@ 20 °C] |
| Vapor Density | <i>No Data Available</i> |
| Density | 0.99466 g/ml |
| Specific Gravity | 0.99466 [Ref Std:WATER=1] |
| Solubility in Water | Complete |
| Solubility- non-water | <i>No Data Available</i> |
| Partition coefficient: n-octanol/ water | <i>No Data Available</i> |
| Autoignition temperature | <i>Not Applicable</i> |
| Decomposition temperature | <i>No Data Available</i> |
| Viscosity | < 100 centipoise |
| Volatile Organic Compounds | 1 - 4 % weight [Test Method:calculated per CARB title 2] |
| Percent volatile | > 90 % weight |
| VOC Less H2O & Exempt Solvents | 600 - 625 g/l |

SECTION 10: Stability and reactivity**10.1. Reactivity**

This material is considered to be non reactive under normal use conditions.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

| <u>Substance</u> | <u>Condition</u> |
|------------------|------------------|
| Carbon monoxide | Not Specified |
| Carbon dioxide | Not Specified |

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

No known health effects.

Skin Contact:

Contact with the skin during product use is not expected to result in significant irritation.

Eye Contact:

Contact with the eyes during product use is not expected to result in significant irritation.

Ingestion:

No known health effects.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

| Name | Route | Species | Value |
|---|--------------------------------|---------|--|
| Overall product | Dermal | | No data available; calculated ATE >5,000 mg/kg |
| Overall product | Ingestion | | No data available; calculated ATE >5,000 mg/kg |
| 2-METHOXYMETHYLETHOXYPROPANOL | Dermal | Rabbit | LD50 > 19,000 mg/kg |
| 2-METHOXYMETHYLETHOXYPROPANOL | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 50 mg/l |
| 2-METHOXYMETHYLETHOXYPROPANOL | Ingestion | Rat | LD50 5,180 mg/kg |
| TETRASODIUM ETHYLENEDIAMINETETRAACETATE | Ingestion | Rat | LD50 1,658 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|-------------------------------|------------------|---------------------------|
| 2-METHOXYMETHYLETHOXYPROPANOL | Human and animal | No significant irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|-------------------------------|---------|---------------|
| 2-METHOXYMETHYLETHOXYPROPANOL | Rabbit | Mild irritant |

Skin Sensitization

| Name | Species | Value |
|-------------------------------|---------|----------------|
| 2-METHOXYMETHYLETHOXYPROPANOL | Human | Not classified |

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

| Name | Route | Value |
|-------------------------------|----------|---------------|
| 2-METHOXYMETHYLETHOXYPROPANOL | In Vitro | Not mutagenic |

Carcinogenicity

For the component/components, either no data are currently available or the data are not sufficient for classification.

Reproductive Toxicity

Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|-------------------------------|------------|--------------------------------|-------------------------|-----------------|----------------------|
| 2-METHOXYMETHYLETHOXYPROPANOL | Inhalation | Not classified for development | Multiple animal species | NOAEL 1.82 mg/l | during organogenesis |

Target Organ(s)

Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|-------------------------------|------------|-----------------------------------|----------------|---------|-------------------|-------------------|
| 2-METHOXYMETHYLETHOXYPROPANOL | Dermal | central nervous system depression | Not classified | Rabbit | NOAEL 2,850 mg/kg | |
| 2-METHOXYMETHYLETHOXYPROPANOL | Inhalation | central nervous system depression | Not classified | Rat | LOAEL 3.07 mg/l | 7 hours |
| 2-METHOXYMETHYLETHOXYPROPANOL | Ingestion | central nervous system depression | Not classified | Rat | LOAEL 5,000 mg/kg | |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|-------------------------------|------------|--|----------------|---------|-----------------------|-------------------|
| 2-METHOXYMETHYLETHOXYPROPANOL | Dermal | kidney and/or bladder heart endocrine system hematopoietic system liver respiratory system | Not classified | Rabbit | NOAEL 9,500 mg/kg/day | 90 days |
| 2-METHOXYMETHYLETHOXYPROPANOL | Inhalation | heart hematopoietic system liver immune system nervous system eyes kidney and/or bladder | Not classified | Rat | NOAEL 1.21 mg/l | 90 days |
| 2-METHOXYMETHYLETHOXYPROPANOL | Ingestion | liver heart endocrine system bone, teeth, nails, and/or hair hematopoietic system immune system nervous system kidney and/or bladder | Not classified | Rat | NOAEL 1,000 mg/kg/day | 28 days |

| | | | | | | |
|--|--|--------------------|--|--|--|--|
| | | respiratory system | | | | |
|--|--|--------------------|--|--|--|--|

Aspiration Hazard

For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations**13.1. Disposal methods**

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Prior to disposal, consult all applicable authorities and regulations to insure proper classification. Dispose of waste product in a permitted industrial waste facility. Empty and clean product containers may be disposed as non-hazardous waste. Consult your specific regulations and service providers to determine available options and requirements.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information**15.1. US Federal Regulations****311/312 Hazard Categories:**

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - No Delayed Hazard - No

EPCRA 311/312 Hazard Classifications (effective January 1, 2018):**Physical Hazards**

Not applicable

Health Hazards

Not applicable

15.2. State Regulations

15.3. Chemical Inventories

The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information.

15.4. International Regulations

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 0 **Flammability:** 0 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: 0 **Flammability:** 0 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® IV) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® IV ratings are to be used with a fully implemented HMIS® IV program. HMIS® is a registered mark of the American Coatings Association (ACA).

| | | | |
|------------------------|-----------|-------------------------|----------|
| Document Group: | 20-9719-4 | Version Number: | 6.00 |
| Issue Date: | 10/09/17 | Supersedes Date: | 05/15/17 |

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SAFETY DATA SHEET

SDS: 1275

1275 ALMAPLEX® INDUSTRIAL LUBRICANT

Issuing Date 04-24-2012

Revision Date 05-02-2017

Revision Number 7.1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Identifier**Product Name** 1275 ALMAPLEX® INDUSTRIAL LUBRICANT**Other means of identification****Synonyms** No information available**Recommended use of the chemical and restrictions on use****Identified uses** Lubricant**Uses advised against** Consumer use**Details of the supplier of the safety data sheet****Manufacturer**

Lubrication Engineers Inc.

1919 E. Tulsa

Wichita, KS 67216

USA

800-537-7683

Emergency Telephone Number

CHEMTREC: 1-800-424-9300 (NORTH AMERICA)

+1-703-527-3887 (INTERNATIONAL)

SDS: 1275

1275 ALMAPLEX® INDUSTRIAL LUBRICANT

Issuing Date 04-24-2012

Revision Date 05-02-2017

Revision Number 7.1

2. HAZARDS IDENTIFICATION**Classification****OSHA Regulatory Status**

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Label Elements**Emergency Overview****Signal Word**

None

Hazard Statements

None

The product contains no substances which at their given concentration, are considered to be hazardous to health

appearance orange**Physical state** Paste**Odor** Hydrocarbon-like**Precautionary Statements - Prevention**

None.

Response

None.

Eyes

None.

Skin

None.

Inhalation

None.

Ingestion

None.

Fire

None.

Spill

None.

Storage

None.

Disposal

None.

Hazards not otherwise classified (HNOC)

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

The producer of "1275" declares that it contains less than 3% DMSO extractable material by IP-346

4. FIRST AID MEASURES

SDS: 1275

1275 ALMAPLEX® INDUSTRIAL LUBRICANT

Issuing Date 04-24-2012

Revision Date 05-02-2017

Revision Number 7.1

First Aid Measures

| | |
|-----------------------------------|--|
| General Advice | If symptoms develop move victim to fresh air. Show this safety data sheet to the doctor in attendance. Do not breathe dust/fume/gas/mist/vapors/spray. |
| Eye Contact | Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing. Call a physician if irritation persists. |
| Skin Contact | Consult a physician if necessary. Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. |
| Inhalation | Move to fresh air. If symptoms persist, call a physician. |
| Ingestion | Drink plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician. |
| Protection of First-aiders | Use personal protective equipment. |

Most important symptoms and effects, both acute and delayed

Symptoms None known.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

| | |
|--|---|
| <u>Flash Point</u> | 248 °C / 480 °F |
| <u>Suitable Extinguishing Media</u> | Water spray, Carbon dioxide (CO2), Foam, Dry chemical |
| <u>Unsuitable Extinguishing Media</u> | Do not use a solid water stream as it may scatter and spread fire. |
| <u>Specific Hazards Arising from the Chemical</u> | Thermal decomposition can lead to release of irritating gases and vapors. |

Explosion Data

Sensitivity to Mechanical Impact Not impact sensitive.

Sensitivity to Static Discharge May be ignited by friction, heat, sparks or flames.

Protective Equipment and Precautions for Firefighters Wear self-contained breathing apparatus and protective suit.

NFPA **Health hazard** 1 **Flammability** 1 **Stability** 1

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Personal Precautions Do not touch or walk through spilled material. Remove all sources of ignition.

Environmental Precautions

Environmental Precautions Prevent entry into waterways, sewers, basements or confined areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

SDS: 1275

1275 ALMAPLEX® INDUSTRIAL LUBRICANT

Issuing Date 04-24-2012

Revision Date 05-02-2017

Revision Number 7.1

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

Methods for Cleaning up Use personal protective equipment. Take up mechanically and collect in suitable container for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE**Precautions for safe handling**

Advice on safe handling Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Prevent vapor buildup by providing adequate ventilation during and after use. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

Incompatible products. Strong oxidizing agents. Strong acids. Strong bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Exposure Guidelines**

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---|----------------------------|--|--|
| Aluminum Complex Soap 54326-11-3 | TWA: 1 mg/m ³ | - | |
| antimony dialkyldithiocarbamate 15890-25-2 | TWA: 0.5 mg/m ³ | TWA: 0.5 mg/m ³ (vacated) TWA: 0.5 mg/m ³ | IDLH: 50 mg/m ³ TWA: 0.5 mg/m ³ |

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Tightly fitting safety goggles.

Skin and Body Protection Long sleeved clothing. Protective gloves.

Respiratory Protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties**

Physical state Paste
appearance orange
Odor Hydrocarbon-like

SDS: 1275

1275 ALMAPLEX® INDUSTRIAL LUBRICANT

Issuing Date 04-24-2012

Revision Date 05-02-2017

Revision Number 7.1

Odor threshold

No information available

PropertyProperty

pH

6 - 8

Melting point/freezing point

No data available

Boiling Point/Range

no data available

Flash Point

248 °C / 480 °F

Vapor pressure

No data available

Vapor Density

< 1 (Air = 1)

Specific Gravity

0.95

Water solubility

negligible

Partition Coefficient: n-octanol/water

no data available

Autoignition Temperature

No data available

Decomposition Temperature

No data available

Viscosity, kinematic

not applicable

10. STABILITY AND REACTIVITYreactivity

No information available

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions None under normal processing.Conditions to Avoid

Heat, flames and sparks. Contact with other chemicals

Incompatible Materials

Strong oxidizing agents. Strong acids. Strong bases.

Hazardous Decomposition Products Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke)**11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure**Product Information**

Product does not present an acute toxicity hazard based on known or supplied information

Inhalation

May cause irritation of respiratory tract.

Eye Contact

Contact with eyes may cause irritation.

Skin Contact

May cause irritation.

Ingestion

There is no data available for this product.

Component InformationInformation on toxicological effects**Symptoms**

No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

The producer of "1275" declares that it contains less than 3% DMSO extractable material by IP-346

SDS: 1275

1275 ALMAPLEX® INDUSTRIAL LUBRICANT

Issuing Date 04-24-2012

Revision Date 05-02-2017

Revision Number 7.1

| | |
|------------------------------|--|
| Sensitization | No information available. |
| Mutagenic Effects | No information available. |
| Carcinogenicity | No information available. |
| Reproductive toxicity | No information available. |
| Target Organ Effects | Central Vascular System (CVS), Respiratory system, Eyes, Skin. |
| Other Adverse Effects | No information available. |

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

| | |
|--------------------------------------|-------------|
| ATEmix (oral) | 12221 mg/kg |
| ATEmix (dermal) | 6188 mg/kg |
| ATEmix (inhalation-dust/mist) | 223463 mg/l |

12. ECOLOGICAL INFORMATION

| | |
|---|---|
| <u>Marine Pollutant</u> | This product contains a chemical which is listed as a severe marine pollutant according to DOT. |
| <u>Ecotoxicity</u> | None known |
| <u>Persistence and Degradability</u> | No information available. |
| <u>Bioaccumulation</u> | No information available. |
| <u>Mobility</u> | The product is insoluble and floats on water. |

| Chemical Name | Log Pow |
|---|-----------|
| Naphtha (petroleum), heavy aromatic 64742-94-5 | 2.9 - 6.1 |

| | |
|-------------------------------------|--------------------------|
| <u>Other Adverse Effects</u> | No information available |
|-------------------------------------|--------------------------|

13. DISPOSAL CONSIDERATIONS**Waste treatment methods**

| | |
|-------------------------------|--|
| Waste Disposal Methods | Dispose of in accordance with local regulations. |
| Contaminated Packaging | Do not re-use empty containers. Empty containers should be taken to an approved waste handling site for recycling or disposal. |

This product contains one or more substances that are listed with the State of California as a hazardous waste

| Chemical Name | California Hazardous Waste Status |
|---|-----------------------------------|
| antimony dialkyldithiocarbamate 15890-25-2 | Toxic |

SDS: 1275

1275 ALMAPLEX® INDUSTRIAL LUBRICANT

Issuing Date 04-24-2012

Revision Date 05-02-2017

Revision Number 7.1

14. TRANSPORT INFORMATIONDOT

Not regulated

15. REGULATORY INFORMATION**International Inventories**

| | |
|----------|----------------|
| TSCA | Complies |
| DSL/NDSL | Complies |
| NDSL | Not determined |
| EINECS | Not determined |
| ELINCS | Not determined |
| ENCS | Not determined |
| IECSC | Complies |
| KECL | Not determined |
| PICCS | Not determined |
| AICS | Complies |

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**AICS** - Australian Inventory of Chemical Substances**U.S. Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

| Chemical Name | CAS-No | Weight % | SARA 313 - Threshold Values % |
|---|------------|----------|-------------------------------|
| antimony dialkylldithiocarbamate - 15890-25-2 | 15890-25-2 | 2.325 | 1.0 |

SARA 311/312 Hazard Categories

| | |
|-----------------------------------|-----|
| Acute Health Hazard | Yes |
| Chronic Health Hazard | No |
| Fire Hazard | No |
| Sudden Release of Pressure Hazard | No |
| Reactive Hazard | No |

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

| Chemical Name | CWA - Reportable | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous |
|---------------|------------------|------------------------|---------------------------|-----------------|
|---------------|------------------|------------------------|---------------------------|-----------------|

SDS: 1275

1275 ALMAPLEX® INDUSTRIAL LUBRICANT

Issuing Date 04-24-2012

Revision Date 05-02-2017

Revision Number 7.1

| | Quantities | | | Substances |
|--|------------|---|--|------------|
| antimony dialkyldithiocarbamate 15890-25-2 | | X | | |

CERCLA

This material does not contain any components with a CERCLA RQ.

U.S. State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations

16. OTHER INFORMATION

Issuing Date 04-24-2012
Revision Date 05-02-2017
Reason for revision Update to Format.

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

SDS is available at www.LElubricants.com

End of Safety Data Sheet

SAFETY DATA SHEET

SDS: 6402

6402 MONOLEC® R&O COMPRESSOR/TURBINE OIL

Issuing Date 04-24-2012

Revision Date 04-29-2014

Revision Number 5

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Name 6402 MONOLEC® R&O COMPRESSOR/TURBINE OIL

Other means of identification

Synonyms No information available

Recommended use of the chemical and restrictions on use

Identified uses Lubricant

Uses advised against Consumer use

Details of the supplier of the safety data sheet

Manufacturer

Lubrication Engineers Inc.
300 Bailey Avenue
Fort Worth, TX 76107
USA
(817) 916-3200

Emergency Telephone Number

CHEMTREC: +1-703-527-3887 (INTERNATIONAL)
1-800-424-9300 (NORTH AMERICA)

SDS: 6402

6402 MONOLEC® R&O COMPRESSOR/TURBINE OIL

Issuing Date 04-24-2012

Revision Date 04-29-2014

Revision Number 5

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Label Elements

Emergency Overview

Signal Word

None

The product contains no substances which at their given concentration, are considered to be hazardous to health

appearance red

Physical state liquid

Odor Hydrocarbon-like

Precautionary Statements - Prevention

None.

Response

None.

Eyes

None.

Skin

None.

Inhalation

None.

Ingestion

None.

Fire

None.

Spill

None.

Storage

None.

Disposal

None.

Hazards not otherwise classified (HNOC)

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

The producer of "6402" declares that it contains less than 3% DMSO extractable material by IP-346

SDS: 6402

6402 MONOLEC® R&O COMPRESSOR/TURBINE OIL

Issuing Date 04-24-2012

Revision Date 04-29-2014

Revision Number 5

4. FIRST AID MEASURES

First Aid Measures

| | |
|-----------------------------------|--|
| General Advice | If symptoms develop move victim to fresh air. Show this safety data sheet to the doctor in attendance. Do not breathe dust/fume/gas/mist/vapors/spray. |
| Eye Contact | Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing. |
| Skin Contact | Consult a physician if necessary. Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. |
| Inhalation | Move to fresh air. Consult a physician. If not breathing, give artificial respiration. |
| Ingestion | May cause adverse kidney effects. Drink plenty of water. Do NOT induce vomiting. |
| Protection of First-aiders | Use personal protective equipment. |

Most important symptoms and effects, both acute and delayed

| | |
|-----------------|-------------|
| Symptoms | None known. |
|-----------------|-------------|

Indication of any immediate medical attention and special treatment needed

| | |
|---------------------------|------------------------|
| Notes to Physician | Treat symptomatically. |
|---------------------------|------------------------|

5. FIRE-FIGHTING MEASURES

| | |
|---|---|
| Flash Point | 215 °C / 420 °F |
| Suitable Extinguishing Media | Water spray, Carbon dioxide (CO2), Foam, Dry chemical |
| Unsuitable Extinguishing Media | Do not use a solid water stream as it may scatter and spread fire. |
| Specific Hazards Arising from the Chemical | Thermal decomposition can lead to release of irritating gases and vapors. |

Explosion Data

Sensitivity to Mechanical Impact Not impact sensitive.

Sensitivity to Static Discharge May be ignited by friction, heat, sparks or flames.

| | |
|--|--|
| Protective Equipment and Precautions for Firefighters | Wear self-contained breathing apparatus and protective suit. |
|--|--|

| | | | |
|-------------|------------------------|-----------------------|----------------------|
| NFPA | Health hazard 1 | Flammability 1 | Instability 1 |
|-------------|------------------------|-----------------------|----------------------|

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

SDS: 6402

6402 MONOLEC® R&O COMPRESSOR/TURBINE OIL

Issuing Date 04-24-2012

Revision Date 04-29-2014

Revision Number 5

Personal Precautions Do not touch or walk through spilled material. Remove all sources of ignition.

Environmental Precautions

Environmental Precautions Prevent entry into waterways, sewers, basements or confined areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

Methods for Cleaning up Use personal protective equipment. Dam up. Take up mechanically and collect in suitable container for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Prevent vapor buildup by providing adequate ventilation during and after use. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

Incompatible products. Strong oxidizing agents. Strong acids. Strong bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|--------------------------------|---------------------------|---|--|
| White Mineral Oil 8042-47-5 | TWA: 5 mg/m ³ | TWA: 5 mg/m ³ (vacated) TWA: 5 mg/m ³ | IDLH: 2500 mg/m ³ TWA: 5 mg/m ³ STEL: 10 mg/m ³ |
| Calcium Sulfate 7778-18-9 | TWA: 10 mg/m ³ | TWA: 15 mg/m ³ TWA: 5 mg/m ³ (vacated) TWA: 15 mg/m ³ (vacated) TWA: 5 mg/m ³ | TWA: 10 mg/m ³ TWA: 5 mg/m ³ |
| Ethyl acrylate 140-88-5 | STEL 15 ppm TWA: 5 ppm | TWA: 25 ppm TWA: 100 mg/m ³ (vacated) TWA: 5 ppm (vacated) TWA: 20 mg/m ³ (vacated) STEL: 25 ppm (vacated) STEL: 100 mg/m ³ (vacated) S* S* | IDLH: 300 ppm |
| Diphenylamine 122-39-4 | TWA: 10 mg/m ³ | (vacated) TWA: 10 mg/m ³ | TWA: 10 mg/m ³ |

SDS: 6402

6402 MONOLEC® R&O COMPRESSOR/TURBINE OIL

Issuing Date 04-24-2012

Revision Date 04-29-2014

Revision Number 5

Appropriate engineering controls

Engineering Measures Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

| | |
|---------------------------------|--|
| Eye/Face Protection | Tightly fitting safety goggles. |
| Skin and Body Protection | Long sleeved clothing. Protective gloves. |
| Respiratory Protection | No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. |
| Hygiene Measures | Handle in accordance with good industrial hygiene and safety practice. |

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

| | |
|-----------------------|--------------------------|
| Physical state | liquid |
| appearance | red |
| Odor | Hydrocarbon-like |
| Odor threshold | No information available |

Property

Property

| | |
|---|-------------------|
| pH | 6 - 8 |
| Melting point/freezing point | No data available |
| Boiling Point/Range | no data available |
| Flash Point | 215 °C / 420 °F |
| Vapor pressure | No data available |
| Vapor Density | < 1 (Air = 1) |
| Specific Gravity | 0.87 |
| Water solubility | negligible |
| Partition Coefficient: n-octanol/water | no data available |
| Autoignition Temperature | No data available |
| Decomposition Temperature | No data available |
| Viscosity, kinematic | 45.23 cSt @ 40°C |

10. STABILITY AND REACTIVITY

reactivity No information available

Chemical stability Stable under recommended storage conditions.

Possibility of Hazardous Reactions None under normal processing.

Conditions to Avoid Heat, flames and sparks. Contact with other chemicals

Incompatible Materials Strong oxidizing agents. Strong acids. Strong bases.

SDS: 6402

6402 MONOLEC® R&O COMPRESSOR/TURBINE OIL

Issuing Date 04-24-2012

Revision Date 04-29-2014

Revision Number 5

Hazardous Decomposition Products Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke)

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

| | |
|----------------------------|--|
| Product Information | Product does not present an acute toxicity hazard based on known or supplied information |
| Inhalation | May cause irritation of respiratory tract. |
| Eye Contact | Contact with eyes may cause irritation. |
| Skin Contact | May cause irritation. |
| Ingestion | There is no data available for this product. |

Component Information No information available

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

The producer of "6402" declares that it contains less than 3% DMSO extractable material by IP-346

Sensitization No information available.

Mutagenic Effects No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

Target Organ Effects Respiratory system, Eyes, Skin.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 4596 mg/kg

ATEmix (dermal) 5516 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity No information available

SDS: 6402

6402 MONOLEC® R&O COMPRESSOR/TURBINE OIL

Issuing Date 04-24-2012

Revision Date 04-29-2014

Revision Number 5

Persistence and Degradability No information available.

Bioaccumulation .

Mobility The product is insoluble and floats on water.

| Chemical Name | Log Pow |
|-----------------------------------|---------|
| White Mineral Oil 8042-47-5 | >6 |
| 2-Ethylhexyl acrylate 103-11-7 | 4.64 |
| Ethyl acrylate 140-88-5 | 1.18 |
| Diphenylamine 122-39-4 | 3.5 |

Other Adverse Effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Methods Dispose of in accordance with local regulations.

Contaminated Packaging Do not re-use empty containers. Empty containers should be taken to an approved waste handling site for recycling or disposal.

| Chemical Name | RCRA | RCRA - Basis for Listing | RCRA - D Series Wastes | RCRA - U Series Wastes |
|----------------------------|------|--|------------------------|------------------------|
| Ethyl acrylate 140-88-5 | | | | Ignitable waste |
| Diphenylamine 122-39-4 | | Included in waste streams: F039, K083, K104 | | |

| Chemical Name | California Hazardous Waste Status |
|---------------------------|-----------------------------------|
| Diphenylamine 122-39-4 | Toxic |

14. TRANSPORT INFORMATION

DOT Not regulated

SDS: 6402

6402 MONOLEC® R&O COMPRESSOR/TURBINE OIL

Issuing Date 04-24-2012

Revision Date 04-29-2014

Revision Number 5

15. REGULATORY INFORMATION

International Inventories

| | |
|----------|----------------|
| TSCA | Complies |
| DSL/NDSL | Not determined |
| NDSL | Not determined |
| EINECS | Not determined |
| ELINCS | Not determined |
| ENCS | Not determined |
| IECSC | Complies |
| KECL | Not determined |
| PICCS | Not determined |
| AICS | Not determined |

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

| Chemical Name | CAS-No | Weight % | SARA 313 - Threshold Values % |
|--|-------------|----------|-------------------------------|
| Petroleum distillates, solvent-refined heavy paraffinic - 64741-88-4 | 64741-88-4 | 90 - 100 | |
| Petroleum distillates, solvent-refined light paraffinic - 64741-89-5 | 64741-89-5 | 5 - 10 | |
| Residual oils (petroleum), solvent refined - 64742-01-4 | 64742-01-4 | 1 - 5 | |
| Benzenamine,-N-phenyl-, reaction product with 2,4,4-trimethylpentene and 2-methylpropene - 184378-08-3 | 184378-08-3 | 0.1 - 1 | |
| Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, C7-9- - 125643-61-0 | 125643-61-0 | 0.1 - 1 | |
| 21151 Proprietary Organsulfur-phosphorus Compounds - 9999-99-9 | 9999-99-9 | 0.1 - 1 | |
| 20095 Alkyl phenol - 9999-99-9 | 9999-99-9 | 0.1 - 1 | |
| 20095 Petroleum Distillates - 9999-99-9 | 9999-99-9 | 0.1 - 1 | |
| White Mineral Oil - 8042-47-5 | 8042-47-5 | < 0.1 | |
| 20095 Aryl Amine - 9999-99-9 | 9999-99-9 | < 0.1 | |
| Petroleum distillates, hydrotreated middle - 64742-46-7 | 64742-46-7 | < 0.1 | |
| Calcium long-chain Alkaryl Sulfonate - 115733-10-3 | 115733-10-3 | < 0.1 | |
| Lubricating oils, petroleum, C15-30, hydrotreated neutral oil-based - 72623-86-0 | 72623-86-0 | < 0.1 | |
| Dilauryl Hydrogen Phosphite - 21302-09-0 | 21302-09-0 | < 0.1 | |
| Naphtha (petroleum), hydrotreated heavy - 64742-48-9 | 64742-48-9 | < 0.1 | |

SDS: 6402

6402 MONOLEC® R&O COMPRESSOR/TURBINE OIL

Issuing Date 04-24-2012

Revision Date 04-29-2014

Revision Number 5

| | | | |
|--|------------|-------|-----|
| 21069 Ethanox 4782J - 9999-99-9 | 9999-99-9 | < 0.1 | |
| 2-Propenoic acid, ethyl ester, polymer with 2-ethylhexyl 2-propenoate - 26376-86-3 | 26376-86-3 | < 0.1 | |
| Petroleum distillates, hydrotreated light - 64742-47-8 | 64742-47-8 | < 0.1 | |
| 20095 Alkaryl Triazole - 9999-99-9 | 9999-99-9 | < 0.1 | |
| Petroleum distillates, hydrotreated light paraffinic - 64742-55-8 | 64742-55-8 | < 0.1 | |
| Petroleum distillates, solvent dewaxed heavy paraffinic - 64742-65-0 | 64742-65-0 | < 0.1 | |
| Petroleum distillates, hydrotreated light naphthenic - 64742-53-6 | 64742-53-6 | < 0.1 | |
| Petroleum distillates, hydrotreated heavy naphthenic - 64742-52-5 | 64742-52-5 | < 0.1 | |
| 2-Ethylhexyl acrylate - 103-11-7 | 103-11-7 | < 0.1 | |
| Calcium Sulfate - 7778-18-9 | 7778-18-9 | < 0.1 | |
| Ethyl acrylate - 140-88-5 | 140-88-5 | < 0.1 | 0.1 |
| Diphenylamine - 122-39-4 | 122-39-4 | < 0.1 | 1.0 |

SARA 311/312 Hazard Categories

| | |
|-----------------------------------|-----|
| Acute Health Hazard | Yes |
| Chronic Health Hazard | No |
| Fire Hazard | No |
| Sudden Release of Pressure Hazard | No |
| Reactive Hazard | No |

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

| Chemical Name | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ) |
|----------------------------|--------------------------|----------------|---|
| Ethyl acrylate 140-88-5 | 1000 lb | - | RQ 1000 lb final RQ RQ 454 kg final RQ |

U.S. State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:

| Chemical Name | California Prop. 65 |
|---------------------------|---------------------|
| Ethyl acrylate - 140-88-5 | Carcinogen |

U.S. State Right-to-Know Regulations

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|---|------------|---------------|--------------|
| Petroleum distillates, solvent-refined light paraffinic 64741-89-5 | | X | |

SDS: 6402

6402 MONOLEC® R&O COMPRESSOR/TURBINE OIL

Issuing Date 04-24-2012

Revision Date 04-29-2014

Revision Number 5

| | | | |
|---|---|---|---|
| White Mineral Oil 8042-47-5 | | X | X |
| Petroleum distillates, hydrotreated light paraffinic 64742-55-8 | | X | |
| Petroleum distillates, hydrotreated light naphthenic 64742-53-6 | | X | |
| 2-Ethylhexyl acrylate 103-11-7 | X | X | X |
| Calcium Sulfate 7778-18-9 | X | X | X |
| Ethyl acrylate 140-88-5 | X | X | X |
| Diphenylamine 122-39-4 | X | X | X |

16. OTHER INFORMATION

Issuing Date 04-24-2012

Revision Date 04-29-2014

Reason for revision Change to composition.

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

SAFETY DATA SHEET

SDS: 8430

8430 MONOLEC® GFS ENGINE OIL

Issuing Date 04-24-2012

Revision Date 05-29-2013

Revision Number 4

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Name 8430 MONOLEC® GFS ENGINE OIL

Other means of identification

Synonyms No information available

Recommended use of the chemical and restrictions on use

Identified uses Lubricant

Details of the supplier of the safety data sheet

Manufacturer

Lubrication Engineers Inc.
300 Bailey Avenue
Fort Worth, TX 76107
USA
(817) 916-3200

Emergency telephone number

CHEMTREC: +1-703-527-3887 (INTERNATIONAL)
1-800-424-9300 (NORTH AMERICA)

SDS: 8430

8430 MONOLEC® GFS ENGINE OIL

Issuing Date 04-24-2012

Revision Date 05-29-2013

Revision Number 4

2. HAZARDS IDENTIFICATION**Classification****OSHA Regulatory Status**

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Label Elements**Emergency Overview****Signal Word**

None

The product contains no substances which at their given concentration, are considered to be hazardous to health

appearance red**Physical state** liquid**Odor** Hydrocarbon-like**Precautionary Statements - Prevention**

None.

Response

None.

Eyes

None.

Skin

None.

Inhalation

None.

Ingestion

None.

Fire

None.

Spill

None.

Storage

None.

Disposal

None.

Hazards not otherwise classified (HNOC)

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | Weight % |
|---|------------|----------|
| Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts | 68649-42-3 | 1 - 5 |

The producer of "8430" declares that it contains less than 3% DMSO extractable material by IP-346

SDS: 8430

8430 MONOLEC® GFS ENGINE OIL

Issuing Date 04-24-2012

Revision Date 05-29-2013

Revision Number 4

4. FIRST AID MEASURES**First Aid Measures**

| | |
|-----------------------------------|--|
| General Advice | If symptoms develop move victim to fresh air. Show this safety data sheet to the doctor in attendance. Do not breathe dust/fume/gas/mist/vapors/spray. |
| Eye Contact | Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing. |
| Skin Contact | Consult a physician if necessary. Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. |
| Inhalation | Move to fresh air. Consult a physician. If not breathing, give artificial respiration. |
| Ingestion | May cause adverse kidney effects. Drink plenty of water. Do NOT induce vomiting. |
| Protection of First-aiders | Use personal protective equipment. |

Most important symptoms and effects, both acute and delayed

Symptoms None known.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

| | |
|---|---|
| <u>Flash Point</u> | 218 °C / 425 °F |
| <u>Suitable Extinguishing Media</u> | Water spray, Carbon dioxide (CO2), Foam, Dry chemical |
| <u>Unsuitable Extinguishing Media</u> | Do not use a solid water stream as it may scatter and spread fire. |
| <u>Specific Hazards Arising from the Chemical</u> | Thermal decomposition can lead to release of irritating gases and vapors. |
| <u>Explosion Data</u> | |
| <u>Sensitivity to Mechanical Impact</u> | Not impact sensitive. |
| <u>Sensitivity to Static Discharge</u> | May be ignited by friction, heat, sparks or flames. |
| <u>Protective Equipment and Precautions for Firefighters</u> | Wear self-contained breathing apparatus and protective suit. |

NFPA**Health Hazard 1****Flammability 1****Instability 1**

SDS: 8430

8430 MONOLEC® GFS ENGINE OIL

Issuing Date 04-24-2012

Revision Date 05-29-2013

Revision Number 4

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Personal Precautions Do not touch or walk through spilled material. Remove all sources of ignition.

Environmental Precautions

Environmental Precautions Prevent entry into waterways, sewers, basements or confined areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

Methods for Cleaning up Use personal protective equipment. Dam up. Take up mechanically and collect in suitable container for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE**Precautions for safe handling**

Advice on safe handling Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Prevent vapor buildup by providing adequate ventilation during and after use. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

Incompatible products. Strong oxidizing agents. Strong acids. Strong bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Exposure Guidelines**

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|------------------------------|-------------------|--|--|
| Ethylene diamine 107-15-3 | TWA: 10 ppm S* | TWA: 10 ppm TWA: 25 mg/m ³ (vacated) TWA: 10 ppm (vacated) TWA: 25 mg/m ³ | IDLH: 1000 ppm TWA: 10 ppm TWA: 25 mg/m ³ |

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

SDS: 8430

8430 MONOLEC® GFS ENGINE OIL

Issuing Date 04-24-2012

Revision Date 05-29-2013

Revision Number 4

| | |
|---------------------------------|--|
| Eye/Face Protection | Tightly fitting safety goggles. |
| Skin and Body Protection | Long sleeved clothing. Protective gloves. |
| Respiratory Protection | No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. |
| Hygiene Measures | Handle in accordance with good industrial hygiene and safety practice. |

9. PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties**

| | |
|--|--------------------------|
| Physical state | liquid |
| appearance | red |
| Odor | Hydrocarbon-like |
| Odor Threshold | No information available |
| pH | 6 - 8 |
| Melting point/freezing point | No data available |
| Boiling Point/Range | no data available |
| Flash Point | 218 °C / 425 °F |
| Vapor pressure | No data available |
| Vapor Density | < 1 (Air = 1) |
| Specific Gravity | 0.88 |
| Water solubility | negligible |
| Partition Coefficient: n-octanol/water | no data available |
| Autoignition Temperature | No data available |
| Decomposition Temperature | No data available |
| Viscosity, kinematic | 105.7 cSt @ 40°C |

10. STABILITY AND REACTIVITY

| | |
|---|---|
| reactivity | No information available |
| Chemical stability | Stable under recommended storage conditions. |
| Possibility of Hazardous Reactions | None under normal processing. |
| Conditions to Avoid | Heat, flames and sparks. Contact with other chemicals |
| Incompatible Materials | Strong oxidizing agents. Strong acids. Strong bases. |
| Hazardous Decomposition Products | Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke) |

11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure**

| | |
|----------------------------|--|
| Product Information | Product does not present an acute toxicity hazard based on known or supplied information |
|----------------------------|--|

SDS: 8430

8430 MONOLEC® GFS ENGINE OIL

Issuing Date 04-24-2012

Revision Date 05-29-2013

Revision Number 4

| | |
|---------------------|--|
| Inhalation | May cause irritation of respiratory tract. |
| Eye Contact | Contact with eyes may cause irritation. |
| Skin Contact | May cause irritation. |
| Ingestion | There is no data available for this product. |

Component Information No information available

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

The producer of "8430" declares that it contains less than 3% DMSO extractable material by IP-346

Sensitization No information available.

Mutagenic Effects No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

Target Organ Effects Respiratory system, Eyes, Skin.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

| | |
|------------------------|------------|
| ATEmix (oral) | 4471 mg/kg |
| ATEmix (dermal) | 5366 mg/kg |

SDS: 8430

8430 MONOLEC® GFS ENGINE OIL

Issuing Date 04-24-2012

Revision Date 05-29-2013

Revision Number 4

12. ECOLOGICAL INFORMATION**Ecotoxicity**

| Chemical Name | Algae/aquatic plants | Toxicity to Fish | Toxicity to Microorganisms | Toxicity to daphnia and other aquatic invertebrates |
|---|----------------------|--|----------------------------|---|
| Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts 68649-42-3 | - | LC50 1.0 - 5.0 mg/L Pimephales promelas 96 h LC50 10.0 - 35.0 mg/L Pimephales promelas 96 h | - | EC50 1 - 1.5 mg/L 48 h |

Persistence and Degradability No information available.**Bioaccumulation** No information available.**Mobility** The product is insoluble and floats on water.

| Chemical Name | Log Pow |
|------------------------------|---------|
| Ethylene diamine 107-15-3 | -1.221 |

Other Adverse Effects No information available.**13. DISPOSAL CONSIDERATIONS****Waste treatment methods****Waste Disposal Methods** Dispose of in accordance with local regulations.**Contaminated Packaging** Do not re-use empty containers. Empty containers should be taken to an approved waste handling site for recycling or disposal.

This product contains one or more substances that are listed with the State of California as a hazardous waste

| Chemical Name | California Hazardous Waste Status |
|---|-----------------------------------|
| Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts 68649-42-3 | Toxic |
| Ethylene diamine 107-15-3 | Toxic |

14. TRANSPORT INFORMATION**DOT** Not regulated

SDS: 8430

8430 MONOLEC® GFS ENGINE OIL

Issuing Date 04-24-2012

Revision Date 05-29-2013

Revision Number 4

15. REGULATORY INFORMATION**International Inventories**

| | |
|----------|----------------|
| TSCA | Complies |
| DSL/NDSL | Not determined |
| NDSL | Not determined |
| EINECS | Not determined |
| ELINCS | Not determined |
| ENCS | Not determined |
| IECSC | Complies |
| KECL | Not determined |
| PICCS | Complies |
| AICS | Complies |

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**AICS** - Australian Inventory of Chemical Substances**U.S. Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

| Chemical Name | CAS-No | Weight % | SARA 313 - Threshold Values % |
|--|------------|----------|-------------------------------|
| Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts - 68649-42-3 | 68649-42-3 | 1.19399 | 1.0 |

SARA 311/312 Hazard Categories

| | |
|--|-----|
| Acute Health Hazard | Yes |
| Chronic Health Hazard | No |
| Fire Hazard | No |
| Sudden Release of Pressure Hazard | No |
| Reactive Hazard | No |

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

| Chemical Name | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|---|-----------------------------|------------------------|---------------------------|----------------------------|
| Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts 68649-42-3 | | X | | |
| Ethylene diamine 107-15-3 | 5000 lb | | | X |

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

SDS: 8430

8430 MONOLEC® GFS ENGINE OIL

Issuing Date 04-24-2012

Revision Date 05-29-2013

Revision Number 4

| Chemical Name | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ) |
|------------------------------|--------------------------|----------------|--|
| Ethylene diamine 107-15-3 | 5000 lb | 5000 lb | RQ 5000 lb final RQ RQ 2270 kg final RQ |

U.S. State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|--|------------|---------------|--------------|
| Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts 68649-42-3 | | | X |

16. OTHER INFORMATION

Issuing Date 04-24-2012
Revision Date 05-29-2013
Reason for revision No information available

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

SAFETY DATA SHEET

SDS: 8800

8800 MONOLEC ULTRA® ENGINE OIL

Issuing Date 04-24-2012

Revision Date 02-08-2017

Revision Number 9

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Name 8800 MONOLEC ULTRA® ENGINE OIL

Other means of identification

Synonyms No information available

Recommended use of the chemical and restrictions on use

Identified uses Lubricant

Uses advised against Consumer use

Details of the supplier of the safety data sheet

Manufacturer

Lubrication Engineers Inc.
300 Bailey Avenue
Fort Worth, TX 76107
USA
(817) 916-3200

Emergency Telephone Number

CHEMTREC: 1-800-424-9300 (NORTH AMERICA)
+1-703-527-3887 (INTERNATIONAL)

SDS: 8800

8800 MONOLEC ULTRA® ENGINE OIL

Issuing Date 04-24-2012

Revision Date 02-08-2017

Revision Number 9

2. HAZARDS IDENTIFICATION**Classification****OSHA Regulatory Status**

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Label Elements**Emergency Overview****Signal Word**

None

Hazard Statements

None

The product contains no substances which at their given concentration, are considered to be hazardous to health

appearance red**Physical state** liquid**Odor** Hydrocarbon-like**Precautionary Statements - Prevention**

None.

Response

None.

Eyes

None.

Skin

None.

Inhalation

None.

Ingestion

None.

Fire

None.

Spill

None.

Storage

None.

Disposal

None.

Hazards not otherwise classified (HNOC)

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

The producer of "8800" declares that it contains less than 3% DMSO extractable material by IP-346

4. FIRST AID MEASURES

SDS: 8800

8800 MONOLEC ULTRA® ENGINE OIL

Issuing Date 04-24-2012

Revision Date 02-08-2017

Revision Number 9

First Aid Measures

| | |
|-----------------------------------|--|
| General Advice | If symptoms develop move victim to fresh air. Show this safety data sheet to the doctor in attendance. Do not breathe dust/fume/gas/mist/vapors/spray. |
| Eye Contact | Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing. |
| Skin Contact | Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Consult a physician if necessary. |
| Inhalation | Move to fresh air. Consult a physician. If not breathing, give artificial respiration. |
| Ingestion | May cause adverse kidney effects. Drink plenty of water. Do NOT induce vomiting. |
| Protection of First-aiders | Use personal protective equipment. |

Most important symptoms and effects, both acute and delayed

Symptoms None known.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

| | |
|---|---|
| <u>Flash Point</u> | 221 °C / 430 °F |
| <u>Suitable Extinguishing Media</u> | Water spray, Carbon dioxide (CO2), Foam, Dry chemical |
| <u>Unsuitable Extinguishing Media</u> | Do not use a solid water stream as it may scatter and spread fire. |
| <u>Specific Hazards Arising from the Chemical</u> | Thermal decomposition can lead to release of irritating gases and vapors. |
| <u>Explosion Data</u> | |
| <u>Sensitivity to Mechanical Impact</u> | Not impact sensitive. |
| <u>Sensitivity to Static Discharge</u> | May be ignited by friction, heat, sparks or flames. |
| <u>Protective Equipment and Precautions for Firefighters</u> | Wear self-contained breathing apparatus and protective suit. |

NFPA**Health hazard 1****Flammability 1****Stability 1****6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

Personal Precautions Do not touch or walk through spilled material. Remove all sources of ignition.

Environmental Precautions

Environmental Precautions Prevent entry into waterways, sewers, basements or confined areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

SDS: 8800

8800 MONOLEC ULTRA® ENGINE OIL

Issuing Date 04-24-2012

Revision Date 02-08-2017

Revision Number 9

Methods and material for containment and cleaning up

| | |
|--------------------------------|--|
| Methods for Containment | Prevent further leakage or spillage if safe to do so. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. |
| Methods for Cleaning up | Use personal protective equipment. Dam up. Take up mechanically and collect in suitable container for disposal. Clean contaminated surface thoroughly. |

7. HANDLING AND STORAGE**Precautions for safe handling**

| | |
|--------------------------------|---|
| Advice on safe handling | Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Prevent vapor buildup by providing adequate ventilation during and after use. Do not eat, drink or smoke when using this product. |
|--------------------------------|---|

Conditions for safe storage, including any incompatibilities

| | |
|--|--|
| Technical measures/Storage conditions | Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. |
| Incompatible products. | Strong oxidizing agents. Strong acids. Strong bases. |

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Exposure Guidelines**

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|--------------------------|--------------------------|--|--|
| Mineral Oil 8042-47-5 | TWA: 5 mg/m ³ | TWA: 5 mg/m ³ (vacated) TWA: 5 mg/m ³ | IDLH: 2500 mg/m ³ TWA: 5 mg/m ³ STEL: 10 mg/m ³ |

Appropriate engineering controls

| | |
|-----------------------------|---|
| Engineering Measures | Showers Eyewash stations Ventilation systems. |
|-----------------------------|---|

Individual protection measures, such as personal protective equipment

| | |
|---------------------------------|--|
| Eye/Face Protection | Tightly fitting safety goggles. |
| Skin and Body Protection | Long sleeved clothing. Protective gloves. |
| Respiratory Protection | No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. |
| Hygiene Measures | Handle in accordance with good industrial hygiene and safety practice. |

9. PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties**

| | |
|-----------------------|--------------------------|
| Physical state | liquid |
| appearance | red |
| Odor | Hydrocarbon-like |
| Odor threshold | No information available |

SDS: 8800

8800 MONOLEC ULTRA® ENGINE OIL

Issuing Date 04-24-2012

Revision Date 02-08-2017

Revision Number 9

Property

pH
 Melting point/freezing point
 Boiling Point/Range
 Flash Point
 Vapor pressure
 Vapor Density
 Specific Gravity
 Water solubility
 Partition Coefficient: n-octanol/water
 Autoignition Temperature
 Decomposition Temperature
 Viscosity, kinematic

Property

6 - 8
 No data available
 no data available
 221 °C / 430 °F
 No data available
 < 1 (Air = 1)
 0.876
 negligible
 no data available
 No data available
 No data available
 113.20 cSt @ 40°C

10. STABILITY AND REACTIVITY

reactivity No information available

Chemical stability Stable under recommended storage conditions.

Possibility of Hazardous Reactions None under normal processing.

Conditions to Avoid Heat, flames and sparks. Contact with other chemicals

Incompatible Materials Strong oxidizing agents. Strong acids. Strong bases.

Hazardous Decomposition Products Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke)

11. TOXICOLOGICAL INFORMATIONInformation on likely routes of exposure

Product Information Product does not present an acute toxicity hazard based on known or supplied information

Inhalation May cause irritation of respiratory tract.

Eye Contact Contact with eyes may cause irritation.

Skin Contact May cause irritation.

Ingestion There is no data available for this product.

Component Information No information available

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

The producer of "8800" declares that it contains less than 3% DMSO extractable material by IP-346

Sensitization No information available.

SDS: 8800

8800 MONOLEC ULTRA® ENGINE OIL

Issuing Date 04-24-2012

Revision Date 02-08-2017

Revision Number 9

| | |
|------------------------------|---------------------------------|
| Mutagenic Effects | No information available. |
| Carcinogenicity | No information available. |
| Reproductive toxicity | No information available. |
| Target Organ Effects | Respiratory system, Eyes, Skin. |

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

| | |
|------------------------|-------------|
| ATEmix (oral) | 4526 mg/kg |
| ATEmix (dermal) | 60698 mg/kg |

12. ECOLOGICAL INFORMATION**Ecotoxicity****Persistence and Degradability** No information available.**Bioaccumulation** .**Mobility** The product is insoluble and floats on water.

| Chemical Name | Log Pow |
|--------------------------|---------|
| Mineral Oil 8042-47-5 | >6 |

Other Adverse Effects No information available**13. DISPOSAL CONSIDERATIONS****Waste treatment methods****Waste Disposal Methods** Dispose of in accordance with local regulations.**Contaminated Packaging** Do not re-use empty containers. Empty containers should be taken to an approved waste handling site for recycling or disposal.

This product contains one or more substances that are listed with the State of California as a hazardous waste

| Chemical Name | California Hazardous Waste Status |
|---|-----------------------------------|
| Zinc alkyl dithiophosphate 113706-15-3 | Toxic |

SDS: 8800

8800 MONOLEC ULTRA® ENGINE OIL

Issuing Date 04-24-2012

Revision Date 02-08-2017

Revision Number 9

14. TRANSPORT INFORMATIONDOT

Not regulated

15. REGULATORY INFORMATION**International Inventories**

| | |
|----------|----------------|
| TSCA | Complies |
| DSL/NDSL | Not determined |
| NDSL | Not determined |
| EINECS | Not determined |
| ELINCS | Not determined |
| ENCS | Not determined |
| IECSC | Complies |
| KECL | Not determined |
| PICCS | Not determined |
| AICS | Complies |

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

U.S. Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

| Chemical Name | CAS-No | Weight % | SARA 313 - Threshold Values % |
|--|-------------|----------|-------------------------------|
| Zinc alkyl dithiophosphate - 113706-15-3 | 113706-15-3 | 1.07997 | 1.0 |

SARA 311/312 Hazard Categories

| | |
|-----------------------------------|-----|
| Acute Health Hazard | Yes |
| Chronic Health Hazard | No |
| Fire Hazard | No |
| Sudden Release of Pressure Hazard | No |
| Reactive Hazard | No |

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

| Chemical Name | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|---------------|-----------------------------|------------------------|---------------------------|----------------------------|
|---------------|-----------------------------|------------------------|---------------------------|----------------------------|

SDS: 8800

8800 MONOLEC ULTRA® ENGINE OIL

Issuing Date 04-24-2012

Revision Date 02-08-2017

Revision Number 9

| | | | | |
|---|--|---|--|--|
| Zinc alkyl dithiophosphate 113706-15-3 | | X | | |
|---|--|---|--|--|

CERCLA

This material does not contain any components with a CERCLA RQ.

U.S. State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations

16. OTHER INFORMATION

Issuing Date 04-24-2012

Revision Date 02-08-2017

Reason for revision Change to composition.

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

SDS is available at www.LElubricants.com

End of Safety Data Sheet

SAFETY DATA SHEET

SDS: 9102A

9102 SYNTEMP® SYNTHETIC LUBRICANT

Issuing Date 04-24-2012

Revision Date 09-21-2016

Revision Number 7

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Name 9102 SYNTEMP® SYNTHETIC LUBRICANT

Other means of identification

UN-No 1950

Synonyms No information available

Recommended use of the chemical and restrictions on use

Identified uses Lubricant

Uses advised against Consumer use

Details of the supplier of the safety data sheet

Manufacturer

Lubrication Engineers Inc.
300 Bailey Avenue
Fort Worth, TX 76107
USA
(817) 916-3200

Emergency Telephone Number

CHEMTREC: 1-800-424-9300 (NORTH AMERICA)
+1-703-527-3887 (INTERNATIONAL)

SDS: 9102A

9102 SYNTEMP® SYNTHETIC LUBRICANT

Issuing Date 04-24-2012

Revision Date 09-21-2016

Revision Number 7

2. HAZARDS IDENTIFICATION**Classification****OSHA Regulatory Status**

| | |
|--|----------------|
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 2 |
| Specific target organ toxicity (single exposure) | Category 3 |
| Flammable Aerosols | Category 1 |
| Gases Under Pressure | Compressed Gas |

Label Elements**Emergency Overview**

Signal Word
DANGER

Hazard Statements

Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation. May cause drowsiness or dizziness
Extremely flammable aerosol
Pressurized container: may burst if heated
Contains gas under pressure; may explode if heated

**appearance** green**Physical state** Aerosol**Odor** Hydrocarbon-like**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Wear protective gloves/protective clothing/eye protection/face protection. Keep cool.

Response

Call a POISON CENTER or doctor/physician if you feel unwell.

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin

IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Ingestion

None.

SDS: 9102A

9102 SYNTEMP® SYNTHETIC LUBRICANT

Issuing Date 04-24-2012

Revision Date 09-21-2016

Revision Number 7

Fire

In case of fire: Use CO₂, dry chemical, or foam for extinction. Explosion risk in case of fire. Eliminate all ignition sources if safe to do so.

Spill

None.

Storage

Store in a well-ventilated place. Keep container tightly closed. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Protect from sunlight.

Disposal

Dispose of contents/container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC)

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | Weight % |
|---------------------------------------|------------|----------|
| Acetone | 67-64-1 | 50 - 60 |
| Petroleum gases, liquified, sweetened | 68476-86-8 | 10 - 20 |
| Xylene | 1330-20-7 | 0.1 - 1 |

The producer of "9102" declares that it contains less than 3% DMSO extractable material by IP-346

4. FIRST AID MEASURES**First Aid Measures****General Advice**

Show this safety data sheet to the doctor in attendance. Immediate medical attention is not required.

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing before re-use.

Inhalation

Move to fresh air. If symptoms persist, obtain medical attention.

Ingestion

Do NOT induce vomiting. Drink plenty of water. Immediate medical attention is not required. May cause adverse kidney effects.

Protection of First-aiders

Use personal protective equipment.

Most important symptoms and effects, both acute and delayed**Symptoms**

None known.

Indication of any immediate medical attention and special treatment needed**Notes to Physician**

Treat symptomatically.

5. FIRE-FIGHTING MEASURES**Flash Point**

-104.4 °C / -156 °F

SDS: 9102A

9102 SYNTEMP® SYNTHETIC LUBRICANT

Issuing Date 04-24-2012

Revision Date 09-21-2016

Revision Number 7

| | |
|---|---|
| <u>Suitable Extinguishing Media</u> | Water spray, Carbon dioxide (CO2), Foam, Dry chemical |
| <u>Unsuitable Extinguishing Media</u> | Do not use a solid water stream as it may scatter and spread fire. |
| <u>Specific Hazards Arising from the Chemical</u> | Thermal decomposition can lead to release of irritating gases and vapors. |
| <u>Explosion Data</u> | |
| <u>Sensitivity to Mechanical Impact</u> | Not impact sensitive. |
| <u>Sensitivity to Static Discharge</u> | May be ignited by friction, heat, sparks or flames. |
| <u>Protective Equipment and Precautions for Firefighters</u> | In the event of fire and/or explosion do not breathe fumes. |

NFPA **Health hazard 2** **Flammability 4** **Stability 0**

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Personal Precautions Use personal protective equipment. Avoid contact with the skin and the eyes. Avoid contact with eyes. Avoid breathing vapors or mists.

Environmental Precautions

Environmental Precautions Prevent entry into waterways, sewers, basements or confined areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning up Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. After cleaning, flush away traces with water. Prevent product from entering drains.

7. HANDLING AND STORAGE**Precautions for safe handling**

Advice on safe handling Keep away from open flames, hot surfaces and sources of ignition. Use only in an area containing flame proof equipment. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions Keep tightly closed in a dry and cool place. Keep in properly labeled containers.

Incompatible products. Strong oxidizing agents. Strong acids. Strong bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Exposure Guidelines**

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---------------|--------------|---------------|----------------|
| Acetone | STEL 750 ppm | TWA: 1000 ppm | IDLH: 2500 ppm |

SDS: 9102A

9102 SYNTEMP® SYNTHETIC LUBRICANT

Issuing Date 04-24-2012

Revision Date 09-21-2016

Revision Number 7

| | | | |
|---------------------|------------------------------|--|--|
| 67-64-1 | TWA: 500 ppm | TWA: 2400 mg/m ³ (vacated) TWA: 750 ppm (vacated) TWA: 1800 mg/m ³ (vacated) STEL: 2400 mg/m ³ (vacated) STEL: 1000 ppm | TWA: 250 ppm TWA: 590 mg/m ³ |
| Xylene 1330-20-7 | STEL 150 ppm TWA: 100 ppm | TWA: 100 ppm TWA: 435 mg/m ³ (vacated) TWA: 100 ppm (vacated) TWA: 435 mg/m ³ (vacated) STEL: 150 ppm (vacated) STEL: 655 mg/m ³ | |

Appropriate engineering controls**Engineering Measures**

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment**Eye/Face Protection**

Tightly fitting safety goggles.

Skin and Body Protection

Long sleeved clothing. Protective gloves.

Respiratory Protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hygiene Measures

When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties****Physical state**

Aerosol

appearance

green

Odor

Hydrocarbon-like

Odor threshold

No information available

Property**Property****pH**

6 - 8

Melting point/freezing point

No data available

Boiling Point/Range

no data available

Flash Point

-104.4 °C / -156 °F

Vapor pressure

No data available

Vapor Density

< 1 (Air = 1)

Specific Gravity

0.779

Water solubility

negligible

Partition Coefficient: n-octanol/water

no data available

Autoignition Temperature

No data available

Decomposition Temperature

No data available

Viscosity, kinematic

not applicable

10. STABILITY AND REACTIVITY**reactivity**

No information available

Chemical stability

Stable under recommended storage conditions.

SDS: 9102A

9102 SYNTEMP® SYNTHETIC LUBRICANT

Issuing Date 04-24-2012

Revision Date 09-21-2016

Revision Number 7

Possibility of Hazardous Reactions None under normal processing.**Conditions to Avoid** Heat, flames and sparks.**Incompatible Materials** Strong oxidizing agents. Strong acids. Strong bases.**Hazardous Decomposition Products** Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke)**11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure**

| | |
|----------------------------|--|
| Product Information | Product does not present an acute toxicity hazard based on known or supplied information |
| Inhalation | May cause irritation of respiratory tract. |
| Eye Contact | Contact with eyes may cause irritation. |
| Skin Contact | May cause irritation. |
| Ingestion | There is no data available for this product. |

Component Information

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---------------------|----------------------|-------------------------|---|
| Acetone 67-64-1 | = 5800 mg/kg (Rat) | - | - |
| Xylene 1330-20-7 | = 4300 mg/kg (Rat) | > 1700 mg/kg (Rabbit) | = 47635 mg/L (Rat) 4 h = 5000 ppm (Rat) 4 h |

Information on toxicological effects**Symptoms** No information available.**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

The producer of "9102" declares that it contains less than 3% DMSO extractable material by IP-346

Sensitization No information available.**Mutagenic Effects** No information available.**Carcinogenicity** No information available.**Reproductive toxicity** No information available.**Target Organ Effects** Central nervous system (CNS), Respiratory system, Skin.**Numerical measures of toxicity - Product Information**

The following values are calculated based on chapter 3.1 of the GHS document .

| | |
|-------------------------|-------------|
| ATEmix (oral) | 4311 mg/kg |
| ATEmix (dermal) | 3288 mg/kg |
| ATEmix (inhalation-gas) | 294881 mg/L |

SDS: 9102A

9102 SYNTEMP® SYNTHETIC LUBRICANT

Issuing Date 04-24-2012

Revision Date 09-21-2016

Revision Number 7

ATEmix (inhalation-dust/mist) 100 mg/l

12. ECOLOGICAL INFORMATION**Ecotoxicity**

| Chemical Name | Algae/aquatic plants | Toxicity to Fish | Toxicity to Microorganisms | Toxicity to daphnia and other aquatic invertebrates |
|---------------------|----------------------|--|----------------------------|---|
| Acetone 67-64-1 | - | LC50 4.74 - 6.33 mL/L Oncorhynchus mykiss 96 h LC50 6210 - 8120 mg/L Pimephales promelas 96 h LC50= 8300 mg/L Lepomis macrochirus 96 h | EC50 = 14500 mg/L 15 min | EC50 10294 - 17704 mg/L 48 h EC50 12600 - 12700 mg/L 48 h |
| Xylene 1330-20-7 | - | LC50 13.1 - 16.5 mg/L Lepomis macrochirus 96 h LC50 13.5 - 17.3 mg/L Oncorhynchus mykiss 96 h LC50 2.661 - 4.093 mg/L Oncorhynchus mykiss 96 h LC50 23.53 - 29.97 mg/L Pimephales promelas 96 h LC50 30.26 - 40.75 mg/L Poecilia reticulata 96 h LC50 7.711 - 9.591 mg/L Lepomis macrochirus 96 h LC50= 13.4 mg/L Pimephales promelas 96 h LC50= 19 mg/L Lepomis macrochirus 96 h LC50= 780 mg/L Cyprinus carpio 96 h LC50> 780 mg/L Cyprinus carpio 96 h | EC50 = 0.0084 mg/L 24 h | LC50 = 0.6 mg/L 48 h EC50 = 3.82 mg/L 48 h |

Persistence and Degradability No information available.**Bioaccumulation** .**Mobility** The product is insoluble and floats on water.

| Chemical Name | Log Pow |
|---|-------------|
| Acetone 67-64-1 | -0.24 |
| Petroleum gases, liquified, sweetened 68476-86-8 | <=2.8 |
| Xylene 1330-20-7 | 2.77 - 3.15 |

Other Adverse Effects No information available**13. DISPOSAL CONSIDERATIONS****Waste treatment methods****Waste Disposal Methods** Should not be released into the environment. Dispose of in accordance with local regulations.**Contaminated Packaging** Do not re-use empty containers. Empty containers should be taken to an approved waste handling site for recycling or disposal.**US EPA Waste Number** D001

SDS: 9102A

9102 SYNTEMP® SYNTHETIC LUBRICANT

Issuing Date 04-24-2012

Revision Date 09-21-2016

Revision Number 7

| Chemical Name | RCRA | RCRA - Basis for Listing | RCRA - D Series Wastes | RCRA - U Series Wastes |
|---------------------|------|-----------------------------------|------------------------|------------------------|
| Acetone 67-64-1 | | Included in waste stream: F039 | | Ignitable waste |
| Xylene 1330-20-7 | | Included in waste stream: F039 | | Ignitable waste |

This product contains one or more substances that are listed with the State of California as a hazardous waste

| Chemical Name | California Hazardous Waste Status |
|---|-----------------------------------|
| Acetone 67-64-1 | Ignitable |
| Xylene 1330-20-7 | Toxic Ignitable |
| Phosphorodithioic acid, mixed O,O-bis(iso-Bu and pentyl) esters, zinc salts 68457-79-4 | Toxic |

14. TRANSPORT INFORMATION**DOT**

UN-No 1950
Proper Shipping Name Aerosols, flammable, (each not exceeding 1 L capacity)
Hazard Class 2.1
Special Provisions 49 CFR 173.115
Description Compressed Gas.
Emergency Response Guide Number 126

IMDG

UN-No 1950
Proper Shipping Name Aerosol
Hazard Class 2
Subsidiary Class 2.1
Special Provisions SP63
Description Limited quantity (LQ)

15. REGULATORY INFORMATION**International Inventories**

| | |
|----------|----------------|
| TSCA | Complies |
| DSL/NDSL | Not determined |
| NDSL | Not determined |
| EINECS | Not determined |
| ELINCS | Not determined |
| ENCS | Not determined |
| IECSC | Not determined |
| KECL | Not determined |
| PICCS | Not determined |
| AICS | Not determined |

SDS: 9102A

9102 SYNTEMP® SYNTHETIC LUBRICANT

Issuing Date 04-24-2012

Revision Date 09-21-2016

Revision Number 7

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
 DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
 EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
 ENCS - Japan Existing and New Chemical Substances
 IECSC - China Inventory of Existing Chemical Substances
 KECL - Korean Existing and Evaluated Chemical Substances
 PICCS - Philippines Inventory of Chemicals and Chemical Substances
 AICS - Australian Inventory of Chemical Substances

U.S. Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

| Chemical Name | CAS-No | Weight % | SARA 313 - Threshold Values % |
|--|-------------|----------|-------------------------------|
| Acetone - 67-64-1 | 67-64-1 | 50 - 60 | |
| Petroleum gases, liquified, sweetened - 68476-86-8 | 68476-86-8 | 10 - 20 | |
| Petroleum distillates, solvent-refined heavy paraffinic - 64741-88-4 | 64741-88-4 | 10 - 20 | |
| 20131 Infineum V534 - 9999-99-9 | 9999-99-9 | 5 - 10 | |
| Silicon dioxide, chemically prepared - 112945-52-5 | 112945-52-5 | 1 - 5 | |
| Residual oils (petroleum), solvent refined - 64742-01-4 | 64742-01-4 | 1 - 5 | |
| Xylene - 1330-20-7 | 1330-20-7 | 0.1 - 1 | 1.0 |
| Lubricating oils (petroleum), hydrotreated spent - 64742-58-1 | 64742-58-1 | 0.1 - 1 | |
| Phosphorodithioic acid, mixed O,O-bis(iso-Bu and pentyl) esters, zinc salts - 68457-79-4 | 68457-79-4 | 0.1 - 1 | 1.0 |
| Amines, C12-14-alkyl, reaction products - 91745-46-9 | 91745-46-9 | < 0.1 | |
| Amines, C12-14-tert-alkyl, C8-20-alkyl phosphates - 92623-72-8 | 92623-72-8 | < 0.1 | |
| 1,3,4 Thiadiazolidine-2,5-dithione - 91648-65-6 | 91648-65-6 | < 0.1 | |
| Alkenylamine - 112-90-3 | 112-90-3 | < 0.1 | |
| Polyisobutene - 9003-27-4 | 9003-27-4 | < 0.1 | |
| Ethene, polymer with 1-propene - 9010-79-1 | 9010-79-1 | < 0.1 | |
| Dilauryl Hydrogen Phosphite - 21302-09-0 | 21302-09-0 | < 0.1 | |
| 21069 Ethanox 4782J - 9999-99-9 | 9999-99-9 | < 0.1 | |
| Petroleum distillates, hydrotreated heavy naphthenic - 64742-52-5 | 64742-52-5 | < 0.1 | |

SARA 311/312 Hazard Categories

| | |
|-----------------------------------|-----|
| Acute Health Hazard | Yes |
| Chronic Health Hazard | No |
| Fire Hazard | Yes |
| Sudden Release of Pressure Hazard | No |
| Reactive Hazard | No |

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

| Chemical Name | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|---|-----------------------------|------------------------|---------------------------|----------------------------|
| Xylene 1330-20-7 | 100 lb | | | X |
| Phosphorodithioic acid, mixed O,O-bis(iso-Bu and pentyl) esters, zinc salts | | X | | |

SDS: 9102A

9102 SYNTEMP® SYNTHETIC LUBRICANT

Issuing Date 04-24-2012

Revision Date 09-21-2016

Revision Number 7

| | | | | |
|------------|--|--|--|--|
| 68457-79-4 | | | | |
|------------|--|--|--|--|

CERCLA

This material does not contain any components with a CERCLA RQ.

| Chemical Name | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ) |
|---------------------|--------------------------|----------------|--|
| Acetone 67-64-1 | 5000 lb | - | RQ 5000 lb final RQ RQ 2270 kg final RQ |
| Xylene 1330-20-7 | 100 lb | - | RQ 100 lb final RQ RQ 45.4 kg final RQ |

U.S. State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations

16. OTHER INFORMATION

Issuing Date 04-24-2012

Revision Date 09-21-2016

Reason for revision Change to composition.

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

SDS is available at www.LElubricants.com**End of Safety Data Sheet**

1. PRODUCT AND COMPANY IDENTIFICATION

NAME: CONCENTRATED ACID D-LIME
USE: DELIMER
LABEL: ARRAY
MSDS # 100350L **GFS REORDER #** 567035

US CHEMICAL, 316 HART STREET, WATERTOWN, WI 53094 USA
 MEDICAL EMERGENCY #: 1-800-851-7145 EXT. 075 USA
 SPILL EMERGENCY #: 1-800-424-9300 USA
 PRODUCT INFORMATION #: 1-800-558-9566 (8 A.M. TO 5 P.M. CST MONDAY TO FRIDAY)
 INTERNET ADDRESS: WWW.USCHEMICAL.COM
 REVIEWED 4-24-06 REVISED 4-24-06 SECTION REVISED: 1

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

DANGER. CORROSIVE. CAUSES EYE AND SKIN BURNS.
 HARMFUL OR FATAL IF SWALLOWED.



PRINCIPLE ROUTES OF EXPOSURE: EYES, SKIN, INGESTION, INHALATION.

POTENTIAL ACUTE HEALTH EFFECTS

EYES: CORROSIVE. CAUSES EYE BURNS. MAY CAUSE PERMANENT DAMAGE INCLUDING BLINDNESS WITHOUT IMMEDIATE FIRST AID TREATMENT.

SKIN: CORROSIVE. CAUSES SKIN BURNS. MAY CAUSE PERMANENT DAMAGE.
 HARMFUL CONTACT MAY NOT CAUSE IMMEDIATE PAIN.

INHALATION: CORROSIVE. INHALATION OF MISTS MAY CAUSE CORROSIVE EFFECTS TO NOSE, THROAT, AND RESPIRATORY SYSTEM.

INGESTION: CORROSIVE. MAY CAUSE BURNS TO MOUTH, THROAT AND STOMACH.

MEDICAL CONDITIONS AGGRAVATED: NONE KNOWN.

3. COMPOSITION / INFORMATION ON INGREDIENTS

| HAZARDOUS INGREDIENT | CAS # | % BY WT | LC50/LD50 |
|--|-----------|-------------|-----------|
| PHOSPHORIC ACID | 7664-38-2 | 15.0 – 40.0 | SEE 11.0 |
| HYDROCHLORIC ACID | 7647-01-0 | 1.0 – 5.0 | SEE 11.0 |
| STATE RIGHT TO KNOW: THIS PRODUCT CONTAINS: WATER/7732-18-5, PHOSPHORIC ACID/7664-38-2, HYDROCHLORIC ACID/7647-01-0, POLOXAMER/9003-11-6 | | | |

4. FIRST AID MEASURES

Page 2 of 4

EYES: IMMEDIATELY FLUSH EYES WITH RUNNING WATER FOR AT LEAST 15-20 MINUTES, KEEPING EYELIDS OPEN. **SKIN:** IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15-20 MINUTES. REMOVE AND WASH CONTAMINATED CLOTHING AND FOOTWEAR BEFORE RE-USE. **IF SWALLOWED:** GIVE A CUPFUL OF WATER OR MILK. THEN IMMEDIATELY CONTACT A PHYSICIAN OR POISON CENTER. DO NOT INDUCE VOMITING UNLESS DIRECTED TO DO SO BY MEDICAL PERSONNEL. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

INHALATION: IF BREATHING IS AFFECTED: REMOVE TO FRESH AIR.

ADMINISTER FIRST AID TREATMENT AS STATED ABOVE, THEN CALL 1-800-851-7145 EXT. 075 OR CONTACT PHYSICIAN FOR FURTHER MEDICAL INSTRUCTIONS.

NOTE TO PHYSICIAN: CALL 1-800-851-7145 EXT. 075 FOR ASSISTANCE WITH THE MANAGEMENT OF EXPOSURES.

5. FIRE-FIGHTING MEASURES

FLAMMABILITY: NO HAZARD.

FLASH POINT: N.A.P.

PRODUCTS OF COMBUSTION: SEE SECTION 10.

SUITABLE EXTINGUISHING MEDIA: FOR FIRES IN AREA, USE APPROPRIATE MEDIA. FOR EXAMPLE: WATER SPRAY, DRY CHEMICAL, CARBON DIOXIDE, OR ALCOHOL FOAM.

SPECIFIC HAZARDS: PRODUCT MAY REACT WITH CERTAIN METALS. SEE 10.

SPECIFIC METHODS: NORMAL FIRE FIGHTING PROCEDURES MAY BE USED.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: PUT ON PERSONAL PROTECTIVE EQUIPMENT. SEE SECTION 8.

SPILL RESPONSE: EVACUATE UNPROTECTED PERSONNEL FROM AREA. WEAR PROPER PROTECTIVE EQUIPMENT INCLUDING RUBBER BOOTS. VENTILATE AREA IF NEEDED.

STOP LEAK IF YOU CAN DO SO WITHOUT RISK. DIKE OR DAM LARGE SPILLS.

AVOID DIRECT DISCHARGE TO SEWER AND SURFACE WATERS. PUMP OR SCOOP TO CONTAINER OR SOAK UP WITH NON-COMBUSTIBLE INERT ABSORBENT MATERIALS. AFTER SPILL COLLECTION, RINSE AREA WITH WATER AND FOLLOW WITH NORMAL CLEAN-UP PROCEDURES.

BE CAREFUL AS SPILLS ARE SLIPPERY.

7. HANDLING AND STORAGE

HANDLING: FOLLOW ALL LABEL DIRECTIONS. INSTRUCT PERSONNEL ABOUT PROPER USE, HAZARDS, PRECAUTIONS, AND FIRST AID MEASURES. AVOID INHALATION, INGESTION, AND CONTACT WITH SKIN, EYES AND CLOTHING. DO NOT TASTE OR SWALLOW. REMOVE AND WASH CONTAMINATED CLOTHING AND FOOTWEAR BEFORE RE-USE. PRODUCT RESIDUE MAY REMAIN IN EMPTY CONTAINERS. HANDLE CAREFULLY TO AVOID DAMAGING CONTAINER.

STORAGE: ROTATE STOCK REGULARLY. KEEP CONTAINER CLOSED WHEN NOT IN USE. AVOID TEMPERATURES BELOW 35°F OR ABOVE 120°F. PROTECT FROM FREEZING. STORAGE AT AMBIENT TEMPERATURES IN A DRY AREA OUT OF DIRECT SUNLIGHT IS RECOMMENDED. KEEP AWAY FROM FOOD AND DRINK. KEEP OUT OF CHILDREN'S REACH.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Page 3 of 4

EXPOSURE LIMITS: PHOSPHORIC ACID = 1 MG/M3 TWA, 3 MG/M3 STEL (OSHA PEL / ACGIH TLV)
HYDROCHLORIC ACID = 5 PPM CEILING LIMIT (OSHA PEL / ACGIH TLV)

ENGINEERING CONTROLS: NONE REQUIRED. GENERAL ROOM VENTILATION IS TYPICALLY ADEQUATE.

PERSONAL PROTECTION

EYES: SPLASH PROOF SAFETY GLASSES, SAFETY GOGGLES AND AN EYE WASH STATION.

HANDS: CHEMICAL RESISTANT GLOVES: RUBBER OR NEOPRENE. LONG TYPE IF NEEDED.

RESPIRATORY: IF MISTS/VAPORS ARE NOT CONTROLLED BY VENTILATION, WEAR SUITABLE RESPIRATOR.

FEET: TYPICALLY NOT NEEDED. WEAR BOOTS DURING SPILL & WHEN EXPOSURE IS POSSIBLE.

BODY: IF MAJOR EXPOSURE IS POSSIBLE, WEAR FULL-COVER PROTECTIVE CLOTHING.

9. PHYSICAL AND CHEMICAL PROPERTIES

COLOR: GREEN

ODOR : NONE

pH CONCENTRATE: LESS THAN 2.0 (ACIDIC)

pH @ 2500 PPM SOLUTION: N.A.P.

pH @ USE DILUTION: N.A.P.

PHYSICAL STATE: LIQUID

SPECIFIC GRAVITY: 1.150

VISCOSITY: NON-VISCOUS

BOILING POINT: N.A.P.

MELTING POINT: N.A.P.

FLASH POINT: N.A.P.

UEL: N.A.P.

LEL: N.A.P.

EVAPORATION RATE: N.A.P.

ODOR THRESHOLD: N.A.P.

VAPOR PRESSURE: N.A.P.

VAPOR DENSITY: N. AP.

COEFF. OIL/WATER: N.A.P.

WATER SOLUBILITY: COMPLETE

OTHER: N.A.P.

10. STABILITY AND REACTIVITY

STABLE: YES

CONDITIONS TO AVOID: AVOID TEMPERATURES BELOW 35°F OR ABOVE 120°F.

MATERIALS TO AVOID: AVOID MIXING DIRECTLY WITH ANY OTHER CLEANING PRODUCT. AVOID BASES AND BLEACH. AVOID VARIOUS METALS (ALUMINUM, ZINC, TIN, BRASS OR BRONZE) WHICH CAN GENERATE FLAMMABLE HYDROGEN GAS. MIX ONLY WITH WATER.

DECOMPOSITION PRODUCTS: FIRE OR MIXING WITH INCOMPATIBLE MATERIALS MAY PRODUCE OXIDES OF PHOSPHORUS, CHLORINE GAS, HYDROGEN GAS AND OTHER FUMES.

POSSIBILITY OF HAZARDOUS REACTIONS: AVOID MIXING WITH BASES AND BLEACH.

11. TOXICOLOGICAL INFORMATION

ACUTE EFFECTS: CORROSIVE. SEE SECTION 2.

CHRONIC EFFECTS: NONE KNOWN. NO REPORTABLE CARCINOGENS, MUTAGENS, SENSITIZERS, SYNERGISTIC MATERIALS, TERATOGENS, OR REPRODUCTIVE TOXINS.

LC50/LD50: PHOSPHORIC ACID ORAL (LD50) = 1530 MG/KG [RAT]

HYDROCHLORIC ACID ACUTE ORAL (LD50) = 700 MG/KG [RAT]

TARGET ORGANS: EYES, SKIN, RESPIRATORY SYSTEM.

OTHER TOXIC EFFECTS: NONE KNOWN.

12. ECOLOGICAL INFORMATION

Page 4 of 4

NOT AVAILABLE.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: UNDILUTED PRODUCT IS REGULATED UNDER ENVIRONMENTAL AND TRANSPORTATION LAWS AS A CORROSIVE WASTE (RCRA CLASS D002). DISPOSE OF ACCORDING TO ALL FEDERAL, STATE, PROVINCIAL AND LOCAL LAWS AND REGULATIONS. CONSULT STATE AND LOCAL AUTHORITIES FOR RESTRICTIONS ON DISPOSAL OF CHEMICAL WASTE. MANAGE CHEMICAL WASTES THROUGH AN APPROVED WASTE TREATMENT FACILITY. DO NOT REUSE EMPTY CONTAINER. RINSE EMPTY CONTAINER THOROUGHLY WITH WATER BEFORE DISCARDING CONTAINER IN ACCORDANCE WITH CURRENT LOCAL COMMUNITY CODES. PLEASE RECYCLE EMPTY CONTAINER WHENEVER POSSIBLE.

14. TRANSPORT INFORMATION

DOT/TDG: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
(CONTAINS HYDROCHLORIC ACID, PHOSPHORIC ACID), 8, UN3264, II
DOT RQ: N.A.P.
DOT ERG #: 154

15. REGULATORY INFORMATION

EPA CERCLA RQ: PHOSPHORIC ACID = 5000 LBS, HYDROCHLORIC ACID = 5000 LBS
EPA REGISTERED: NO
EPA %VOC: 0.00
EPA VOC RULE: THIS PRODUCT DOES NOT CONTAIN VOLATILE ORGANIC COMPOUNDS.
KOSHER (CRC): YES
OSHA HAZARDOUS: YES
PHOSPHORUS CONTENT: SEE LABEL
PROPOSITION 65: N.A.P.
SARA 311/312 HAZARDS: ACUTE
SARA 313 CHEMICALS: NO
STATE RIGHT TO KNOW: SEE SECTION 3 FOR CHEMICAL NAMES.
TSCA INVENTORY STATUS: ALL COMPONENTS ARE LISTED ON THE INVENTORY.
WHMIS CLASS: E

16. OTHER INFORMATION

NFPA RATING: HEALTH-3/FLAMMABILITY-0/REACTIVITY-0/SPECIAL HAZARD-N.A.P.
HMIS RATING: HEALTH-3/FLAMMABILITY-0/REACTIVITY-1/PERSONAL PROTECTION-SEE 8.0

N.A.V. = NOT AVAILABLE N.A.P. = NOT APPLICABLE

PREPARED BY: HEALTH AND SAFETY

NOTICE TO READER

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SAFETY DATA SHEET

Refresh AntiBac FOAM

1. Identification

Product identifier

| | |
|-------------------------|--|
| Product name | Refresh AntiBac FOAM |
| Product number | ANT120TF-US,ANT1L-US,ANT1LG-US,ANT1LO-US,ANT2LT-US,ANT400ML,ANT16LC-US,27250,59250,59254,59256,53127,53515,57250,57254,57256,53105,53999 |
| Internal identification | 53211 / 0002 |
| Synonyms; trade names | Deb AntiBac Foam Wash,AeroGreen Antibacterial Foam Soap |

Recommended use of the chemical and restrictions on use

| | |
|-------------|-------------------------|
| Application | Antibacterial hand soap |
|-------------|-------------------------|

Details of the supplier of the safety data sheet

| | |
|--------------|---|
| Supplier | Deb USA, Inc. 2815 Coliseum Centre Drive, Suite 600 Charlotte, North Carolina 28217 USA 800-248-7190 |
| Manufacturer | Deb USA, Inc. 1100 South Highway 27 Stanley, North Carolina 28164 USA 704-263-4502 (Fax) 704-263-4240 |

Emergency telephone number

| | |
|---------------------|---------------------------------|
| Emergency telephone | Chemtrec 800 424 9300 (24 hour) |
|---------------------|---------------------------------|

2. Hazard(s) identification

Classification of the substance or mixture

| | |
|-----------------------|----------------------|
| Physical hazards | Not Classified |
| Health hazards | Eye Irrit. 2B - H320 |
| Environmental hazards | Not Classified |

Label elements

| | |
|--------------------------|--|
| Signal word | Warning |
| Hazard statements | H320 Causes eye irritation. |
| Precautionary statements | P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 If eye irritation persists: Get medical advice/attention. |

3. Composition/information on ingredients

Mixtures

Refresh AntiBac FOAM

| | |
|-----------------------------|--|
| Composition comments | Aqua (Water), Sodium Laureth Sulfate, Propylene Glycol, PEG-7 Glyceryl Cocoate, Glycerin, Cocamidopropyl Betaine, Triclosan, 2-Bromo-2-nitropropane-1,3-diol, Fragrance, Citric Acid, Methylchloroisothiazolinone, Methylisothiazolinone, Green 5 (CI 61570), Yellow 5 (CI 19140). |
|-----------------------------|--|

4. First-aid measures

Description of first aid measures

| | |
|---------------------|--|
| Inhalation | Not relevant. Unlikely route of exposure as the product does not contain volatile substances. |
| Ingestion | Rinse mouth thoroughly with water. Get medical attention if any discomfort continues. |
| Skin Contact | Not applicable. |
| Eye contact | Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Get medical attention promptly if symptoms occur after washing. |

Most important symptoms and effects, both acute and delayed

| | |
|---------------------|--|
| Inhalation | No specific symptoms known. |
| Ingestion | No specific symptoms known. |
| Skin contact | Prolonged skin contact may cause redness and irritation. |
| Eye contact | May cause temporary eye irritation. |

Indication of immediate medical attention and special treatment needed

| | |
|-----------------------------|------------------------------|
| Notes for the doctor | No specific recommendations. |
|-----------------------------|------------------------------|

5. Fire-fighting measures

Extinguishing media

| | |
|-------------------------------------|---|
| Suitable extinguishing media | The product is not flammable. Use fire-extinguishing media suitable for the surrounding fire. |
|-------------------------------------|---|

Special hazards arising from the substance or mixture

| | |
|--------------------------------------|--|
| Hazardous combustion products | No known hazardous decomposition products. |
|--------------------------------------|--|

Advice for firefighters

| | |
|---|---|
| Protective actions during firefighting | No specific firefighting precautions known. |
|---|---|

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

| | |
|-----------------------------|--------------------------|
| Personal precautions | Avoid contact with eyes. |
|-----------------------------|--------------------------|

Environmental precautions

| | |
|----------------------------------|---|
| Environmental precautions | Not considered to be a significant hazard due to the small quantities used. |
|----------------------------------|---|

Methods and material for containment and cleaning up

| | |
|--------------------------------|---|
| Methods for cleaning up | Flush away spillage with plenty of water. Avoid runoff into storm sewers and ditches which lead to waterways. |
|--------------------------------|---|

| | |
|------------------------------------|-------------------------------------|
| Reference to other sections | For waste disposal, see Section 13. |
|------------------------------------|-------------------------------------|

7. Handling and storage

Precautions for safe handling

Refresh AntiBac FOAM

Usage precautions Avoid contact with eyes.

Conditions for safe storage, including any incompatibilities

Storage precautions Keep only in the original container.

Specific end uses(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

8. Exposure Controls/personal protection

Exposure controls

Appropriate engineering controls Not relevant.

Eye/face protection Not required normally but wear eye protection if you are conducting an operation where there is a risk of this product getting in the eyes.

Hand protection Not applicable.

Respiratory protection No specific recommendations.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance Clear liquid.

Color Green.

Odor Fragrant

pH pH (concentrated solution): 5.0 - 7.0

Relative density approx. 1.01

Solubility(ies) Soluble in water.

10. Stability and reactivity

Reactivity There are no known reactivity hazards associated with this product.

Stability Stable at normal ambient temperatures.

Possibility of hazardous reactions Not known.

Conditions to avoid There are no known conditions that are likely to result in a hazardous situation.

Materials to avoid No specific material or group of materials is likely to react with the product to produce a hazardous situation.

Hazardous decomposition products Does not decompose when used and stored as recommended.

11. Toxicological information

Information on toxicological effects

Toxicological effects All ingredients are well known and have a history of safe use in the marketplace with no reports of a significant number of adverse reactions.

Refresh AntiBac FOAM

| | |
|---------------------|--|
| Inhalation | No specific health hazards known. |
| Ingestion | May cause gastrointestinal irritation or discomfort with nausea, vomiting and diarrhea if swallowed. |
| Skin Contact | Skin irritation should not occur when used as recommended. |
| Eye contact | May cause temporary eye irritation. |

12. Ecological Information

Ecotoxicity Not regarded as dangerous for the environment.

Bioaccumulative potential

Bio-Accumulative Potential No data available on bioaccumulation.

Mobility in soil

Mobility The product is soluble in water.

Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

Other adverse effects

Other adverse effects None known.

13. Disposal considerations

Waste treatment methods

General information When handling waste, the safety precautions applying to handling of the product should be considered.

Disposal methods Dispose in accordance with local, state and federal regulations.

14. Transport information

Road transport notes Not classified.

Rail transport notes Not classified.

Sea transport notes Not classified.

Air transport notes Not classified.

UN Number

Not applicable.

UN proper shipping name

Not applicable.

Transport hazard class(es)

Not applicable.

Packing group

Not applicable.

Environmental hazards

Refresh AntiBac FOAM

Environmentally Hazardous Substance

No.

Special precautions for user

Not applicable.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

| | |
|--------------------------|--|
| Regulatory Status | This product is manufactured and labeled in compliance with the Federal Food, Drug, and Cosmetic Act, and is exempt from the labeling requirements of the OSHA Hazard Communication Standard. All components of this product are either on the TSCA 8(b) inventory or otherwise exempt from listing. |
|--------------------------|--|

16. Other information

| | |
|---|--|
| Revision comments | Revision of information |
| Revision date | 6/1/2015 |
| Revision | 6 |
| Supersedes date | 5/26/2015 |
| SDS No. | 11124 |
| Hazard statements in full | H320 Causes eye irritation. |
| ACA HMIS Health rating. | Slight Hazard. (1) |
| ACA HMIS Physical hazard rating. | Normally stable. (0) |
| ACA HMIS Personal protection rating. | N/A. |
| ACA HMIS Flammability rating. | Will not burn. (0) |
| Notes For Risk Phrases And Hazard Statements In Full | The full text for Risk Phrases and Hazard Statements in section 16 relates to the reference numbers in sections 2 and 3 and not necessarily the finished product classification. |

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.



SAFETY DATA SHEET

1. Product and Company Identification

| | |
|-----------------------------------|--|
| Product Name | ALL PURPOSE SPOTTER |
| Product Number | 3BZ |
| Product Type | Mixture |
| Product Use | Spot remover for carpets & upholstery |
| Manufacturer | CFR, A Division of Tacony Corporation 3101 Wichita Court Fort Worth, TX 76140-1710 |
| Company Contact | 1-800-533-2557 or website www.cfrcorp.com |
| Emergency Telephone Number | 1-800-270-5201 |

2. Hazards Identification

GHS Classification in accordance with 29CFR 1910 OSHA HCS

Skin corrosion/irritation, (Category 3) H316
Serious eye damage/eye irritation, (Category 2B) H320
Acute Aquatic toxicity (Category 3) H402
Chronic aquatic toxicity, (Category 3) H412

GHS Label elements, including precautionary statements

| | |
|---------------------------------|---|
| Pictogram | None required |
| Signal Word | Warning |
| Hazard Statements | |
| H316 | Causes mild skin irritation. |
| H320 | Causes eye irritation. |
| H402 | Harmful to aquatic life |
| H413 | Harmful to aquatic life with long lasting effects. |
| Precautionary Statements | |
| Prevention | |
| P264 | Wash and rinse hands and exposed skin after handling concentrated product. |
| P273 | Avoid release to the environment. |
| Response | |
| P332+P313 | If skin irritation occurs, get medical attention. |
| P305+P351+P338 | IF IN EYES, Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. |
| P337+P313 | If eye irritation persists, get medical attention. |
| Storage/Disposal | |
| P501 | Dispose of contents/container in accordance with local, regional and federal regulations |

3. Composition/Information on Ingredients

The criteria for listing components in this section are: Ingredients that meet the criteria for carcinogenic, toxic to reproduction, or specific target organ toxicity and components otherwise considered hazardous according to OSHA which exceed the cut off limits for SDS specified by the criteria for mixtures are listed. Non hazardous components are not listed. This is not a composition disclosure. Exact percentages are considered proprietary and a trade secret.



| Hazardous Components | CAS# | Classification | % |
|---|-------------|------------------------|------|
| Alcohols,C6-C10, ethoxylated propoxylated | 168987-81-5 | H319, H402 | 1-5% |
| Alcohols, C9-C11, ethoxylated | 68439-46-3 | H302, H316, H320, H412 | 1-5% |
| Terpene hydrocarbons | 5989-27-5 | H226, H303,H314, | 1-3% |
| Diethylene glycol n butyl ether | 112-34-5 | H319, | 1-2% |

4. First Aid Measures

Description of First Aid Procedures

| | |
|--------------------------------|--|
| In case of Eye Contact | Flush with cool running water for 15 minutes. If irritation persists, get medical attention. |
| In case of Skin Contact | Flush with cool water, Wash with soap and water, If irritation persists, get medical Attention. |
| If Inhaled | If symptoms develop, move to fresh air. If symptoms persist, get medical attention |
| If Ingested | Rinse mouth with water. Drink one or two glasses of water. Do not induce vomiting. Obtain medical attention. Never give anything by mouth to an unconscious person. |
| Notes to Physician | Symptoms may be delayed. |
| General advice | Seek medical attention if feeling unwell. Show the SDS to the physician in attendance. |

5. Fire-fighting Measures

| | |
|--|---|
| Flammable properties | Not flammable |
| Extinguishing media | Treat for surrounding material. |
| Protection of firefighters | Firefighters should wear protective clothing including self contained breathing apparatus |
| Hazardous combustion products | May include and not limited to oxides of carbon, nitrogen, and oxides of sulfur. |
| Unusual Fire, Explosion hazards | None known. |

6. Accidental Release Measures

| | |
|----------------------------------|--|
| Personal precautions | Keep unnecessary personal away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled containers unless wearing protective Clothing. Stay upwind of spills or leaks. |
| Methods for containment | Stop leak if you can do so without risk. Prevent entry into waterways, sewers. |
| Methods for cleaning up | Before attempting clean up refer to hazard data given above. Small spills may be absorbed with non reactive absorbent and placed in suitable, covered, labeled containers. Prevent large spills from entering sewers or water ways. Dike spill. Absorb spill with non reactive absorbent and place in a suitable, covered, labeled container for disposal. Never return spill to original container for reuse. |
| Environmental Precautions | Avoid release to the environment. |

7. Handling and Storage

| | |
|--------------------------------------|--|
| Precautions for Safe Handling | Use good industrial hygiene practices when handling this material |
| Conditions for Safe Storage | Keep out of reach of children. Keep from freezing, store in a cool dry place away from incompatible materials. |



8. Exposure Controls and Personal Protection

Exposure limits

| Ingredients | CAS-No | OSHA PEL | ACGIH TLV |
|---|-------------|---------------|---------------|
| Alcohols, C6-C10, ethoxylated, propoxylated | 168987-81-5 | Not available | Not available |
| Alcohols, C9-C11, ethoxylated, | 68439-46-3 | Not available | Not available |
| Terpene hydrocarbons | 5989-27-5 | Not available | Not available |
| Diethylene glycol n butyl ether | 112-34-5 | 10ppm TWA | Not available |

Engineering controls

General ventilation normally adequate

Personal protective equipment

Eye/Face protection

Wear safety glasses with side shields if splash conditions exist.

Hand protection

Rubber or nitrile gloves.

Skin and body

As required by employer code.

Respiratory protection

Use a NIOSH approved respirator when exposure guidelines are exceeded.

General hygiene considerations

Handle in accordance with good industrial hygiene practices. Do not eat or drink when using product. Wash hands well before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

| | |
|--|--|
| Appearance/form | Clear liquid |
| Color | Colorless |
| Odor | Solvent |
| Odor threshold | Not established |
| pH | 3.5-3.6 (Concentrate) |
| Melting point/freezing point | Not established |
| Initial Boiling point | > 212° F. (100° C.) |
| Flash point | > 200° F. (93° C.) EPA 1010 closed cup |
| Evaporation rate | Not established |
| Flammability | Not flammable |
| Upper/lower flammability or Explosive limits | Not established |
| Vapor pressure | Not established |
| Vapor density | Not established |
| Specific gravity/density | 0.990-1.002 |
| Solubility in water | Complete |
| Partition coefficient: | Not established |
| Auto ignition temperature | Not established |
| Decomposition temperature | Not established |
| Stability and Reactivity | Stable and non reactive under normal use and storage conditions. |
| VOC | < 1% |
| % Volatile | Approx. 90% |

Other safety Information

10. Stability and Reactivity

| | |
|----------------------------------|--|
| Reactivity | Not reactive under normal use and storage. |
| Chemical Stability | Stable under normal storage conditions. |
| Hazardous reactions | None known. |
| Conditions to avoid | Do not mix with other chemicals. |
| Incompatible materials | Strong acids and oxidizers. |
| Hazardous decomposition products | May include but not limited to oxides of carbon, nitrogen, and oxides of sulfur. |
| Hazardous polymerization | Will not occur. |

11. Toxicological Information

| | |
|--|---|
| Ingredients | LC50 |
| Alcohols,C6-C10, ethoxylated, propoxylated | > 50mg/l (Inhalation-rat) 4 hours estimated |
| Alcohols,C9-C11, ethoxylated | No data available |
| Terpene hydrocarbons | No data available |
| Diethylene glycol n butyl ether | No data available |
| Ingredients | LD50 |
| Alcohols,C6-C10, ethoxylated, propoxylated | 2745 mg/kg (Oral-rat), > 2000mg/kg (dermal-rat) estimated |
| Alcohols,C9-C11, ethoxylated | 1400 mg/kg (Oral-rat), > 5000mg/kg (Dermal-rat) |
| Terpene hydrocarbons | 4400mg/kg)Oral-rat), > 5000 mg/kg (Dermal-rat) |
| | Draize test, rabbit, eye: No eye irritation -168 hours |
| Diethylene glycol n butyl ether | 5660 mg/kg (Oral-rat), 2700 mg/kg (Dermal-rabbit) |
| | Draize test, rabbit, eye: 20 mg/24 hour Moderate |
| | Draize test, rabbit, eye: 20 mg Severe |
| Effects of acute exposure | |
| Eye | Causes eye irritation |
| Skin | Causes mild irritation. |
| Inhalation | Not normally a route of entry. |
| Ingestion | May be harmful if swallowed. May cause stomach distress, nausea, or vomiting. |
| Sensitization | No data available. |
| Chronic effects of short and long term exposure | Prolonged exposure to skin may cause drying, defatting and irritation. |
| Carcinogenicity | Does not contain ingredients considered carcinogenic by NTP, IARC, or OSHA. |
| Mutagenicity | No data available. |
| Reproductive effects | No data available. |
| Teratogenicity | No data available. |

12. Ecological Information

| | |
|--|---|
| Eco-toxicity | Components of this product have been identified as toxic with long lasting effects to the aquatic environmental. |
| Environmental effects | No data available. |
| Aquatic toxicity | |
| Alcohols,C6-C10, ethoxylated, propoxylated | LC50 Fish (primephales promelas): 1-10mg/l 96 hours EC50 Algae: 1-10 mg/l 48 hours EC50 Aquatic plants: 1-10 mg/l 120 hours |
| Alcohols,C9-C11, ethoxylated | LC50 Fish (fathead minnow): 6mg/l 96 hours EC50 Daphnia: 2.5mg/l 48 hours EC50 Algae: 0.95 mg/l |
| Terpene hydrocarbons | LC50 Fish (pimephales promelas): 0.702 mg/l 96 hours EC50 Daphnia: 0.421 mg/l 48 hours EC50 Algae: 1.81 mg/l |
| Diethylene glycol n butyl ether | LC50 Fish: 1300 mg/l 96 hours EC50 Daphnia: > 100 mg/l 48 hours EC50 Algae: > 100 mg/l 96 hours |
| Persistence and Degradability | No data available |
| Bioaccumulation/accumulation | No data available. |
| Partition coefficient | No data available. |
| Mobility in environmental media | No data available. |
| Chemical fate information | No data available. |
| Other adverse effects | No data available. |



13. Disposal Considerations

| | |
|--|---|
| Disposal instructions | Dispose in accordance with local, state, and federal regulations |
| Wastes from residues/unused Product | Containerize. Rinse area with water. Keep out of storm sewer/waterways. |
| Contaminated packaging | Dispose in accordance with all applicable regulations. |

14. Transport Information

| | |
|-------------------------------------|-------------------|
| Basic shipping requirements: | Not DOT regulated |
| Proper shipping name | |
| Hazard class | |
| UN number | |
| Packing group | |
| Special provisions | |

15. Regulatory Information

| | | |
|---|--|-------------------------------|
| U.S federal regulations | This product has been classified in accordance with the Occupational Safety and Health Administration hazard criteria and the SDS contains all of the information required by OSHA HCS 2012. | |
| TSCA | All ingredients are listed on the Toxic Substances Control Act or are exempt from listing. | |
| CERCLA Super Fund 40CFR117.302 | Product contains a material with a Reportable Quantity (RQ): | |
| SARA Title III Section 311&312 | None Immediate (Acute) Health Hazard Alcohols, C6-C10, ethoxylated, propoxylated CAS#168987-81-5 Alcohols, C9-C11, ethoxylated CAS# 68439-46-3 Diethylene glycol n butyl ether CAS#112-34-5 | |
| SARA Title III Section 313 | Ingredients subject to the reporting requirements of Section 313: Diethylene glycol n butyl ether CAS# 112-34-5 | |
| California Proposition 65 | This product does not contain intentional ingredients known to the State of California to cause cancer, birth defects or reproductive effects. However trace amounts of Ethylene oxide (CAS#71-25-8) and Propylene oxide (CAS#75-56-9) may be present and are listed as possible carcinogens in the state of California. | |
| States Right to Know | Reportable Chemicals: | |
| Inventory Status | | |
| Countries | Inventory Name | On Inventory (Yes/No)* |
| U.S. | Chemical Inventory List | Yes |
| Canada | Domestic substances list | Yes |
| • A Yesö indicates that all of the components of this product comply with the inventory requirements administered by the governing country(s) listed. | | |



16. Other Information

HMIS RATING

HMIS LEGEND

| | |
|----------|---|
| Severe | 4 |
| Serious | 3 |
| Moderate | 2 |
| Slight | 1 |
| Minimal | |

| | |
|---------------------|---|
| Health | 1 |
| Flammability | 0 |
| Reactivity | 0 |
| Personal Protection | B |

Disclaimer

To the best of our knowledge, the information included herein is accurate. However, neither the above named supplier nor any of its subsidiaries assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of the suitability of any material is the responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Issue date

April 30, 2015

Supersedes date

Previous issues.

Reason for update

Conform to GHS OSHA HCS 2012.

Expiration date

April 30, 2018

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date 05.03.2015

Revision: 05.03.2015

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name:** All-Pro
- **Article number:** 1319
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** All-purpose cleaner
- **1.3 Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**
ATCO International
1401 Barclay Circle, S.E.
Marietta, Ga 30060
770-424-7550
- **1.4 Emergency telephone number:**
ChemTel Inc.
(800)255-3924, +1 (813)248-0585

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
Classifications listed also are applicable to the OSHA GHS Hazard Communication Standard (29CFR1910.1200).



corrosion

Skin Corr. 1C H314 Causes severe skin burns and eye damage.

-
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



C; Corrosive

R34: Causes burns.

- **Information concerning particular hazards for human and environment:**
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system:**
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.
The classification is in accordance with the latest editions of international substances lists, and is supplemented by information from technical literature and by information provided by the company.
- **Additional information:**
There are no other hazards not otherwise classified that have been identified.
0 percent of the mixture consists of component(s) of unknown toxicity

(Contd. on page 2)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date 05.03.2015

Revision: 05.03.2015

Trade name: All-Pro

(Contd. of page 1)

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is additionally classified and labelled according to the Globally Harmonized System within the United States (GHS).

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS05

Signal word Danger

Hazard-determining components of labelling:

2-aminoethanol

Hazard statements

H314 Causes severe skin burns and eye damage.

Precautionary statements

P260 Do not breathe mist/vapours/spray.

P280 Wear protective gloves / eye protection.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard description:

WHMIS-symbols:

D2B - Toxic material causing other toxic effects

E - Corrosive material



NFPA ratings (scale 0 - 4)



Health = 3

Fire = 0

Reactivity = 0

HMIS-ratings (scale 0 - 4)



Health = 3

Fire = 0

Reactivity = 0

HMIS Long Term Health Hazard Substances

None of the ingredients are listed.

(Contd. on page 3)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date 05.03.2015

Revision: 05.03.2015

Trade name: All-Pro




















(Contd. of page 2)

- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**

| | | |
|---|---|---------|
| CAS: 68439-46-3 NLP: 500-446-0 | alcohols, C9-11, ethoxylated  Xi R41  Eye Dam. 1, H318 | 2,5-10% |
| CAS: 1569-01-3 EINECS: 216-372-4 | 1-propoxypropan-2-ol  Xi R36 R10  Flam. Liq. 3, H226  Eye Irrit. 2, H319 | 2,5-10% |
| CAS: 141-43-5 EINECS: 205-483-3 Index number: 603-030-00-8 | 2-aminoethanol  C R34;  Xn R20/21/22  Skin Corr. 1B, H314  Acute Tox. 4, H302; Acute Tox. 4, H332 Aquatic Chronic 3, H412 | ≤ 2,5% |
| CAS: 1310-73-2 EINECS: 215-185-5 Index number: 011-002-00-6 | sodium hydroxide  C R35  Met. Corr. 1, H290; Skin Corr. 1A, H314 | ≤ 2,5% |
| CAS: 1300-72-7 EINECS: 215-090-9 | sodium xylenesulphonate  Xi R36  Eye Irrit. 2, H319 | ≤ 2,5% |
| CAS: 61789-40-0 EINECS: 263-058-8 | Cocoamidopropyl Betaine  Xi R36  Eye Irrit. 2, H319 | ≤ 2,5% |
| CAS: 64-02-8 EINECS: 200-573-9 Index number: 607-428-00-2 | tetrasodium ethylenediaminetetraacetate  Xn R20/22;  Xi R41  Eye Dam. 1, H318  Acute Tox. 4, H302 | ≤ 2,5% |

- **Additional information:**

For the listed ingredients, the identity and exact percentages are being withheld as a trade secret.
For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.

(Contd. on page 4)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date 05.03.2015

Revision: 05.03.2015

Trade name: All-Pro

(Contd. of page 3)

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Immediately remove any clothing soiled by the product.
Immediately rinse with water.
If skin irritation continues, consult a doctor.
Seek immediate medical help for blistering or open wounds.
- **After eye contact:**
Protect unharmed eye.
Remove contact lenses if worn, if possible.
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; call for medical help immediately.
- **4.2 Most important symptoms and effects, both acute and delayed**
Coughing
Cramp
Nausea in case of ingestion.
Caustic effect on skin and mucous membranes.
- **Hazards**
Danger of gastric perforation.
Causes serious eye damage.
- **4.3 Indication of any immediate medical attention and special treatment needed**
Medical supervision for at least 48 hours.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **For safety reasons unsuitable extinguishing agents:** None.
- **5.2 Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
- **Additional information** No further relevant information available.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
- **6.2 Environmental precautions:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

(Contd. on page 5)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date 05.03.2015

Revision: 05.03.2015

Trade name: All-Pro

(Contd. of page 4)

- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Send for recovery or disposal in suitable receptacles.
Clean the affected area carefully; suitable cleaners are:
Warm water
Dispose contaminated material as waste according to item 13.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Prevent formation of aerosols.
Avoid splashes or spray in enclosed areas.
Use only in well ventilated areas.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store only in the original receptacle.
Unsuitable material for receptacle: aluminium.
Unsuitable material for receptacle: steel.
- **Information about storage in one common storage facility:**
Store away from metals.
Store away from foodstuffs.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**

Ingredients with limit values that require monitoring at the workplace:

141-43-5 2-aminoethanol

| | |
|------------|---|
| IOELV (EU) | Short-term value: 7,6 mg/m ³ , 3 ppm Long-term value: 2,5 mg/m ³ , 1 ppm Skin |
| PEL (USA) | Long-term value: 6 mg/m ³ , 3 ppm |
| REL (USA) | Short-term value: 15 mg/m ³ , 6 ppm Long-term value: 8 mg/m ³ , 3 ppm |

(Contd. on page 6)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date 05.03.2015

Revision: 05.03.2015

Trade name: All-Pro

(Contd. of page 5)

| | |
|-----------------------------------|--|
| TLV (USA) | Short-term value: 15 mg/m ³ , 6 ppm Long-term value: 7,5 mg/m ³ , 3 ppm |
| EL (Canada) | Short-term value: 6 ppm Long-term value: 3 ppm |
| EV (Canada) | Short-term value: 15 mg/m ³ , 6 ppm Long-term value: 7,5 mg/m ³ , 3 ppm |
| 1310-73-2 sodium hydroxide | |
| PEL (USA) | Long-term value: 2 mg/m ³ |
| REL (USA) | Ceiling limit: 2 mg/m ³ |
| TLV (USA) | Ceiling limit: 2 mg/m ³ |
| EL (Canada) | Ceiling limit: 2 mg/m ³ |
| EV (Canada) | Ceiling limit: 2 mg/m ³ |

- **DNELs** No further relevant information available.
- **PNECs** No further relevant information available.
- **Additional information:** The lists valid during the making were used as basis.

· 8.2 Exposure controls

· Personal protective equipment:

· General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

- **Respiratory protection:** For spills, respiratory protection may be advisable.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

· Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· For the permanent contact gloves made of the following materials are suitable:

PVC gloves
Neoprene gloves
Natural rubber, NR
Butyl rubber, BR

(Contd. on page 7)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date 05.03.2015

Revision: 05.03.2015

Trade name: All-Pro

(Contd. of page 6)

- **Eye protection:**
Contact lenses should not be worn.



Safety glasses

- **Body protection:**
Protective work clothing
Alkaline resistant protective clothing
- **Limitation and supervision of exposure into the environment**
No further relevant information available.
- **Risk management measures**
See Section 7 for additional information.
No further relevant information available.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
 - Form: Liquid
 - Colour: Violet
- **Odour:** Solvent-like
- **Odour threshold:** Not determined.
- **pH-value at 20 °C (68 °F):** 13
- **Change in condition**
 - Melting point/Melting range: Not Determined.
 - Boiling point/Boiling range: 100 °C (212 °F)
- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Not applicable.
- **Auto/Self-ignition temperature:** Not determined.
- **Decomposition temperature:** Not determined.
- **Self-igniting:** Product is not self-igniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
 - Lower: Not determined.
 - Upper: Not determined.
- **Vapour pressure at 20 °C (68 °F):** 23 hPa (17 mm Hg)
- **Density at 20 °C (68 °F):** 1,04 g/cm³ (8,679 lbs/gal)
- **Relative density** Not determined.
- **Vapour density** Not determined.

(Contd. on page 8)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date 05.03.2015

Revision: 05.03.2015

Trade name: All-Pro

(Contd. of page 7)

- **Evaporation rate** Not determined.
- **Solubility in / Miscibility with water:** Fully miscible.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
 - Dynamic:** Not determined.
 - Kinematic:** Not determined.
- **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions**
Toxic fumes may be released if heated above the decomposition point.
Reacts with strong acids and oxidising agents.
Strong exothermic reaction with acids.
Corrosive action on metals.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
Nitrogen oxides (NO_x)
Sulphur oxides (SO_x)

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**

| |
|--|
| · LD/LC50 values relevant for classification: |
|--|

| |
|-----------------------------------|
| 1310-73-2 sodium hydroxide |
|-----------------------------------|

| |
|--------------------------------|
| Oral LD50 2000 mg/kg (rat) |
|--------------------------------|

- **Primary irritant effect:**
- **on the skin:** Caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect.
- **Sensitisation:** No sensitising effects known.
- **Subacute to chronic toxicity:** No further relevant information available.
- **Additional toxicological information:**
Corrosive
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

(Contd. on page 9)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date 05.03.2015

Revision: 05.03.2015

Trade name: All-Pro

(Contd. of page 8)

- **Acute effects (acute toxicity, irritation and corrosivity):** Causes severe skin burns and eye damage.
- **Repeated dose toxicity:** No further relevant information available.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** After neutralisation a reduction of the harming action may be recognised
- **Additional ecological information:**
- **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. If the dilution of the use-level pH-value is considerably reduced, the aqueous waste, emptied into drains, is only low water-dangerous.
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Small amounts may be diluted with plenty of water and washed away. Dispose of larger amounts in accordance with Local Authority requirements.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- **14.1 UN-Number**
- **DOT, ADR, IMDG, IATA** UN1760

(Contd. on page 10)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date 05.03.2015

Revision: 05.03.2015

Trade name: All-Pro

(Contd. of page 9)

· 14.2 UN proper shipping name



Limited Quantity for packages less than 30 kg (66 lb) and inner packagings less than 5 L (1.3 gal).

· DOT, IATA

Corrosive liquids, n.o.s. (Sodium hydroxide, Ethanolamine)

· ADR

1760 CORROSIVE LIQUID, N.O.S. (SODIUM HYDROXIDE, ETHANOLAMINE)

· IMDG

CORROSIVE LIQUID, N.O.S. (SODIUM HYDROXIDE, ETHANOLAMINE)

· 14.3 Transport hazard class(es)

· DOT



· Class

8 Corrosive substances.

· Label

8

· ADR



· Class

8 (C9) Corrosive substances.

· Label

8

· IMDG, IATA



· Class

8 Corrosive substances.

· Label

8

· 14.4 Packing group

· DOT, ADR, IMDG, IATA

III

· 14.5 Environmental hazards:

· Marine pollutant:

No

· 14.6 Special precautions for user

Warning: Corrosive substances.

· Danger code (Kemler):

80

· EMS Number:

F-A,S-B

· Segregation groups

Alkalis

· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

(Contd. on page 11)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date 05.03.2015

Revision: 05.03.2015

Trade name: All-Pro

(Contd. of page 10)

· **Transport/Additional information:**· **ADR**· **Limited quantities (LQ)**

5L

· **Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· **Transport category**

3

· **Tunnel restriction code**

E

· **IMDG**· **Limited quantities (LQ)**

5L

· **Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· **UN "Model Regulation":**

UN1760, CORROSIVE LIQUID, N.O.S. (Sodium hydroxide, Ethanolamine), 8, III

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**· **United States (USA)**· **SARA**· **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Proposition 65 (California):**· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **Carcinogenic Categories**· **EPA (Environmental Protection Agency)**

None of the ingredients are listed.

(Contd. on page 12)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date 05.03.2015

Revision: 05.03.2015

Trade name: All-Pro

(Contd. of page 11)

| |
|---|
| · IARC (International Agency for Research on Cancer) |
| None of the ingredients are listed. |

| |
|---|
| · TLV (Threshold Limit Value established by ACGIH) |
| None of the ingredients are listed. |

| |
|---|
| · NIOSH-Ca (National Institute for Occupational Safety and Health) |
| None of the ingredients are listed. |

| |
|-----------------|
| · Canada |
|-----------------|

| |
|--|
| · Canadian Domestic Substances List (DSL) |
| All ingredients are listed. |

| |
|---|
| · Canadian Ingredient Disclosure list (limit 0.1%) |
| None of the ingredients are listed. |

| | | | | |
|---|------------------|----------------|-----------|------------------|
| · Canadian Ingredient Disclosure list (limit 1%) | | | | |
| <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; padding: 2px;">141-43-5</td> <td style="padding: 2px;">2-aminoethanol</td> </tr> <tr> <td style="padding: 2px;">1310-73-2</td> <td style="padding: 2px;">sodium hydroxide</td> </tr> </table> | 141-43-5 | 2-aminoethanol | 1310-73-2 | sodium hydroxide |
| 141-43-5 | 2-aminoethanol | | | |
| 1310-73-2 | sodium hydroxide | | | |

| |
|--|
| · Other regulations, limitations and prohibitive regulations |
| This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. |

| |
|--|
| · Substances of very high concern (SVHC) according to REACH, Article 57 |
| None of the ingredients are listed. |

| |
|--|
| · 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out. |
|--|

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

| |
|---------------------------|
| · Relevant phrases |
|---------------------------|

| | |
|------|--|
| H226 | Flammable liquid and vapour. |
| H290 | May be corrosive to metals. |
| H302 | Harmful if swallowed. |
| H312 | Harmful in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |
| H412 | Harmful to aquatic life with long lasting effects. |

| | |
|-----------|---|
| R10 | Flammable. |
| R20/21/22 | Harmful by inhalation, in contact with skin and if swallowed. |
| R20/22 | Harmful by inhalation and if swallowed. |
| R34 | Causes burns. |
| R35 | Causes severe burns. |
| R36 | Irritating to eyes. |

(Contd. on page 13)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date 05.03.2015

Revision: 05.03.2015

Trade name: All-Pro

(Contd. of page 12)

R41 Risk of serious damage to eyes.

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 ACGIH: American Conference of Governmental Industrial Hygienists
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 NFPA: National Fire Protection Association (USA)
 HMIS: Hazardous Materials Identification System (USA)
 WHMIS: Workplace Hazardous Materials Information System (Canada)
 VOC: Volatile Organic Compounds (USA, EU)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 Flam. Liq. 3: Flammable liquids, Hazard Category 3
 Met. Corr. 1: Corrosive to metals, Hazard Category 1
 Acute Tox. 4: Acute toxicity, Hazard Category 4
 Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A
 Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
 Skin Corr. 1C: Skin corrosion/irritation, Hazard Category 1C
 Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
 Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
 Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

· **Sources**

SDS Prepared by:
 ChemTel Inc.
 1305 North Florida Avenue
 Tampa, Florida USA 33602-2902
 Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573
 Website: www.chemtelinc.com

Aluminum Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations
Revision Date: 12/15/2014 Date of issue: 10/28/2014

Version: 1.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Aluminum Alloys

Synonyms: Al

1.2. Intended Use of the Product

Use of the Substance/Mixture: No use is specified.

1.3. Name, Address, and Telephone of the Responsible Party

Distributor

ThyssenKrupp Materials NA, Inc.
22355 W. Eleven Mile Road
Southfield, Michigan 48034
TEL: 248-233-5713

1.4. Emergency Telephone Number

Emergency Number : 248-233-5713

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Not classified

2.2. Label Elements

GHS-US Labeling No labeling applicable

2.3. Other Hazards

This product is present in a massive form as an alloy. It does not present the same hazards when the individual components are in their powdered forms. The materials present in this product in their powdered forms present aquatic toxicity to the environment, pyrophoricity, flammability, self-heating capabilities, carcinogenicity, water reactivity, and acute toxicity. When processed or where dust is generated a combustible dust hazard may be present. Avoid generating dust, generating sparks, ignition sources, and take all precautions.

Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath.

Under normal use and handling of the solid form of this material there are few health hazards. Cutting, welding, melting, grinding etc. of these materials will produce dust, fume or particulate containing the component elements of these materials. Exposure to the dust, fume or particulate of these materials may present significant health hazards. Exposure to dust or fume may cause irritation of the eyes, skin and respiratory tract. Fine particulates dispersed in air may present an explosion hazard.

2.4. Unknown Acute Toxicity (GHS-US) No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable

| Name | Product Identifier | % (w/w) | Classification (GHS-US) |
|----------|--------------------|---------------------------|---|
| Aluminum | (CAS No) 7429-90-5 | 80 - 99.7 | Comb. Dust Flam. Sol. 1, H228 Water-react. 2, H261 |
| Silicon | (CAS No) 7440-21-3 | 10 - 20 | Comb. Dust |
| Copper | (CAS No) 7440-50-8 | 1 - 5, 5 - 10, 10 - 20 | Comb. Dust Aquatic Acute 1, H400 Aquatic Chronic 3, H412 |
| Cobalt | (CAS No) 7440-48-4 | 0.1 - 1, 1 - 5, 5 -10 | Acute Tox. 4 (Oral), H302 Acute Tox. 1 (Inhalation:dust,mist), H330 Eye Irrit. 2A, H319 |

Aluminum Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | | | |
|------------|--------------------|----------------------------|---|
| | | | Resp. Sens. 1B, H334 Skin Sens. 1, H317 Carc. 2, H351 Repr. 2, H361 Aquatic Acute 3, H402 Aquatic Chronic 1, H410 |
| Zinc oxide | (CAS No) 1314-13-2 | 1 - 5, 5 -10 | Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| Tin | (CAS No) 7440-31-5 | 1 - 5, 5 -10 | Comb. Dust |
| Manganese | (CAS No) 7439-96-5 | 1 - 5, 5 -10 | Comb. Dust |
| Lead | (CAS No) 7439-92-1 | 1 - 5, 5 -10 | Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:dust,mist), H332 Carc. 1B, H350 Repr. 1A, H360 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| Nickel | (CAS No) 7440-02-0 | < 0.1, 0.1 - 1, 1 - 2.4 | Skin Sens. 1, H317 Carc. 2, H351 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 3, H412 |
| Silver | (CAS No) 7440-22-4 | 0.1 - 1 | Eye Irrit. 2A, H319 STOT SE 3, H335 Aquatic Acute 1, H400 |

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

General: IF exposed or concerned: Get medical advice/attention. Never give anything by mouth to an unconscious person.

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Keep at rest and in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

Skin Contact: Cool skin rapidly with cold water after contact with molten product. Removal of solidified molten material from skin requires medical assistance. Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Wash with plenty of soap and water. Wash contaminated clothing before reuse. Obtain medical attention if irritation persists.

Eye Contact: Removal of solidified molten material from the eyes requires medical assistance. Immediately rinse with water for a prolonged period (at least 15 minutes) while holding the eyelids wide open. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.

Ingestion: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

General: Welding, cutting, or processing this material may release dust or fumes that are hazardous.

Inhalation: Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath.

Skin Contact: May cause an allergic skin reaction. Dust from physical alteration of this product causes skin irritation. Causes severe skin burns. Contact with fumes or metal powder will irritate skin. Contact with hot, molten metal will cause thermal burns. Dust may cause irritation in skin folds or by contact in combination with tight clothing. Mechanical damage via flying particles and chipped slag is possible.

Eye Contact: Dust may cause mechanical irritation to eyes, nose, throat, and lungs.

Ingestion: Ingestion is likely to be harmful or have adverse effects.

Aluminum Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

Chronic Symptoms: In massive form, no hazard exists. If physically altered to present slivers, ribbons, dusts or fumes from molten material: Aluminum: Inhalation of finely divided aluminum powder may cause pulmonary fibrosis. Inhalation of Nickel compounds has been shown in studies to provide an increased incidence of cancer of the nasal cavity, lung and possibly larynx in nickel refinery workers. Nickel: May cause a form of dermatitis known as nickel itch and intestinal irritation, which may cause disorders, convulsions and asphyxia. Manganese : Chronic exposure can cause inflammation of the lung tissue, scarring the lungs (pulmonary fibrosis). Copper: Overexposure to fumes may cause metal fume fever (chills, muscle aches, nausea, fever, dry throat, cough, weakness, lassitude); metallic or sweet taste; discoloration of skin and hair. Tissue damage of mucous membranes may follow chronic dust exposure. Silicon : Can cause chronic bronchitis and narrowing of the airways. Lead: Exposure can result in lassitude (weakness, exhaustion), insomnia; facial pallor; anorexia, weight loss, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremor; encephalopathy; kidney disease; hypertension. Zinc: Prolonged exposure to high concentrations of zinc fumes may cause "zinc shakes", an involuntary twitching of the muscles. Otherwise, zinc is non-toxic. Tin: Has been shown to increase incidence of sarcoma in animal tests. Chronic exposure to tin dusts and fume may result in "stannosis", a mild form of pneumoconiosis. Silver: Chronic skin contact or ingestion of silver dust, salts or fume can result in a condition known as Argyria, a condition with bluish pigmentation of the skin and eyes.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire. Dry sand; Class D Extinguishing Agent (for metal powder fires).

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire. Do not use water when molten material is involved, may react violently or explosively on contact with water.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: A non-combustible material, not considered flammable but will melt above 1215 °F (657.2 °C).

Explosion Hazard: In molten state: reacts violently with water (moisture).

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Under fire conditions, hazardous fumes will be present.

Firefighting Instructions: Exercise caution when fighting any chemical fire.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Oxides of tin. Oxides of nickel. Oxides of copper. Oxides of silicone and carbon. Oxides of lead. Oxides of aluminum. Oxides of silver.

Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not handle until all safety precautions have been read and understood. Do not breathe vapors from molten product. Avoid all eye and skin contact and do not breathe dust, fumes, and vapors.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain and collect as any solid.

Methods for Cleaning Up: Clear up spills immediately and dispose of waste safely. For particulates and dust: Avoid actions that cause dust to become airborne during clean-up such as dry sweeping or using compressed air. Use PPE described in Section 8. Vacuum must be fitted with HEPA filter to prevent release of particulates during clean-up.

Aluminum Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection. Concerning disposal elimination after cleaning, see item 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: May generate flammable/explosive dusts or turnings when brushed, machined or ground. Use care during processing to minimize generation of dust. Where excessive dust may result, use approved respiratory protection equipment. Heating of product can release toxic or irritating fumes; ensure proper ventilation is employed, proper precautions are enforced, and applicable regulations are followed. Inhalation of fumes may cause metal fume fever.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store in a dry, cool and well-ventilated place.

Incompatible Materials: Strong acids, strong bases, strong oxidizers. Alkalis. Metal oxides. Water, humidity. Corrosive substances in contact with metals may produce flammable hydrogen gas.

7.3. Specific End Use(s)

No use is specified.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

| Aluminum (7429-90-5) | | |
|-------------------------|--------------------------------------|--|
| Mexico | OEL TWA (mg/m ³) | 10 mg/m ³ (dust) |
| USA ACGIH | ACGIH TWA (mg/m ³) | 1 mg/m ³ (respirable fraction) |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction) |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust) |
| Alberta | OEL TWA (mg/m ³) | 10 mg/m ³ (dust) |
| British Columbia | OEL TWA (mg/m ³) | 1.0 mg/m ³ (respirable) |
| Manitoba | OEL TWA (mg/m ³) | 1 mg/m ³ (respirable fraction) |
| New Brunswick | OEL TWA (mg/m ³) | 10 mg/m ³ (metal dust) |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 1 mg/m ³ (respirable fraction) |
| Nova Scotia | OEL TWA (mg/m ³) | 1 mg/m ³ (respirable fraction) |
| Nunavut | OEL STEL (mg/m ³) | 20 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 10 mg/m ³ |
| Northwest Territories | OEL STEL (mg/m ³) | 20 mg/m ³ |
| Northwest Territories | OEL TWA (mg/m ³) | 10 mg/m ³ |
| Ontario | OEL TWA (mg/m ³) | 1 mg/m ³ (respirable) |
| Prince Edward Island | OEL TWA (mg/m ³) | 1 mg/m ³ (respirable fraction) |
| Québec | VEMP (mg/m ³) | 10 mg/m ³ |
| Saskatchewan | OEL STEL (mg/m ³) | 20 mg/m ³ (dust) |
| Saskatchewan | OEL TWA (mg/m ³) | 10 mg/m ³ (dust) |
| Silicon (7440-21-3) | | |
| Mexico | OEL TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) |
| Mexico | OEL STEL (mg/m ³) | 20 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction) |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust) |

Aluminum Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | | |
|------------------------------------|--------------------------------------|---|
| British Columbia | OEL TWA (mg/m ³) | 10 mg/m ³ (total dust) |
| New Brunswick | OEL TWA (mg/m ³) | 10 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 5 mg/m ³ (respirable mass) |
| Northwest Territories | OEL TWA (mg/m ³) | 5 mg/m ³ (respirable mass) |
| Ontario | OEL TWA (mg/m ³) | 10 mg/m ³ (total dust) |
| Québec | VEMP (mg/m ³) | 10 mg/m ³ (containing no Asbestos and <1% Crystalline silica-total dust) |
| Saskatchewan | OEL STEL (mg/m ³) | 20 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 10 mg/m ³ |
| Yukon | OEL STEL (mg/m ³) | 20 mg/m ³ |
| Yukon | OEL TWA (mg/m ³) | 30 mppcf |
| Copper (7440-50-8) | | |
| Mexico | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) 1 mg/m ³ (dust and mist) |
| Mexico | OEL STEL (mg/m ³) | 2 mg/m ³ (fume) 2 mg/m ³ (dust and mist) |
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 0.1 mg/m ³ (fume) 1 mg/m ³ (dust and mist) |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 1 mg/m ³ (dust and mist) 0.1 mg/m ³ (fume) |
| USA IDLH | US IDLH (mg/m ³) | 100 mg/m ³ (dust, fume and mist) |
| Alberta | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| British Columbia | OEL TWA (mg/m ³) | 1 mg/m ³ (dust and mist) |
| Manitoba | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| New Brunswick | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Nova Scotia | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Nunavut | OEL STEL (mg/m ³) | 0.6 mg/m ³ (fume) |
| Nunavut | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Northwest Territories | OEL STEL (mg/m ³) | 0.6 mg/m ³ (fume) |
| Northwest Territories | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Ontario | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Prince Edward Island | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Québec | VEMP (mg/m ³) | 0.2 mg/m ³ (fume) |
| Saskatchewan | OEL STEL (mg/m ³) | 0.6 mg/m ³ (fume) |
| Saskatchewan | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Yukon | OEL STEL (mg/m ³) | 0.2 mg/m ³ (fume) |
| Yukon | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Cobalt (7440-48-4) | | |
| Mexico | OEL TWA (mg/m ³) | 0.1 mg/m ³ (dust and fume) |
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.02 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 0.1 mg/m ³ (dust and fume) |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 0.05 mg/m ³ (dust and fume) |
| USA IDLH | US IDLH (mg/m ³) | 20 mg/m ³ (dust and fume) |
| Alberta | OEL TWA (mg/m ³) | 0.02 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 0.02 mg/m ³ |
| Manitoba | OEL TWA (mg/m ³) | 0.02 mg/m ³ |
| New Brunswick | OEL TWA (mg/m ³) | 0.02 mg/m ³ |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 0.02 mg/m ³ |
| Nova Scotia | OEL TWA (mg/m ³) | 0.02 mg/m ³ |

Aluminum Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | | |
|------------------------------------|--|--|
| Nunavut | OEL STEL (mg/m ³) | 0.3 mg/m ³ (dust and fume) |
| Nunavut | OEL TWA (mg/m ³) | 0.1 mg/m ³ (metal-dust and fume) |
| Northwest Territories | OEL STEL (mg/m ³) | 0.3 mg/m ³ (dust and fume) |
| Northwest Territories | OEL TWA (mg/m ³) | 0.1 mg/m ³ (dust and fume) |
| Ontario | OEL TWA (mg/m ³) | 0.02 mg/m ³ |
| Prince Edward Island | OEL TWA (mg/m ³) | 0.02 mg/m ³ |
| Québec | VEMP (mg/m ³) | 0.02 mg/m ³ |
| Saskatchewan | OEL STEL (mg/m ³) | 0.06 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 0.02 mg/m ³ |
| Yukon | OEL STEL (mg/m ³) | 0.15 mg/m ³ (dust and fume) |
| Yukon | OEL TWA (mg/m ³) | 0.05 mg/m ³ (dust and fume) |
| Zinc oxide (1314-13-2) | | |
| Mexico | OEL TWA (mg/m ³) | 5 mg/m ³ (fume) 10 mg/m ³ (dust) |
| Mexico | OEL STEL (mg/m ³) | 10 mg/m ³ (fume) |
| USA ACGIH | ACGIH TWA (mg/m ³) | 2 mg/m ³ (respirable fraction) |
| USA ACGIH | ACGIH STEL (mg/m ³) | 10 mg/m ³ (respirable fraction) |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 5 mg/m ³ (fume) 15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction) |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 5 mg/m ³ (dust and fume) |
| USA NIOSH | NIOSH REL (STEL) (mg/m ³) | 10 mg/m ³ (fume) |
| USA NIOSH | NIOSH REL (ceiling) (mg/m ³) | 15 mg/m ³ (dust) |
| USA IDLH | US IDLH (mg/m ³) | 500 mg/m ³ |
| Alberta | OEL STEL (mg/m ³) | 10 mg/m ³ (respirable) |
| Alberta | OEL TWA (mg/m ³) | 2 mg/m ³ (respirable) |
| British Columbia | OEL STEL (mg/m ³) | 10 mg/m ³ (respirable) |
| British Columbia | OEL TWA (mg/m ³) | 2 mg/m ³ (respirable) |
| Manitoba | OEL STEL (mg/m ³) | 10 mg/m ³ (respirable fraction) |
| Manitoba | OEL TWA (mg/m ³) | 2 mg/m ³ (respirable fraction) |
| New Brunswick | OEL STEL (mg/m ³) | 10 mg/m ³ (fume) |
| New Brunswick | OEL TWA (mg/m ³) | 10 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica, dust) |
| Newfoundland & Labrador | OEL STEL (mg/m ³) | 10 mg/m ³ (respirable fraction) |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 2 mg/m ³ (respirable fraction) |
| Nova Scotia | OEL STEL (mg/m ³) | 10 mg/m ³ (respirable fraction) |
| Nova Scotia | OEL TWA (mg/m ³) | 2 mg/m ³ (respirable fraction) |
| Nunavut | OEL STEL (mg/m ³) | 10 mg/m ³ (fume) |
| Nunavut | OEL TWA (mg/m ³) | 5 mg/m ³ (fume) |
| Northwest Territories | OEL STEL (mg/m ³) | 10 mg/m ³ (fume) |
| Northwest Territories | OEL TWA (mg/m ³) | 5 mg/m ³ (fume) |
| Ontario | OEL STEL (mg/m ³) | 10 mg/m ³ (respirable) |
| Ontario | OEL TWA (mg/m ³) | 2 mg/m ³ (respirable) |
| Prince Edward Island | OEL STEL (mg/m ³) | 10 mg/m ³ (respirable fraction) |
| Prince Edward Island | OEL TWA (mg/m ³) | 2 mg/m ³ (respirable fraction) |
| Québec | VECD (mg/m ³) | 10 mg/m ³ (fume) |
| Québec | VEMP (mg/m ³) | 10 mg/m ³ (containing no Asbestos and <1% Crystalline silica-total dust) |
| Saskatchewan | OEL STEL (mg/m ³) | 10 mg/m ³ (dust and fume, respirable fraction) |
| Saskatchewan | OEL TWA (mg/m ³) | 2 mg/m ³ (dust and fume, respirable fraction) |
| Yukon | OEL STEL (mg/m ³) | 10 mg/m ³ (fume) |

Aluminum Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | | |
|------------------------------------|---|--|
| Yukon | OEL TWA (mg/m ³) | 5 mg/m ³ (fume) |
| Tin (7440-31-5) | | |
| Mexico | OEL TWA (mg/m ³) | 2 mg/m ³ |
| Mexico | OEL STEL (mg/m ³) | 4 mg/m ³ |
| USA ACGIH | ACGIH TWA (mg/m ³) | 2 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 2 mg/m ³ |
| USA IDLH | US IDLH (mg/m ³) | 100 mg/m ³ |
| Alberta | OEL TWA (mg/m ³) | 2 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 2 mg/m ³ |
| Manitoba | OEL TWA (mg/m ³) | 2 mg/m ³ |
| New Brunswick | OEL TWA (mg/m ³) | 2 mg/m ³ |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 2 mg/m ³ |
| Nova Scotia | OEL TWA (mg/m ³) | 2 mg/m ³ |
| Ontario | OEL TWA (mg/m ³) | 2 mg/m ³ |
| Prince Edward Island | OEL TWA (mg/m ³) | 2 mg/m ³ |
| Québec | VEMP (mg/m ³) | 2 mg/m ³ |
| Saskatchewan | OEL STEL (mg/m ³) | 4 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 2 mg/m ³ |
| Manganese (7439-96-5) | | |
| Mexico | OEL TWA (mg/m ³) | 0.2 mg/m ³ 1 mg/m ³ (fume) |
| Mexico | OEL STEL (mg/m ³) | 3 mg/m ³ (fume) |
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.02 mg/m ³ (respirable fraction) 0.1 mg/m ³ (inhalable fraction) |
| USA OSHA | OSHA PEL (Ceiling) (mg/m ³) | 5 mg/m ³ (fume) |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 1 mg/m ³ (fume) |
| USA NIOSH | NIOSH REL (STEL) (mg/m ³) | 3 mg/m ³ |
| USA IDLH | US IDLH (mg/m ³) | 500 mg/m ³ |
| Alberta | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| Manitoba | OEL TWA (mg/m ³) | 0.02 mg/m ³ (respirable fraction) |
| New Brunswick | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 0.02 mg/m ³ (respirable fraction) |
| Nova Scotia | OEL TWA (mg/m ³) | 0.02 mg/m ³ (respirable fraction) |
| Nunavut | OEL Ceiling (mg/m ³) | 5 mg/m ³ |
| Nunavut | OEL STEL (mg/m ³) | 3 mg/m ³ (fume) |
| Nunavut | OEL TWA (mg/m ³) | 1 mg/m ³ (fume) |
| Northwest Territories | OEL Ceiling (mg/m ³) | 5 mg/m ³ |
| Northwest Territories | OEL STEL (mg/m ³) | 3 mg/m ³ (fume) |
| Northwest Territories | OEL TWA (mg/m ³) | 1 mg/m ³ (fume) |
| Ontario | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| Prince Edward Island | OEL TWA (mg/m ³) | 0.02 mg/m ³ (respirable fraction) |
| Québec | VEMP (mg/m ³) | 0.2 mg/m ³ (total dust and fume) |
| Saskatchewan | OEL STEL (mg/m ³) | 0.6 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| Yukon | OEL Ceiling (mg/m ³) | 5 mg/m ³ |
| Lead (7439-92-1) | | |
| Mexico | OEL TWA (mg/m ³) | 0.15 mg/m ³ (dust and fume) |
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.05 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 50 µg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 0.050 mg/m ³ |

Aluminum Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | | |
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| USA IDLH | US IDLH (mg/m ³) | 100 mg/m ³ |
| Alberta | OEL TWA (mg/m ³) | 0.05 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 0.05 mg/m ³ |
| Manitoba | OEL TWA (mg/m ³) | 0.05 mg/m ³ |
| New Brunswick | OEL TWA (mg/m ³) | 0.05 mg/m ³ |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 0.05 mg/m ³ |
| Nova Scotia | OEL TWA (mg/m ³) | 0.05 mg/m ³ |
| Nunavut | OEL STEL (mg/m ³) | 0.45 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 0.15 mg/m ³ |
| Northwest Territories | OEL STEL (mg/m ³) | 0.45 mg/m ³ |
| Northwest Territories | OEL TWA (mg/m ³) | 0.15 mg/m ³ |
| Ontario | OEL TWA (mg/m ³) | 0.05 mg/m ³ (designated substances regulation) |
| Prince Edward Island | OEL TWA (mg/m ³) | 0.05 mg/m ³ |
| Québec | VEMP (mg/m ³) | 0.05 mg/m ³ |
| Saskatchewan | OEL STEL (mg/m ³) | 0.15 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 0.05 mg/m ³ |
| Yukon | OEL STEL (mg/m ³) | 0.45 mg/m ³ (dust and fume) |
| Yukon | OEL TWA (mg/m ³) | 0.15 mg/m ³ (dust and fume) |
| Nickel (7440-02-0) | | |
| Mexico | OEL TWA (mg/m ³) | 1 mg/m ³ |
| USA ACGIH | ACGIH TWA (mg/m ³) | 1.5 mg/m ³ (inhalable fraction) |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 1 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 0.015 mg/m ³ |
| USA IDLH | US IDLH (mg/m ³) | 10 mg/m ³ |
| Alberta | OEL TWA (mg/m ³) | 1.5 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 0.05 mg/m ³ |
| Manitoba | OEL TWA (mg/m ³) | 1.5 mg/m ³ (inhalable fraction) |
| New Brunswick | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 1.5 mg/m ³ (inhalable fraction) |
| Nova Scotia | OEL TWA (mg/m ³) | 1.5 mg/m ³ (inhalable fraction) |
| Nunavut | OEL STEL (mg/m ³) | 2 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Northwest Territories | OEL STEL (mg/m ³) | 2 mg/m ³ |
| Northwest Territories | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Ontario | OEL TWA (mg/m ³) | 1 mg/m ³ (inhalable) |
| Prince Edward Island | OEL TWA (mg/m ³) | 1.5 mg/m ³ (inhalable fraction) |
| Québec | VEMP (mg/m ³) | 1 mg/m ³ |
| Saskatchewan | OEL STEL (mg/m ³) | 3 mg/m ³ (inhalable fraction) |
| Saskatchewan | OEL TWA (mg/m ³) | 1.5 mg/m ³ (inhalable fraction) |
| Yukon | OEL STEL (mg/m ³) | 3 mg/m ³ |
| Yukon | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Silver (7440-22-4) | | |
| Mexico | OEL TWA (mg/m ³) | 0.1 mg/m ³ |
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.1 mg/m ³ (dust and fume) |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 0.01 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 0.01 mg/m ³ (dust) |
| USA IDLH | US IDLH (mg/m ³) | 10 mg/m ³ (dust) |
| Alberta | OEL TWA (mg/m ³) | 0.1 mg/m ³ |
| British Columbia | OEL STEL (mg/m ³) | 0.03 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 0.01 mg/m ³ |
| Manitoba | OEL TWA (mg/m ³) | 0.1 mg/m ³ (dust and fume) |

Aluminum Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | | |
|-------------------------|-------------------------------|---------------------------------------|
| New Brunswick | OEL TWA (mg/m ³) | 0.1 mg/m ³ |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 0.1 mg/m ³ (dust and fume) |
| Nova Scotia | OEL TWA (mg/m ³) | 0.1 mg/m ³ (dust and fume) |
| Nunavut | OEL STEL (mg/m ³) | 0.3 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 0.1 mg/m ³ |
| Northwest Territories | OEL STEL (mg/m ³) | 0.3 mg/m ³ |
| Northwest Territories | OEL TWA (mg/m ³) | 0.1 mg/m ³ |
| Ontario | OEL TWA (mg/m ³) | 0.1 mg/m ³ (dust and fume) |
| Prince Edward Island | OEL TWA (mg/m ³) | 0.1 mg/m ³ (dust and fume) |
| Québec | VEMP (mg/m ³) | 0.1 mg/m ³ |
| Saskatchewan | OEL STEL (mg/m ³) | 0.3 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 0.1 mg/m ³ |
| Yukon | OEL STEL (mg/m ³) | 0.03 mg/m ³ |
| Yukon | OEL TWA (mg/m ³) | 0.01 mg/m ³ |

8.2. Exposure Controls

Appropriate Engineering Controls: Use local exhaust or general dilution ventilation or other suppression methods to maintain dust levels below exposure limits. Power equipment should be equipped with proper dust collection devices. Ensure all national/local regulations are observed.

Personal Protective Equipment: Protective clothing. Gloves. Safety glasses. Dust formation: dust mask. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing: Chemically resistant materials and fabrics. With molten material wear thermally protective clothing.

Hand Protection: Wear chemically resistant protective gloves. If material is hot, wear thermally resistant protective gloves.

Eye Protection: Chemical goggles or safety glasses.

Skin and Body Protection: Wear suitable protective clothing. Wash contaminated clothing before reuse.

Respiratory Protection: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

| | |
|---------------------------------|------------------------------------|
| Physical State | : Solid |
| Appearance | : Metallic |
| Odor | : Odorless |
| Odor Threshold | : Not available |
| pH | : Not available |
| Evaporation Rate | : Not available |
| Melting Point | : 440 - 1215 °F (226.7 - 657.2 °C) |
| Freezing Point | : Not available |
| Boiling Point | : Not available |
| Flash Point | : Not applicable |
| Auto-ignition Temperature | : Not available |
| Decomposition Temperature | : Not available |
| Flammability (solid, gas) | : Not available |
| Lower Flammable Limit | : Not available |
| Upper Flammable Limit | : Not available |
| Vapor Pressure | : Not available |
| Relative Vapor Density at 20 °C | : Not available |

Aluminum Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | |
|--|---|
| Relative Density | : Not available |
| Specific Gravity | : 2.5 - 2.9 |
| Solubility | : Insoluble in water |
| Partition Coefficient: N-octanol/water | : Not available |
| Viscosity | : Not available |
| Explosion Data – Sensitivity to Mechanical Impact | : Not expected to present an explosion hazard due to mechanical impact. |
| Explosion Data – Sensitivity to Static Discharge | : Not expected to present an explosion hazard due to static discharge. |

SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Hazardous reactions will not occur under normal conditions.
- 10.2. Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid:** Avoid creating or spreading dust. Sparks, heat, open flame and other sources of ignition.
- 10.5. Incompatible Materials:** When molten: water. Strong acids, strong bases, strong oxidizers. Alkalis. Metal oxides. Moisture. Corrosive substances in contact with metals may produce flammable hydrogen gas.
- 10.6. Hazardous Decomposition Products:** Oxides of iron and carbon. Organic acid vapors. With acids, aluminum metals, or ammonium salts may react to form toxic vapors. May form solid compounds releasing heat. Lead compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects - Product

Acute Toxicity: Not classified.

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Not classified

Serious Eye Damage/Irritation: Not classified.

Respiratory or Skin Sensitization: Not classified. Not classified.

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not classified

Carcinogenicity: Not classified.

Specific Target Organ Toxicity (Repeated Exposure): Not classified.

Reproductive Toxicity: Not classified.

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath.

Symptoms/Injuries After Skin Contact: May cause an allergic skin reaction. Dust from physical alteration of this product causes skin irritation. Causes severe skin burns. Contact with fumes or metal powder will irritate skin. Contact with hot, molten metal will cause thermal burns. Dust may cause irritation in skin folds or by contact in combination with tight clothing. Mechanical damage via flying particles and chipped slag is possible.

Symptoms/Injuries After Eye Contact: Dust may cause mechanical irritation to eyes, nose, throat, and lungs.

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: In massive form, no hazard exists. If physically altered to present slivers, ribbons, dusts or fumes from molten material: Aluminum: Inhalation of finely divided aluminum powder may cause pulmonary fibrosis. Inhalation of Nickel compounds has been shown in studies to provide an increased incidence of cancer of the nasal cavity, lung and possibly larynx in nickel refinery workers. Nickel: May cause a form of dermatitis known as nickel itch and intestinal irritation, which may cause disorders, convulsions and asphyxia. Manganese : Chronic exposure can cause inflammation of the lung tissue, scarring the lungs (pulmonary fibrosis). Copper: Overexposure to fumes may cause metal fume fever (chills, muscle aches, nausea, fever, dry throat, cough, weakness, lassitude); metallic or sweet taste; discoloration of skin and hair. Tissue damage of mucous membranes may follow chronic dust exposure. Silicon : Can cause chronic bronchitis and narrowing of the airways. Lead: Exposure can result in lassitude (weakness, exhaustion), insomnia; facial pallor; anorexia, weight loss, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremor; encephalopathy; kidney disease; hypertension. Zinc: Prolonged exposure to high concentrations of zinc fumes may cause "zinc shakes", an involuntary twitching of the muscles. Otherwise, zinc is non-toxic. Tin: Has been shown to increase incidence of sarcoma in animal tests. Chronic exposure to tin dusts and fume may result in "stannosis", a mild form of pneumoconiosis. Silver:

Aluminum Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

Chronic skin contact or ingestion of silver dust, salts or fume can result in a condition known as Argyria, a condition with bluish pigmentation of the skin and eyes.

11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

| | |
|--|--|
| Cobalt (7440-48-4) | |
| LD50 Oral Rat | 215.9 - 1140 mg/kg |
| LC50 Inhalation Rat | > 10 mg/l (Exposure time: 1 h) |
| ATE US (dust, mist) | 0.01 mg/l/4h |
| Zinc oxide (1314-13-2) | |
| LD50 Oral Rat | > 5000 mg/kg |
| LD50 Dermal Rat | > 2000 mg/kg |
| Tin (7440-31-5) | |
| LD50 Oral Rat | 700 mg/kg |
| Manganese (7439-96-5) | |
| LD50 Oral Rat | > 2000 mg/kg |
| Lead (7439-92-1) | |
| ATE US (oral) | 500.00 mg/kg body weight |
| ATE US (dust, mist) | 1.50 mg/l/4h |
| Nickel (7440-02-0) | |
| LD50 Oral Rat | > 9000 mg/kg |
| Silver (7440-22-4) | |
| LD50 Oral Rat | > 2000 mg/kg |
| Cobalt (7440-48-4) | |
| IARC Group | 2B |
| Lead (7439-92-1) | |
| IARC Group | 2A |
| National Toxicity Program (NTP) Status | Reasonably anticipated to be Human Carcinogen. |
| Nickel (7440-02-0) | |
| IARC Group | 2B |
| National Toxicity Program (NTP) Status | Reasonably anticipated to be Human Carcinogen. |

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity No additional information available

| | |
|--------------------------------|---|
| Copper (7440-50-8) | |
| LC50 Fish 1 | <= 0.0068 (0.0068 - 0.0156) mg/l (Exposure time: 96 h - Species: Pimephales promelas) |
| EC50 Daphnia 1 | 0.03 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static]) |
| EC50 Other Aquatic Organisms 1 | 0.0426 (0.0426 - 0.0535) mg/l (Exposure time: 72 h - Species: Pseudokirchneriella subcapitata [static]) |
| LC 50 Fish 2 | 0.3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static]) |
| EC50 Other Aquatic Organisms 2 | 0.031 (0.031 - 0.054) mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata [static]) |
| Cobalt (7440-48-4) | |
| LC50 Fish 1 | 100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static]) |
| Zinc oxide (1314-13-2) | |
| LC50 Fish 1 | 780 µg/l (Exposure time: 96 h - Species: Pimephales promelas) |
| EC50 Daphnia 1 | 0.122 mg/l |
| NOEC chronic fish | 0.026 mg/l (Species: Jordanella floridae) |

Aluminum Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | |
|---------------------------------------|--|
| Manganese (7439-96-5) | |
| NOEC chronic fish | 3.6 mg/l (Exposure time: 96h; Species: Oncorhynchus mykiss) |
| Lead (7439-92-1) | |
| LC50 Fish 1 | 0.44 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static]) |
| EC50 Daphnia 1 | 600 µg/l (Exposure time: 48 h - Species: water flea) |
| LC 50 Fish 2 | 1.17 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through]) |
| Nickel (7440-02-0) | |
| LC50 Fish 1 | 100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio) |
| EC50 Daphnia 1 | 13 (13 - 200) µg/l (Exposure time: 48h - Species: Ceriodaphnia dubia [static]) |
| LC 50 Fish 2 | 1.3 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static]) |
| EC50 Daphnia 2 | 1 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static]) |
| EC50 Other Aquatic Organisms 2 | 0.174 (0.174 - 0.311) mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata [static]) |
| Silver (7440-22-4) | |
| LC50 Fish 1 | 0.00155 (0.00155 - 0.00293) mg/l (Exposure time: 96 h - Species: Pimephales promelas [static]) |
| EC50 Daphnia 1 | 0.00024 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static]) |
| LC 50 Fish 2 | 0.0062 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through]) |

Persistence and Degradability

| | |
|--------------------------------------|----------------------------|
| Aluminum Alloys | |
| Persistence and Degradability | Not established. |
| Copper (7440-50-8) | |
| Persistence and Degradability | Not readily biodegradable. |

12.3. Bioaccumulative Potential

| | |
|----------------------------------|----------------------|
| Aluminum Alloys | |
| Bioaccumulative Potential | Not established. |
| Cobalt (7440-48-4) | |
| BCF Fish 1 | (no bioaccumulation) |

12.4. Mobility in Soil

Not available

12.5. Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Treatment Methods: Recycle product or dispose properly.

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.

SECTION 14: TRANSPORT INFORMATION

| | |
|--------------------------------------|-----------------------------|
| 14.1. In Accordance with DOT | Not regulated for transport |
| 14.2. In Accordance with IMDG | Not regulated for transport |
| 14.3. In Accordance with IATA | Not regulated for transport |
| 14.4. In Accordance with TDG | Not regulated for transport |

SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

| | |
|---|---------------------------------|
| Aluminum Alloys | |
| SARA Section 311/312 Hazard Classes | Delayed (chronic) health hazard |
| Aluminum (7429-90-5) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| SARA Section 313 - Emission Reporting | 1.0 % (dust or fume only) |

Aluminum Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | |
|---|--|
| Silicon (7440-21-3) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Copper (7440-50-8) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| SARA Section 313 - Emission Reporting | 1.0 % |
| Cobalt (7440-48-4) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| SARA Section 313 - Emission Reporting | 0.1 % |
| Zinc oxide (1314-13-2) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Tin (7440-31-5) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Manganese (7439-96-5) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| SARA Section 313 - Emission Reporting | 1.0 % |
| Lead (7439-92-1) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| SARA Section 313 - Emission Reporting | 0.1 % |
| Nickel (7440-02-0) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| RQ (Reportable Quantity, Section 304 of EPA's List of Lists): | 100 lb (only applicable if particles are < 100 µm) |
| SARA Section 313 - Emission Reporting | 0.1 % |
| Silver (7440-22-4) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| RQ (Reportable Quantity, Section 304 of EPA's List of Lists): | 1000 lb < 100 um CERCLA/SARA RQ CHANGE TITLE |
| SARA Section 313 - Emission Reporting | 1.0 % |

15.2. US State Regulations

| | |
|--|--|
| Cobalt (7440-48-4) | |
| U.S. - California - Proposition 65 - Carcinogens List | WARNING: This product contains chemicals known to the State of California to cause cancer. |
| Lead (7439-92-1) | |
| U.S. - California - Proposition 65 - Carcinogens List | WARNING: This product contains chemicals known to the State of California to cause cancer. |
| U.S. - California - Proposition 65 - Developmental Toxicity | WARNING: This product contains chemicals known to the State of California to cause birth defects. |
| U.S. - California - Proposition 65 - Reproductive Toxicity - Female | WARNING: This product contains chemicals known to the State of California to cause (Female) reproductive harm. |
| U.S. - California - Proposition 65 - Reproductive Toxicity - Male | WARNING: This product contains chemicals known to the State of California to cause (Male) reproductive harm. |
| Nickel (7440-02-0) | |
| U.S. - California - Proposition 65 - Carcinogens List | WARNING: This product contains chemicals known to the State of California to cause cancer. |

Aluminum Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| |
|--|
| Aluminum (7429-90-5) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List |
| Silicon (7440-21-3) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List |
| Copper (7440-50-8) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List |
| Cobalt (7440-48-4) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List |
| Zinc oxide (1314-13-2) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List |
| Tin (7440-31-5) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List |
| Manganese (7439-96-5) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List |
| Lead (7439-92-1) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List |
| Nickel (7440-02-0) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances U.S. - Pennsylvania - RTK (Right to Know) List |
| Silver (7440-22-4) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List |

15.3. Canadian Regulations

| |
|------------------------|
| Aluminum Alloys |
|------------------------|

Aluminum Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | |
|---|---|
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Aluminum (7429-90-5) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Class B Division 6 - Reactive Flammable Material Class B Division 4 - Flammable Solid |
| Silicon (7440-21-3) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Copper (7440-50-8) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Cobalt (7440-48-4) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 0.1 % | |
| WHMIS Classification | Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects |
| Zinc oxide (1314-13-2) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Tin (7440-31-5) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Manganese (7439-96-5) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Lead (7439-92-1) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 0.1 % | |
| WHMIS Classification | Class D Division 2 Subdivision A - Very toxic material causing other toxic effects |
| Nickel (7440-02-0) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 0.1 % | |
| WHMIS Classification | Class D Division 2 Subdivision B - Toxic material causing other toxic effects |
| Silver (7440-22-4) | |
| Listed on the Canadian DSL (Domestic Substances List) | |

Aluminum Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | |
|---|---|
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 12/15/2014
Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

| | |
|--|---|
| Acute Tox. 1 (Inhalation:dust,mist) | Acute toxicity (inhalation:dust,mist) Category 1 |
| Acute Tox. 4 (Inhalation:dust,mist) | Acute toxicity (inhalation:dust,mist) Category 4 |
| Acute Tox. 4 (Oral) | Acute toxicity (oral) Category 4 |
| Aquatic Acute 1 | Hazardous to the aquatic environment - Acute Hazard Category 1 |
| Aquatic Acute 3 | Hazardous to the aquatic environment - Acute Hazard Category 3 |
| Aquatic Chronic 1 | Hazardous to the aquatic environment - Chronic Hazard Category 1 |
| Aquatic Chronic 3 | Hazardous to the aquatic environment - Chronic Hazard Category 3 |
| Carc. 1B | Carcinogenicity Category 1B |
| Carc. 2 | Carcinogenicity Category 2 |
| Comb. Dust | Combustible Dust |
| Eye Irrit. 2A | Serious eye damage/eye irritation Category 2A |
| Flam. Sol. 1 | Flammable solids Category 1 |
| Repr. 1A | Reproductive toxicity Category 1A |
| Repr. 2 | Reproductive toxicity Category 2 |
| Resp. Sens. 1B | Respiratory sensitisation Category 1B |
| Skin Sens. 1 | Skin sensitization Category 1 |
| STOT RE 1 | Specific target organ toxicity (repeated exposure) Category 1 |
| STOT SE 3 | Specific target organ toxicity (single exposure) Category 3 |
| Water-react. 2 | Substances and mixtures which in contact with water emit flammable gases Category 2 |
| H228 | Flammable solid |
| | May form combustible dust concentrations in air |
| H261 | In contact with water releases flammable gases |
| H302 | Harmful if swallowed |
| H317 | May cause an allergic skin reaction |
| H319 | Causes serious eye irritation |
| H330 | Fatal if inhaled |
| H332 | Harmful if inhaled |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled |
| H335 | May cause respiratory irritation |
| H350 | May cause cancer |
| H351 | Suspected of causing cancer |
| H360 | May damage fertility or the unborn child |
| H361 | Suspected of damaging fertility or the unborn child |
| H372 | Causes damage to organs through prolonged or repeated exposure |
| H400 | Very toxic to aquatic life |
| H402 | Harmful to aquatic life |

Aluminum Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | |
|------|--|
| H410 | Very toxic to aquatic life with long lasting effects |
| H412 | Harmful to aquatic life with long lasting effects |

Party Responsible for the Preparation of This Document

ThyssenKrupp Materials NA, Inc.

22355 W. Eleven Mile Road

Southfield, Michigan 48034

TEL: 248-233-5681

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

North America GHS US 2012 & WHMIS 2

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| |
|--|

Permethrin

AgNova Technologies Pty Ltd
Suite 3/935 Station Street
Box Hill North Vic 3129 Australia
(03) 9899 8100
www.agnova.com.au
1800 033 111(24 hrs)
Poison Information Centre 13 11 26

| |
|--|
| |
|--|



Pictogram: Health Hazard

Carcinogenicity - Category 1: 'Danger'

Hazard Statement: H350 May cause cancer.

Germ Cell Mutagenicity - Category 1: 'Danger'

Hazard Statement: H340 May cause genetic defects.

Aspiration Hazard - Category 1: 'Danger'

Hazard Statement: H304 May be fatal if swallowed and enters airways.

Precautionary Statements:

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P281 Use personal protective equipment as required.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P331 Do NOT Induce vomiting.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local and state regulations.

This product is not classified as a Dangerous Good under the Australian Code for the Transport of Dangerous Goods by Road and Rail. See section 14.
Schedule 6

| |
|--|
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|------------------------------------|------------|--------|
| | | |
| Permethrin (40:60) technical grade | 52645-53-1 | >50% |
| Hydrocarbon solvent | 64742-95-6 | 30-60% |
| Emulsifier | - | 1-9% |

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Move person to fresh air and keep at rest until recovered. Remove any contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. If breathing laboured and patient cyanotic (blue) ensure airways are clear and have qualified person give oxygen through a face mask. If breathing has stopped, apply artificial respiration at once. In event of cardiac arrest, apply external cardiac massage. If any signs or symptoms occur or persist, get medical attention.

If poisoning occurs, contact a doctor or Poisons Information Centre. DO NOT induce vomiting. Give a glass of water.

Date of Issue: November 2016

Will irritate the skin. Avoid contact with skin. If skin contact occurs remove contaminated clothing and wash affected areas thoroughly with soap and water. Wash contaminated clothing before reuse. If swelling, redness, blistering or irritation occurs, seek medical advice.

Will damage the eyes. Avoid contact with eyes. If product gets in eyes, wash it out immediately with copious quantities of water for 15 minutes.

Provide washing facilities in the workplace.

Symptoms that may arise if the product is mishandled are nausea, vomiting, diarrhoea and in cases of severe poisoning, central nervous system depression, leading to tremors, convulsions and coma, due to the hydrocarbon content.

Treat symptomatically. No specific antidote known.

Water fog (if unavailable, use fine water spray), foam, dry agent (carbon dioxide, dry chemical powder).

In case of fire, product may release smoke or hazardous decomposition products.

When fighting a major fire, wear SCBA and structural firefighters uniform. Do not allow fire-water to enter drains.

Avoid contact with eyes and skin. Do NOT inhale spray mist. Shut off all possible sources of ignition. DO NOT smoke. Keep all bystanders away. Wear full length clothing and PVC gloves. Reposition any leaking containers so as to minimize further leakage.

Avoid contamination of waterways.

Dam and absorb spill with an absorbent material (e.g. sand or soil). Shovel the absorbed material into drums. Disposal of the absorbed material will depend upon the extent of the spill

- For quantities up to 50 L of product bury in a secure landfill site
- For quantities greater than 50 L seek advice from the manufacturer (use emergency contact number above) before attempting disposal. Contain in a secure location until disposal method is established.

Decontaminate the spill area with detergent and water and rinse with the smallest volume of water practicable.

Avoid contact with eyes and skin. Do NOT inhale spray mist. When opening the container and preparing spray, wear elbow-length PVC gloves and face shield. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, face shield and contaminated clothing.

Store in closed, original container, in a dry, cool, well ventilated area, out of direct sunlight.

Provide washing facilities in the workplace.

The ES-TWA is 10 mg/m³

Exposure Potential: Swallowing is unlikely under normal conditions of usage. Significant skin uptake does not occur. Inhalation is a possible route of exposure. This product is diluted with water prior to use as a spray. This diluted form is less toxic by all routes of exposure.

Re-entry period: Do not enter treated areas without protective clothing for 12 hours after application.

No data available

No data available

No special requirements. Product is used outdoors. Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Exposure Standards. Keep containers closed when not in use. For space applications, wear elbow-length PVC gloves and face shield.

Skin and Eye Protection: Elbow-length PVC gloves, face shield.

Hygiene Measures: After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

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Clear dark amber liquid

Aromatic

Not available

Not available

Not available

Not available

Practically insoluble

1.05 g/cm³

Not available

>61°C

Not available

Not available

Combustible liquid C1

Stable under normal conditions

Hazardous polymerisation is not possible

None

Keep away from strong oxidising agents

In case of fire, product may release smoke or hazardous decomposition products.

HARMFUL. Tests on rats indicate this product is HARMFUL following a single dose of the active ingredient.
 $LD_{50} = 806 \text{ mg/kg (male); } 814 \text{ mg/kg (female)}$

NOT HARMFUL. Tests on rabbits indicate this product is NOT HARMFUL following skin contact with active ingredient.
 $LD_{50} = > 2000 \text{ mg/kg}$

HARMFUL. Tests on rats indicate this product is HARMFUL due to inhalation of active ingredient.
 $LC_{50} = 2.3 \text{ mg/L/4 hours}$

Slight irritant

Slight irritant

Moderate sensitiser. Repeated or prolonged skin contact may lead to allergic contact dermatitis. Facial skin contact may cause

temporary facial skin numbness.

Permethrin technical has been extensively tested in mammals and in test tube systems. No evidence of any mutagenic effects has been found.

Permethrin technical has been extensively tested in mammals and in test tube systems. No evidence of any carcinogenic effects has been found. Short term tests have shown that it is unlikely to be a carcinogenic hazard to man. Studies in animals have shown that repeated doses produce no significant effects.

Permethrin technical has been extensively tested in mammals and in test tube systems. No evidence of any neurotoxic, teratogenic or reproductive effects has been found. Studies in animals have shown that repeated doses produce no significant effects.

No data available

—

No data available

—

May be fatal if swallowed and enters airways

The aromatic petroleum hydrocarbon liquid may cause central nervous system depression and narcosis.

No case of human poisoning due to this product is on record. Symptoms that may arise if the product is mishandled are nausea, vomiting, diarrhoea and in cases of severe poisoning, central nervous system depression, leading to tremors, convulsions and coma, due to the hydrocarbon content.

The active ingredient Permethrin is very toxic to aquatic organisms. Contamination of waterways should be strictly avoided. DO NOT apply under weather conditions or from spraying equipment which could be expected to cause spray to drift onto adjacent areas, particularly streams, rivers or other waterbodies.

Very Toxic.

LC₅₀ (96 h) rainbow trout = 2.5 µg/L

LC₅₀ (48 h) rainbow trout = 5.4 µg/L

LC₅₀ (48 h) bluegill sunfish = 1.8 µg/L

Very Toxic.

LC₅₀ (48 h) water flea (Daphnia) = 0.6 µg/L

Practically non-toxic

LD₅₀ chicken = >3000 mg/kg

LD₅₀ Japanese quail = >13500 mg/kg

Toxic.

LD₅₀ (24 h) = 0.098 µg/bee

There is evidence of degradation in soil and water. The half life in soil is less than 38 days.

It has a high potential for bioaccumulation but is rapidly eliminated from fish (about 80% in 14 days).

This substance has low mobility in the soil.

Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

Not dangerous goods under the
ADG7 when being transported in IBCs or other receptacles <500
L (kg), Special Provision AU01).

Classified as Dangerous Goods for transport by
sea and air according to the criteria of the UN Model Regulations
for Transport of Dangerous Goods 13th Edition

3082

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S. (contains permethrin)

Class 9

Not applicable

III

Marine Pollutant

none

2X

Schedule 6

Registered according to the Agricultural and Veterinary
Chemicals Act 1994.

APVMA Product Number: 63975

Ambush[®] is a Registered Trademark of AgNova Technologies Pty
Ltd.

ADG7 – Australian Dangerous Goods Code for Road and Rail
Transport, 7th Edition

APVMA – Australian Pesticides and Veterinary Medicines Authority

GHS – Globally Harmonized System of Classification and Labelling of
Chemicals



Date of Issue: November 2016

SUSMP – Standard for the Uniform Scheduling of Medicines and Poisons

TWA – Time Weighted Average

November 2016.

To comply with GHS.

Manufacturer product safety data and published data

This SDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this SDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

The opinions expressed herein are those of qualified experts with the manufacturer. Since the use of this information and of these opinions and the conditions of use of this product are not within the control of AgNova Technologies Pty Ltd, it is the user's obligation to determine the conditions of safe use of the product.

END OF SDS

Safety Data Sheet

Ammonia Solution, Household

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Ammonia Solution, Household
Recommended Use: Science education applications
Synonyms: Ammonia Aqueous, Aqua Ammonia, Ammonium Solution
Distributor: Carolina Biological Supply Company
2700 York Road, Burlington, NC 27215
1-800-227-1150
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

DANGER



Harmful if swallowed. Causes severe skin burns and eye damage. Causes serious eye damage. Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

GHS Classification:

Skin Corrosion/Irritation Category 1A, Serious Eye Damage/Eye Irritation Category 1, Hazardous to the aquatic environment - Acute Category 1, Hazardous to the aquatic environment - Chronic Category 2, Acute Toxicity - Oral Category 4

Section 3 Composition / Information on Ingredients

| <u>Chemical Name</u> | <u>CAS #</u> | <u>%</u> |
|----------------------|--------------|----------|
| Water | 7732-18-5 | 90 |
| Ammonium Hydroxide | 1336-21-6 | 10 |

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Eyes: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Skin Contact: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
Ingestion: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

Section 5 Firefighting Procedures

Extinguishing Media: Use dry chemical, CO2 or appropriate foam.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: Dangerous fire hazard; emits irritating fumes and liquid can inflict burns. Ammonia hydroxide is non-combustible and non explosive, but ammonia vapors released from solution can form an explosive mixture in air.
Hazardous Combustion Products: Carbon dioxide, Carbon monoxide

Safety Data Sheet

Section 6

Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled:

Exposure to the spilled material may be severely irritating or toxic. Follow personal protective equipment recommendations found in Section 8 of this SDS. Personal protective equipment needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the expertise of employees in the area responding to the spill. Never exceed any occupational exposure limits. Wear a self-contained breathing apparatus and appropriate Personal protection. (See Section 8.) Ventilate the contaminated area. Persons not wearing appropriate protective equipment should be excluded from area of spill until clean-up has been completed.

Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation. Avoid creating dusts. Cover material with absorbent and moisten and collect for disposal. Collect spillage.

Section 7

Handling and Storage

Handling:

Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Keep away from ... (incompatible materials to be indicated by the manufacturer). Do not breathe dust/vapor. Do not get in eyes, on skin, or on clothing. Retained residue may make empty containers hazardous; use caution.

Storage:

Store locked up. Keep container tightly closed in a cool, well-ventilated place.

Storage Code:

White - Corrosive. Separate acids from bases; separate oxidizer acids from organic acids.

Section 8

Protection Information

Chemical Name

No data available

ACGIH

(TWA)
N/A

(STEL)
N/A

OSHA PEL

(TWA)
N/A

(STEL)
N/A

Control Parameters

Engineering Measures:

No exposure limits exist for the constituents of this product. General room ventilation might be required to maintain operator comfort under normal conditions of use.

Personal Protective Equipment (PPE):

Lab coat, apron, eye wash, safety shower.

Respiratory Protection:

No respiratory protection required under normal conditions of use.

Eye Protection:

Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection:

Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves:

Butyl rubber, Impervious rubber, Natural latex, Natural rubber, Nitrile - Extra Thick (8 mm)

Section 9

Physical Data

Formula: $\text{NH}_4^+ \text{OH}^-$

Molecular Weight: 35.06

Appearance: Colorless

Odor: Strong Ammonia

Odor Threshold: No data available

pH: No data available

Melting Point: No data available

Boiling Point: 100 °C

Flash Point: No data available

Flammable Limits in Air: NH_3 gas LEL 16% UEL 25%

Vapor Pressure: 115 mmHg at 20 °C for 10% solution

Evaporation Rate (BuAc=1): N/A

Vapor Density (Air=1): 0.6 NH_3

Specific Gravity: 0.9

Solubility in Water: Soluble

Log Pow (calculated): No data available

Autoignition Temperature: No data available

Decomposition Temperature: No data available

Viscosity: No data available

Percent Volatile by Volume: 100%

Section 10

Reactivity Data

Safety Data Sheet

Reactivity: No data available
Chemical Stability: Stable under normal conditions.
Conditions to Avoid: None known.
Incompatible Materials: Water-reactive materials, Copper, Iron Salts, Zinc
Hazardous Polymerization: Will not occur

Section 11 Toxicity Data

Routes of Entry: Inhalation.
Symptoms (Acute): Respiratory disorders
Delayed Effects: No data available

Acute Toxicity:

| Chemical Name | CAS Number | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|--------------------|------------|------------------------------|-------------|---|
| Water | 7732-18-5 | Oral LD50 Rat 90000 mg/kg | | |
| Ammonium Hydroxide | 1336-21-6 | Oral LD50 Rat = 350 mg/kg | | INHALATION LC50 Mouse 4500 ppm INHALATION LC50 Mouse 21430 ppm INHALATION LC50 Rat 9500 ppm |

Carcinogenicity:

| Chemical Name | CAS Number | IARC | NTP | OSHA |
|-------------------|------------|------------|------------|------------|
| No data available | | Not listed | Not listed | Not listed |

Chronic Effects:

Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.
Target Organ Effects:
Acute: See Section 2
Chronic: Mutation data cited., Not listed as a carcinogen by IARC, NTP or OSHA.

Section 12 Ecological Data

Overview: Extreme ecological hazard. This product may be highly toxic to plants and/or wildlife. Keep out of waterways.
Mobility: No data
Persistence: No data
Bioaccumulation: No data
Degradability: No data
Other Adverse Effects: No data

| Chemical Name | CAS Number | Eco Toxicity |
|--------------------|------------|--|
| Water | 7732-18-5 | No data available |
| Ammonium Hydroxide | 1336-21-6 | 96 HR LC50 PIMEPHALES PROMELAS 8.2 MG/L 48 HR EC50 DAPHNIA PULEX 0.66 MG/L 48 HR EC50 WATER FLEA 0.66 MG/L |

Section 13 Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s): Not Determined

Safety Data Sheet

Section 14

Transport Information

Ground - DOT Proper Shipping Name:

*** Consumer commodity/ORM-D for 500 ml and 4 L bottles. ***

Air - IATA Proper Shipping Name:

Not regulated for air transport by IATA.

Section 15

Regulatory Information

TSCA Status:

All components in this product are on the TSCA Inventory.

| Chemical Name | CAS Number | § 313 Name | § 304 RQ | CERCLA RQ | § 302 TPQ | CAA 112(2) TQ |
|--------------------|------------|------------|------------|-----------------------------------|-----------|---------------|
| Ammonium Hydroxide | 1336-21-6 | No | 1000 lb RQ | 1000 lb final RQ; 454 kg final RQ | No | No |

Section 16

Additional Information

Revised: 09/09/2015**Replaces: 08/19/2015****Printed: 10-29-2015**

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

| | | | |
|--------|---|------|---|
| ACGIH | American Conference of Governmental Industrial Hygienists | NTP | National Toxicology Program |
| CAS | Chemical Abstract Service Number | OSHA | Occupational Safety and Health Administration |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act | PEL | Permissible Exposure Limit |
| DOT | U.S. Department of Transportation | ppm | Parts per million |
| IARC | International Agency for Research on Cancer | RCRA | Resource Conservation and Recovery Act |
| N/A | Not Available | SARA | Superfund Amendments and Reauthorization Act |
| | | TLV | Threshold Limit Value |
| | | TSCA | Toxic Substances Control Act |
| | | IDLH | Immediately dangerous to life and health |



27-Dec-2011

10-Feb-2015

1



Buckeye Aqua Dust

BE-5408

5408

Dust Mop Treatment, Water/Oil Emulsion.

Buckeye International, Inc.
2700 Wagner Place
Maryland Heights, MO 63043 USA

1-651-632-8956 (International)
1-800-303-0441 (North America)
INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)



White opaque solution

Liquid

Spice

This chemical does not meet the hazardous criteria set forth by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). However, this Safety Data Sheet (SDS) contains valuable information critical to the safe handling and proper use of this product. This SDS should be retained and available for employees and other users of this product.



| | | |
|---------------------------------|------------|------|
| Aliphatic Petroleum Distillates | 64741-44-2 | 10.4 |
|---------------------------------|------------|------|

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.



Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention if irritation develops or persists.

Wash skin with soap and water. Get medical attention if irritation develops or persists.

Remove to fresh air.

Give two large glasses of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Immediately call a poison center or doctor/physician.

May be irritating to skin and eyes.

Treat symptomatically.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Not determined.

Combustion products may be toxic.

Carbon oxides. Sulfur oxides. Nitrogen oxides (NOx).

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Use personal protection recommended in Section 8.

Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS.

Prevent further leakage or spillage if safe to do so.

Pick up with mop, wet/dry vac, or absorbent material. Wash area with detergent solution followed by a clear water rinse. Allow floor to dry before allowing traffic.

Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling. Keep containers closed when not in use.

Keep container tightly closed and store in a cool, dry and well-ventilated place. Store at room temperature.

Chlorine bleach.

No exposure limits noted for ingredient(s). The following information is given as general guidance

Ensure adequate ventilation, especially in confined areas. Eyewash stations. Showers.

Risk of contact: Wear approved safety goggles.

Wear rubber gloves or other impervious gloves.

No protection is ordinarily required under normal conditions of use and with adequate ventilation.

Handle in accordance with good industrial hygiene and safety practice.

Liquid
White opaque solution
White

Spice
Not determined

6.8 - 7.2 (conc. and 1:4 dilution)

Not determined

100 °C / 212 °F

None

1.0

Liquid-Not applicable

Not applicable

Not applicable

Not determined

Not determined

0.98

Miscible in water

Not determined

Not determined

Not determined

Not determined

Not determined

Not determined

Not determined

Tag Closed Cup
(Water = 1)

Not reactive under normal conditions.

Stable under recommended storage conditions.

None under normal processing.

Hazardous polymerization does not occur.

Keep separated from incompatible substances. Keep out of reach of children.

Chlorine bleach.

Carbon oxides. Nitrogen oxides (NOx). Sulfur oxides.

Avoid contact with eyes.

Avoid contact with skin.

Avoid breathing vapors or mists.

Do not ingest.

| | | | |
|---|----------------------|-------------------------|-------------------------|
| Aliphatic Petroleum Distillates 64741-44-2 | = 5000 mg/kg (Rat) | > 2000 mg/kg (Rabbit) | = 1.72 mg/L (Rat) 4 h |
| Tall Oil Fatty Acid 61790-12-3 | = 7600 mg/kg (Rat) | - | - |

Please see section 4 of this SDS for symptoms.

Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Not determined

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

| | | | | |
|-----------------------------------|--|--|--|--|
| | | | | |
| Tall Oil Fatty Acid 61790-12-3 | 1000: 72 h Pseudokirchneriella subcapitata mg/L EC50 | | | |

Not determined.

Not determined.

| | |
|---|------|
| | |
| Aliphatic Petroleum Distillates 64741-44-2 | 6 |
| Tall Oil Fatty Acid 61790-12-3 | 5.98 |

Not determined

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

| | | | | |
|--|--|-----------------------------------|--|--|
| Octylphenozypolyethoxyetha nol 9036-19-5 | | Included in waste stream: K060 | | |
|--|--|-----------------------------------|--|--|

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

Not regulated

Not regulated

Not regulated

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| | | | | | | | | | | |
|------------------------------------|---------|---|--|---------|--|---------|---|---------|---|---|
| | | | | | | | | | | |
| Aliphatic Petroleum Distillates | Present | X | | Present | | Present | X | Present | X | X |

***TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory*

***DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List*

***EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances*

***ENCS** - Japan Existing and New Chemical Substances*

***IECSC** - China Inventory of Existing Chemical Substances*

***KECL** - Korean Existing and Evaluated Chemical Substances*

***PICCS** - Philippines Inventory of Chemicals and Chemical Substances*

***AICS** - Australian Inventory of Chemical Substances*

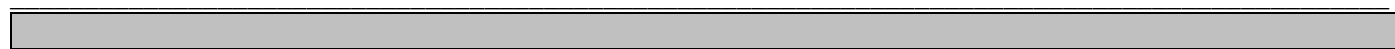
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

This product does not contain any Proposition 65 chemicals.

This product does not contain any substances regulated under applicable state right-to-know regulations



| | | | | |
|-------|----------------|----------------|----------------|----------------|
| <hr/> | 1 | 0 | 0 | Not determined |
| <hr/> | Not determined | Not determined | Not determined | Not determined |

27-Dec-2011
10-Feb-2015
New format

Material Safety Data Sheet

Revision Date 20-Mar-2013

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code DA6820
Product name Arrive
Recommended Use Cleaner

Supplier Drummond, A Lawson Brand
Lawson Products, Inc.
8770 W.Bryn Mawr Ave.- Suite 900
Chicago, IL 60631
1-866-529-7664

Emergency telephone number (888) 426-4851

2. HAZARDS IDENTIFICATION

Emergency Overview
Contents under pressure. Flammable.

Aggravated Medical Conditions
None Known.

Principal Routes of Exposure
Skin. Inhalation. Ingestion.

Potential health effects

Eyes No hazard under normal industrial and institutional use.

Skin Prolonged skin contact may defat the skin and produce dermatitis.

Inhalation Chronic overexposure can cause: . Central nervous system effects. Loss of coordination. Weakness. Fatigue. Confusion. Blurred vision. Misuse by deliberately concentrating vapors and inhaling contents can be harmful or fatal.

Ingestion Not likely to occur. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

3. COMPOSITION / INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | Weight % |
|---------------------------|-----------|----------|
| Non-Hazardous Ingredients | N/A | > 90 |
| D-Limonene | 5989-27-5 | 3-5 |
| Propane | 74-98-6 | 1-3 |
| N-Butane | 106-97-8 | 1-3 |

4. FIRST AID MEASURES

Eye contact Flush with plenty of water for at least 15 minutes. Keep eye wide open while rinsing. Seek medical attention if irritation persists.

Skin contact Remove contaminated clothing. Flush skin with water and follow by washing skin with soap and water. Seek medical attention if irritation persists.

Ingestion Rinse mouth. Do Not induce vomiting without medical advice. Keep head below hips if vomiting occurs. Vomiting may cause aspiration pneumonia. Seek medical attention.

Inhalation Contact physician if breathing difficulty develops.

5. FIRE FIGHTING MEASURES

Flash point °C < -104.4
Flash point °F < -156
Method No information available

Autoignition temperature °C Not Applicable
Autoignition temperature °F Not Applicable

Flammability Limits (% in Air)
Upper 9.2
Lower 1.8

Suitable extinguishing media
Dry chemical powder. Carbon dioxide (CO2). Water spray. Foam.

Special protective equipment for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

Fire and Explosion Hazards
In the event of fire and/or explosion do not breathe fumes. Do not enter any enclosed or confined fire space without proper protective equipment. Water should be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat . Flash back possible over considerable distance.

Sensitivity to shock
No information available.

Sensitivity to static discharge
No information available.

6. ACCIDENTAL RELEASE MEASURES

Methods for cleaning up
Eliminate all sources of ignition. Shut off source of leak if safe to do so. Ventilate area to maintain exposure below permissible exposure limits. Soak up with inert absorbent material. Dispose of absorbent in accordance with local, state and federal regulations. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

7. HANDLING AND STORAGE**Handling**

Do not puncture or incinerate. Keep away from open flames, hot surfaces and sources of ignition. Ensure adequate ventilation. Avoid contact with skin and eyes. Avoid breathing vapors. Contents under pressure.

Storage

Keep away from direct sunlight. Do not store sealed containers near heat. Keep tightly closed in a dry and cool place. Follow all label directions. Keep out of the reach of children.

NFPA Storage Code

Store as Level 1 Aerosol (NFPA 30B)

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| Chemical Name | OSHA PEL (TWA) | OSHA PEL (Ceiling) | ACGIH OEL (TWA) | ACGIH OEL (STEL) |
|---------------------------|------------------------------------|--------------------|-----------------|------------------|
| D-Limonene | - | - | - | - |
| Propane | 1000 ppm 1800 mg/m ³ | - | 1000 ppm | - |
| N-Butane | - | - | 1000 ppm | - |
| Non-Hazardous Ingredients | - | - | - | - |

Ventilation and Environmental Controls

Normal ventilation is adequate.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

Respiratory protection

None required if adequate ventilation is provided.

Hand Protection

Gloves are not required in normal use. Gloves are recommended in case of open wounds that are not appropriately protected.

Eye protection

None necessary under normal use conditions.

Skin and body protection

None necessary under normal conditions

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|--------------------|
| Form | Aerosol |
| Color | White |
| Odor | Citric |
| Odor Threshold | Not Applicable |
| pH | 9.5 |
| Specific Gravity | 0.9545 |
| Vapor pressure | 70-90 PSI @ 70 F |
| Vapor density | Not Applicable |
| Evaporation Rate | Not Applicable |
| Water solubility | Moderately soluble |
| Partition Coefficient (n-octanol/water) | Not Applicable |
| Boiling point/range °C | 96.1 |
| Boiling point/range °F | 204.8 |
| Melting point/range °C | Not Applicable |

Melting point/range °F

Not Applicable

Flash point °C

< -104.4

Flash point °F

< -156

10. STABILITY AND REACTIVITY**Stability**

Stable under normal conditions.

Conditions to avoid

Avoid direct sunlight. Avoid heat, sparks, and other sources of ignition.

Incompatibility

None known.

Hazardous Decomposition Products

Nitrogen oxides (NOx).

Polymerization

Hazardous polymerization does not occur

11. TOXICOLOGICAL INFORMATION**Component Information**

| Chemical Name | LD50 (oral, rat) | LD50 (dermal, rat/rabbit) | LC50 (inhalation, rat) |
|---|------------------|---------------------------|------------------------|
| <i>D-Limonene</i> 5989-27-5 | 4400 mg/kg | 2000 mg/kg | - |
| <i>Propane</i> 74-98-6 | - | - | 658 mg/L |
| <i>N-Butane</i> 106-97-8 | - | - | 658 mg/L |
| <i>Non-Hazardous Ingredients</i> N/A | - | - | - |

Synergistic Products

None known

Potential health effects**Sensitization**

None known

Chronic toxicity

None known

Mutagenic effects

None known

Teratogenic effects

None known

Reproductive toxicity

None known

Target Organ Effects

See Section 2

Carcinogenic effects

See table below

Product code **DA6820**Product name **Arrive**

| Chemical Name | ACGIH OEL - Carcinogens | IARC | NTP - Known Carcinogens | NTP - Suspected Human Carcinogens | OSHA RTK Carcinogens |
|------------------------------|-------------------------------|------------|-------------------------------|--|----------------------------|
| D-Limonene | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Propane | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| N-Butane | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Non-Hazardous Ingredients | | | | | |

12. ECOLOGICAL INFORMATION**13. DISPOSAL CONSIDERATIONS****Disposal Information**

As supplied, this product is a RCRA Hazardous Waste . Do not puncture or incinerate. Dispose in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION**DOT**

Consumer commodity, ORM-D

TDG

Consumer commodity, ORM-D

15. REGULATORY INFORMATION**State Regulations**

| Chemical Name | New Jersey - RTK | Pennsylvania - RTK | California Prop. 65 |
|---------------------------|---------------------|-----------------------|------------------------|
| D-Limonene | Not Listed | Not Listed | Not Listed |
| Propane | Listed | Listed | Not Listed |
| N-Butane | Not Listed | Listed | Not Listed |
| Non-Hazardous Ingredients | Not Listed | Not Listed | Not Listed |

International Inventories

| Chemical Name | EINECS | DSL | NDSL | TSCA |
|---------------------------|--------|-----|------|------|
| D-Limonene | X | X | - | X |
| Propane | X | X | - | X |
| N-Butane | X | X | - | X |
| Non-Hazardous Ingredients | - | - | - | - |

CPR

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all of the information required by the Controlled Product Regulations

16. OTHER INFORMATION**HMIS**

Health - 1
Flammability - 1
Physical Hazard - 0

Prepared By

V. Shargorodsky, Regulatory Affairs
Engineer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.



JAMES AUSTIN COMPANY

Safety Data Sheet

James Austin Company

Austin's A-1 Bleach

SDS Number: 10

Revision Date: 11/2/2017

Page 1 of 6

1

PRODUCT AND COMPANY IDENTIFICATION

Manufacturer

James Austin Company
115 Downieville Road
PO Box 827
Mars, PA 16046

Phone: 724-625-1535
Fax: 724-625-3288
Web: www.jamesaustin.com

Product Name: Austin's A-1 Bleach
Revision Date: 11/2/2017
Version: 3.0
SDS Number: 10
Common Name: Sodium Hypochlorite
CAS Number: 7681-52-9
Product Code: 54200-00039
EPA Number: 1672-20004
RCRA Number: D002 (For pH greater than 12.50)
Chemical Formula: NaOCl
Synonyms: Bleach, Liquid Bleach, Soda Bleach
Internal ID: 90000360, 9000361, 90041000, 91000618

Emergency phone number: CHEMTREC
US: 1-800-424-9300 Canada: 1-800-567-7455

Poison Control Center: 1-800-222-1222

2

HAZARDS IDENTIFICATION

GHS Signal Word:
DANGER

GHS Hazard Pictograms:



GHS Classifications:
Health, Serious Eye Damage/Eye Irritation, 1
Health, Skin corrosion/irritation, 2
Environmental, Hazards to the aquatic environment - Acute, 1
Environmental, Hazards to the aquatic environment - Chronic, 4

GHS Phrases:
H318 - Causes serious eye damage
H315 - Causes skin irritation



JAMES AUSTIN COMPANY

Safety Data Sheet

James Austin Company

Austin's A-1 Bleach

SDS Number: 10

Revision Date: 11/2/2017

Page 2 of 6

H400 - Very toxic to aquatic life

H413 - May cause long lasting harmful effects to aquatic life

GHS Precautionary Statements:

P220 - Keep/Store away from clothing/combustible materials.

P260 - Do not breathe dust/fume/gas/mist/vapors/spray.

P264 - Wash exposed skin thoroughly after handling.

P262 - Do not get in eyes, on skin, or on clothing.

P270 - Do not eat, drink or smoke when using this product.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P273 - Avoid release to the environment.

P301+330+331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P312 - Call a POISON CENTER or doctor/physician if you feel unwell.

P303+361+353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+351+338 - IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do.

Continue rinsing.

P309+311 - IF exposed or you feel unwell: Call a POISON CENTER or doctor/physician.

P401 - Store upright in a cool, dry place.

P501 - Dispose of contents/container to an approved waste disposal plant.

3

COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

| Cas # | Percentage | Chemical Name |
|-----------|--------------|---------------------|
| 7681-52-9 | 5.25-5.40% | Sodium hypochlorite |
| 7732-18-5 | 94.60-94.75% | Water |

4

FIRST AID MEASURES

| | |
|---------------|---|
| Inhalation: | In the event of exposure to excessive vapor levels, move the individual to fresh air and seek medical attention if symptoms develop or persist. |
| Skin Contact: | Immediately rinse with plenty of water while removing any contaminated clothing. If irritation develops or persists, seek medical attention. Wash contaminated clothing before reuse. |
| Eye Contact: | Rinse immediately with plenty of water. Keep eye(s) wide open while rinsing. Avoid rubbing the affected area. Seek medical attention if needed. |
| Ingestion: | Do NOT induce vomiting. Rinse mouth thoroughly with water. Drink plenty of water. Call a physician or poison control center. |

NOTE TO PHYSICIAN:

Probable mucosal damage may contraindicate the use of gastric lavage.



JAMES AUSTIN COMPANY

Safety Data Sheet

James Austin Company

Austin's A-1 Bleach

SDS Number: 10

Revision Date: 11/2/2017

Page 3 of 6

5 FIRE FIGHTING MEASURES

| | |
|---------------------|--------------------------|
| Flammability: | Not flammable |
| Flash Point: | No information available |
| Flash Point Method: | No information available |
| Burning Rate: | No information available |
| Autoignition Temp: | No information available |
| LEL: | No information available |
| UEL: | No information available |

Highly exothermic reactions with organic materials and oxidizable materials may cause fires.

In the event of a fire, wear full protective clothing and MSHA/NIOSH self-contained breathing apparatus with a full facepiece operated in the pressure-demand or other positive pressure mode.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment; Water spray may be used to keep fire exposed containers cool.

6 ACCIDENTAL RELEASE MEASURES

Use personal protective equipment as required/recommended. Evacuate public to a safe area. Avoid contact with skin, eyes, and clothing.

Prevent spills from entering sewers or waterways. Contain run-off using diking composed of a suitable material. Soak up liquid on inert absorbant and transfer to an approved container. Clean contaminated surface thoroughly.

7 HANDLING AND STORAGE

| | |
|-----------------------|---|
| Handling Precautions: | Use personal protective equipment as required/recommended. Use only with adequate ventilation. Avoid contact with skin, eyes, and clothing. Use suitable respiratory equipment in case of inadequate ventilation. |
| Storage Requirements: | Store using properly labeled containers in a cool, dry, well ventilated area. Keep out of reach of children. Separate from incompatible materials. |

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|----------------------------|--|
| Engineering Controls: | Use adequate ventilation, especially in confined spaces |
| Personal Protective Equip: | Chemical splash goggles; Face shield; Neoprene gloves; NIOSH approved respirator; Apron. |



JAMES AUSTIN COMPANY

Safety Data Sheet

James Austin Company

Austin's A-1 Bleach

SDS Number: 10

Revision Date: 11/2/2017

Page 4 of 6

9 PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---------------------|---------------|-------------|------------------------------|
| Appearance: | Clear yellow | Odor: | Pungent; Chlorine |
| Physical State: | Liquid | Solubility: | Completely miscible in water |
| Spec Grav./Density: | 1.070 - 1.080 | | |
| pH: | 12-13 | | |

10 STABILITY AND REACTIVITY

| | |
|---------------------------|---|
| Stability: | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Conditions to Avoid: | Contact with incompatible materials. Excessive heat and exposure to light. Reacts violently with strong acids producing chlorine gas. Contact with amines will result in chloramines. |
| Materials to Avoid: | Strong oxidizing agents, acids, metals, organic compounds, ammonia. Oxidizable or combustible materials. |
| Hazardous Decomposition: | None under normal processing. |
| Hazardous Polymerization: | Will not occur. |

11 TOXICOLOGICAL INFORMATION

Toxicity Data:

Eye Effects: Causes damage to eyes.
Skin Effects: May cause severe irritation to skin.
Acute Inhalation Effects: Vapors and mist may irritate throat and respiratory system; may cause coughing.
Chronic Effects: Eyes, skin, gastrointestinal tract, respiratory system.
Carcinogenicity: Not a known carcinogen.
Mutagenicity: Not Known.
Teratogenicity: Not Known.

Acute Toxicity:

Oral (LD 50): 8200 mg/kg (Rat)

Dermal (LD 50): >10,000 mg/kg (Rabbit)

Skin irritation: May cause redness or burns to skin

Eye irritation: May cause burns to eyes

Sensitization: No data available

Chronic Toxicity: IARC Group 3; Not classifiable as a human carcinogen



JAMES AUSTIN COMPANY

Safety Data Sheet

James Austin Company

Austin's A-1 Bleach

SDS Number: 10

Revision Date: 11/2/2017

Page 5 of 6

12 ECOLOGICAL INFORMATION

This product is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a national pollutant discharge elimination system (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your state water board or regional office of the EPA.

13 DISPOSAL CONSIDERATIONS

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the EPA Regional Office for guidance.

Do not re-use or refill this container. Triple rinse container promptly after emptying.

14 TRANSPORT INFORMATION

DOT: Not regulated. Classified as non-hazardous.

15 REGULATORY INFORMATION

COMPONENT / (CAS/PERC) / CODES

*Sodium hypochlorite (7681529 5.25-5.40%) CERCLA, CSWHS, MASS, PA, TSCA

*Water (7732185 94.60-94.75%) TSCA

REGULATORY KEY DESCRIPTIONS

CERCLA = Superfund clean up substance
CSWHS = Clean water Act Hazardous substances
MASS = MA Massachusetts Hazardous Substances List
PA = PA Right-To-Know List of Hazardous Substances
TSCA = Toxic Substances Control Act
OSHA-WAC = OSHA workplace Air Contaminants
TXAIR = TX Air Contaminants with Health Effects Screening Level

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

Precautionary Statements Hazards to Humans and Domestic Animals

DANGER

CORROSIVE. May cause severe skin and eye irritation or chemical burns to broken skin. Causes eye damage. Do not get in eyes, on skin or clothing. Wear safety glasses or goggles and rubber gloves when handling product. Wash thoroughly with soap and water after handling and before eating, drinking,



JAMES AUSTIN COMPANY

Safety Data Sheet

James Austin Company

Austin's A-1 Bleach

SDS Number: 10

Revision Date: 11/2/2017

Page 6 of 6

chewing gum, using tobacco or using the toilet. Avoid breathing vapors. Vacate poorly ventilated areas as soon as possible. Do not return until strong odors have dissipated.

Environmental Hazards: This product is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a national pollutant discharge elimination system (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your state water board or regional office of the EPA.

Physical or Chemical Hazards: Strong oxidizing agent. Mix only with water according to label instructions. Never mix this product with other chemicals such as toilet bowl cleaners, acids, detergents, organic matter or products containing ammonia or vinegar. To do so will release a chlorine gas, which is irritating to eyes, lungs, and mucous membranes, and in some cases can be fatal.

Additional Cautions: Do not use on copper, aluminum, iron, silverware, antique porcelain, or other metal objects.

16

OTHER INFORMATION

Author: James Austin Company

Publication Date: 12/11/2014

Disclaimer: James Austin Company provides this information without warranty. The information is believed to be accurate, but James Austin Company makes no representations as to its accuracy. The information should be used to make an independent determination and therefore, users are responsible to verify this data under their own operating conditions and methods. This information relates only to the product designated herein, and does not relate to its use in combination with other materials or processes.

FOR CHEMICAL EMERGENCY
Call INFOTRAC
1-800-535-5053
24 Hrs. per day, 7 days per week

MSDS# SF17

Page 1 of 4

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: STA FIL PRIMER

REVISION DATE: 06/05/98

REPLACES: 00/00/00

SECTION I - CHEMICAL PRODUCT/COMPANY IDENTIFICATION

CHEMICAL NAME: MIXTURE

CAS NO.: Not applicable.

DESCRIPTION: A WATER BASED, EMULSIFIED ASPHALT PRIMER

HAZARD CLASSIFICATION: HEALTH - 1; FIRE - 0; REACTIVITY - 0

SUPPLIER: REVERE- A PIONEER COMPANY

4529 INDUSTRIAL PARKWAY

CLEVELAND, OH 44135

INFORMATION: 800-321-1976

24 HR. EMERGENCY ASSISTANCE: 800-535-5053

SECTION II - HAZARDOUS INGREDIENTS/COMPOSITION

| COMPONENT | %WT | CAS No. | OSHA PEL (TWA) | AGCIH TLV (TWA) | ORAL LD50 | INHAL. LC50 | DERMAL LD50 |
|-------------------|-------|------------|-------------------|--------------------|--------------|----------------|----------------|
| PETROLEUM ASPHALT | 55-73 | 8052-42-4 | NA | 5mg/m3 | NA | NA | NA |
| METAL TALLATE | 0-6 | 143-19-1 | NA | NA | NA | NA | NA |
| NO.2 FUEL OIL | 0-18 | 68476-30-2 | NA | NA | NA | NA | NA |
| WATER | 27-45 | 7732-18-5 | NA | NA | NA | NA | NA |

N/A = NOT APPLICABLE

SECTION III - HAZARDS IDENTIFICATION

INHALATION HEALTH RISKS AND SYMPTOMS OF EXPOSURE: VAPORS AND FUME CAN CAUSE IRRITATION TO NASAL AND RESPIRATORY TRACT. EXTENDED EXPOSURE CAN CAUSE DIZZINESS AND NAUSEA.

SKIN CONTACT AND EYE CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE:

SKIN: HOT EMULSIFIED ASPHALT CAN CAUSE THERMAL BURNS.

EYES: HOT EMULSIFIED ASPHALT CAN CAUSE THERMAL BURNS.

SKIN ABSORPTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE: FREQUENT OR PROLONGED CONTACT CAN CAUSE IRRITATION AND DERMATITIS.

INGESTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE: PRODUCT HAS LOW ORDER OF ACUTE ORAL TOXICITY.

CARCINOGENICITY: NTP? NO IARC MONOGRAPHS? NO OSHA REGULATED? NO
NO CONSTITUENTS OF THIS PRODUCT ARE REGULATED AS CARCINOGENS.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NONE KNOWN

SECTION IV - FIRST AID PROCEDURES

INHALATION OVEREXPOSURE: MOVE PERSON TO FRESH AIR IMMEDIATELY. IF NOT BREATHING GIVE ARTIFICIAL RESUSCITATION. IMMEDIATELY CALL A PHYSICIAN

EYE CONTACT: HOT OR COLD MATERIAL - GENTLY FLUSH WITH LARGE AMOUNTS OF WATER. IMMEDIATELY CALL A PHYSICIAN.

SKIN CONTACT: HOT MATERIAL - GENTLY FLUSH WITH COLD WATER. CALL A PHYSICIAN
COLD MATERIAL - REMOVE EMULSIFIED ASPHALT WITH WATERLESS HAND CLEANER AND WASH WITH SOAP AND WATER. IF IRRITATION OCCURS, CALL A PHYSICIAN.

INGESTION: IF INGESTED, CALL A DOCTOR IMMEDIATELY, AND FOLLOW DIRECTIONS.

SECTION V - FIRE AND EXPLOSION HAZARD DATA

| | |
|----------------------------|------------------|
| FLASH POINT: | NA - WATER BASED |
| AUTO IGNITION TEMPERATURE: | >400°F |
| UPPER EXPLOSION LIMIT: | NA |
| LOWER EXPLOSION LIMIT: | NA |

EXTINGUISHING MEDIA: FOAM, CARBON DIOXIDE, DRY CHEMICAL, AND WATER SPRAY

SPECIAL FIREFIGHTING PROCEDURES: AVOID USING WATER STREAMS TO PREVENT FROTHING. USE WATER SPRAY TO COOL EXPOSED SURFACES.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE KNOWN

SECTION VI - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: STOP SOURCE OF LEAK. ELIMINATE SOURCES OF IGNITION. CONTAIN BY DIKING OR IMPOUNDING. ABSORBENTS BE USED TO CONTAIN SPILL. AFTER CONTAINMENT, EMULSIFIED ASPHALT CAN BE COLLECTED FOR DISPOSAL. ADVISE AUTHORITIES IF PRODUCT HAS ENTERED A SEWER OR WATER SOURCE. ASSURE CONFORMITY WITH LOCAL, STATE, AND FEDERAL GOVERNMENTAL REGULATIONS FOR DISPOSAL.

SECTION VII - SAFE HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: WHEN OPENING COVERS AND OUTGASING CAP ON STORAGE TANKS, USE A FACESHIELD AND GLOVES TO AVOID POSSIBLE INJURY FROM PRESSURIZED ASPHALT. HYDROGEN SULFIDE CAN BE GENERATED AND ACCUMULATED IN STORAGE TANKS AND BULK TRANSPORT COMPARTMENTS. STAY UPWIND AND VENT STORAGE TANKS BEFORE UNLOADING. KEEP HEATING UNITS AND FLUES IN STORAGE TANKS COVERED WITH AT LEAST 12 INCHES OF ASPHALT. DO NOT OVERHEAT.

OTHER PRECAUTIONS: EMPTY CONTAINERS RETAIN RESIDUE (LIQUID AND/OR VAPOR) AND CAN BE DANGEROUS. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION VIII - EXPOSURE CONTROL/PERSONAL PROTECTION

RESPIRATORY PROTECTION: IF HIGH VAPORS ARE EXPECTED, USE RESPIRATOR APPROVED FOR ORGANIC VAPORS. OBSERVE RESPIRATOR PROTECTION FACTOR CRITERIA CITED IN AN 288.2 (1980). SELF CONTAINED BREATHING APPARATUS SHOULD BE USED FOR FIRE FIGHTING.

VENTILATION: LOCAL OR GENERAL EXHAUST REQUIRED IF ENCLOSED AREA TO REMAIN BEL THE TLV.

PROTECTIVE GLOVES: OIL IMPERVIOUS GLOVES, SUCH AS NEOPRENE, IF FREQUENT OR PROLONGED CONTACT IS EXPECTED.

EYE PROTECTION: SAFETY GOGGLES OR CHEMICAL SPLASH GOGGLES IF SPLASHING IS ANTICIPATED.

OTHER PROTECTIVE EQUIPMENT: WEAR BODY COVERING CLOTHS TO AVOID PROLONGED OR REPEATED EXPOSURE. LAUNDRER BEFORE REUSE.

WORK/HYGIENIC PRACTICES: OBSERVE GENERAL GOOD HYGIENIC PRACTICES.

SECTION IX - PHYSICAL/CHEMICAL CHARACTERISTICS

| | |
|--------------------------------------|-----------------------------|
| BOILING POINT: | 212 ° F |
| VAPOR PRESSURE (MM): | <1mm-10mm Hg@77°F |
| VAPOR DENSITY (AIR=1): | >1 |
| SPECIFIC GRAVITY/DENSITY (G/ML): | 0.92 - 1.05 |
| SOLUBILITY IN WATER: | COMPLETELY |
| pH: | 7.0-11.0 |
| APPEARANCE, PHYSICAL STATE AND ODOR: | BROWN LIQUID; ASPHALT ODOR. |

SECTION X - STABILITY AND REACTIVITY DATA

STABILITY: STABLE

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS: FUMES, SMOKE, CARBON MONOXIDE, HYDROGEN SULFIDE, SULFUR DIOXIDE, ALDEHYDES, AND HYDROCARBONS.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

SECTION XI - TOXICOLOGICAL INFORMATION

ASPHALT: THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER HAS DETERMINED THAT THERE IS SUFFICIENT EVIDENCE FOR THE CARCINOGENICITY OF EXTRACTS OF STEAM-REFINED BITUMENS, AIR-REFINED BITUMENS AND POOLED MIXTURES OF STEAM- AND AIR-REFINED BITUMENS IN EXPERIMENTAL ANIMALS. ASPHALT PRODUCTS, PROPERLY HANDLED A OUTLINED IN THE MSDS, ARE NOT EXPECTED TO CAUSE CANCER IN HUMANS. SKIN CONTACT BREATHING OF MISTS, FUMES, OR VAPORS SHOULD BE REDUCED TO A MINIMUM TO AVOID A ILL EFFECTS. CHRONIC HEALTH EFFECTS WOULD NOT BE EXPECTED AS LONG AS GOOD HYGIENE AND PROPER SAFETY PRECAUTIONS ARE PRACTICED.

KEROSENE & #2 FUEL OIL: LIFETIME SKIN PAINTING STUDIES IN ANIMALS WITH SIMILAR DISTILLATE FUELS HAVE PRODUCED WEAK CARCINOGENIC ACTIVITY FOLLOWING PROLONGED AND REPEATED EXPOSURE. REPEATED DERMAL APPLICATION HAS PRODUCED SEVERE IRRITATION AND SYSTEMATIC TOXICITY IN SUBSTRATE TOXICITY STUDIES. SOME COMPONENTS OF DISTILLATE FUELS, I.E., PARAFFINS AND OLEFINS HAVE BEEN SHOWN TO PRODUCE A SPECIES SPECIFIC, SEX HORMONAL DEPENDENT KIDNEY LESION IN MALE RATS FROM REPEATED ORAL OR INHALATION EXPOSURE. JET FUEL AND NO.1 FUEL OIL WERE FOUND TO BE POSITIVE IN A MUTAGENICITY TESTS WHILE NEGATIVE IN THE MAJORITY OF OTHERS. THE EXACT RELATIONSHIP BETWEEN THESE RESULTS AND HUMAN HEALTH IS NOT KNOWN. CHRONIC HUMAN HEALTH EFFECTS WOULD NOT BE EXPECTED AS LONG AS GOOD PERSONAL HYGIENE AND PROPER SAFETY PRECAUTIONS ARE PRACTICED.

SECTION XIII - DISPOSAL CONSIDERATIONS

Dispose of according to applicable Federal, State, and Local requirements. Waste or contaminated asphalt is normally disposed in a special waste or industrial landfill. Consider recycling into pavement mixtures whenever possible.

SECTION XIV - TRANSPORTATION INFORMATION

| | |
|-----------------------|--|
| DOT-U.S./MOT-CANADA | |
| PROPER SHIPPING NAME: | NONREGULATED MATERIAL (DRIVEWAY SEALANT) |
| HAZARD CLASS: | NOT APPLICABLE |
| IDENTIFICATION NO.: | NOT APPLICABLE |
| PACKAGING GROUP: | NOT APPLICABLE |

SECTION XV - REGULATORY INFORMATION

WHMIS: This material DOES NOT contain ingredient(s) which are at, or above, the minimum concentration specified on the WHMIS Ingredient Disclosure List under the Hazardous Products Act of Canada.

SARA 313: This product DOES NOT contain material(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372.

PREPARED BY: M. SEIFRIED

The information contained in this Material Safety Data Sheet has been prepared in accordance with the OSHA Hazard communication Standard CFR 1910.1200. This information relates specifically to the product designated and may not be valid for the product when used in combination with any other materials or products in a particular process. The information is, to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability, completeness, whether originating within the company or not. The user should review this information, satisfy itself as to its suitability and completeness and pass on the information to its employees or customers in accordance with applicable federal, state or local hazard communications requirements. We do not accept responsibility for any loss or damage which may occur from the use of this information.

Safety Data Sheet

BICARBONATE OF SODA TFF/ #1 USP

UNCONTROLLED DOCUMENT

Warsaw Chemical Co., Inc. posts our Safety Data Sheets (SDS) to our company website
ONLY. Warsaw Chemical is NOT responsible for any SDS found on other sites.

Version 1.0020

Revision Date 07/01/2015

Print Date 06/08/2016



Section 1. Chemical product and company identification

Product Name: BICARBONATE OF SODA TFF/ #1 USP

Product use: Neutralizer

Contact Information: Warsaw Chemical Co., Inc.

P.O. Box 858

Warsaw, IN 46581

Tel: 1.800.548.3396

Fax: 1.574.267.3884

Emergency Phone: INFOTRAC

800.535.5053 USA & Canada
352.323.3500 International

Section 2. Hazards identification

GHS Classification:

Eye damage/irritation(Category 2B)

Skin corrosion/irritation(Category 2)

Acute toxicity, oral(Category 4)

Pictogram(s):



Signal Word: WARNING

Hazard Statements:

H320 Causes eye irritation

H315 Causes skin irritation

H302 Harmful if swallowed

Precautionary Statement(s):

P264 Wash ... thoroughly after handling

P280 Wear protective gloves/protective clothing/eye protection/face protection

P362 Take off contaminated clothing and wash before reuse

P270 Do not eat, drink or smoke when using this product

P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing
P302+352 IF ON SKIN: Wash with soap and water
P332+313 If skin irritation occurs: Get medical advice/attention
P301+312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Safety Data Sheet

BICARBONATE OF SODA TFF/ #1 USP

UNCONTROLLED DOCUMENT

Warsaw Chemical Co., Inc. posts our Safety Data Sheets (SDS) to our company website ONLY. Warsaw Chemical is NOT responsible for any SDS found on other sites.

Version 1.0020
Revision Date 07/01/2015
Print Date 06/08/2016



Section 3. Composition/information on ingredients

| Name | CAS number | % Less Than |
|-------------|------------|-------------|
| Baking Soda | 144-55-8 | 100.0000 |

The chemical identity of some or all components is confidential business information (trade secret) and is being withheld as permitted by 29CFR19191200 (i). No other ingredients known to be hazardous.

Section 4. First aid measures

Eye contact: Check for and remove contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact: Wash skin surfaces thoroughly after contact. Wash clothing and clean shoes thoroughly before reuse. Get medical attention if irritation develops.

Inhalation: Move exposed person to fresh air. If breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen clothing. Get medical attention immediately.

Ingestion: Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

General: Physicians: No specific treatment. Treat symptomatically. Contact poison treatment specialist if large quantities have been inhaled or ingested.

See Section 11 for exposure symptoms.

Safety Data Sheet

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Revision Date 07/01/2015

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Section 5. Fire-fighting measures

- Flammability:** In a fire or if heated, a pressure increase will occur and the container may burst.
- Extinguishing Media:** Use an extinguishing agent suitable for the surrounding fire.
- Protective Equipment:** Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with full face-piece operated in positive pressure mode.
- Additional Information:** Thermal decomposition products-carbon monoxide, sulfur oxides, metal oxide/oxides, halogenated compounds.

Section 6. Accidental release measures

- Personal Precautions:** No action should be taken involving individual risk or without suitable training. Isolate area. Avoid contact with material. Do not breath vapors. Provide adequate ventilation. Wear proper personal protective equipment.
- Environmental:** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform relevant authorities if the product reaches sewers, waterways or soil.
- Containment/Cleanup:** Stop leak if without risk. Move containers from spill area. Contain or absorb with inert dry material. Dispose of according to local regulations. See Section 1 for emergency contact information and 13 for waste disposal.

Section 7. Handling and storage

- Safe Handling:** Wear appropriate personal protective equipment (see Section 8). Eating drinking and smoking should be prohibited. Do not get into eyes or on skin. Do not ingest. Keep containers tightly closed. Do not reuse container.
- Safe Storage:** Store in accordance with local regulations. Store in original container away from foods, drink and incompatible materials. Keep container tightly closed. Do not store unlabeled. Use appropriate containment.

Safety Data Sheet

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Section 8. Exposure controls/personal protection

Engineering Controls: Apply technical measures to comply with occupational exposure limits.
Mechanical ventilation, eyewash stations, showers where necessary.

Eye Protection: Safety eyewear/face shield complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Respiratory Protection: Use a properly fitted air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates necessity. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product & the safe working limits of the chosen respirator.

Hand Protection: Chemical resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Skin Protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

| COMPONENT | ACGIH TWA | OSHA/NIOSH | OSHA/ACGHI |
|-----------|-----------|-------------|---------------|
| | ppm | STEL ppm | STEL mg/m3 |

Section 9. Physical and chemical properties

| | |
|----------------------------|-----------------|
| Physical State: | Powder |
| Color: | White |
| Odor: | None |
| Odor Threshold: | na |
| pH: | 8.5 1% solution |
| Melting Point: | na |
| Freezing Point: | na |
| Boiling Point: | na |
| Flash Point: | na |
| Evaporation Rate: | na |
| Flammability: | na |
| Upper Explosive Limits: | na |
| Lower Explosive Limits: | na |
| Vapor Pressure: | na |
| Vapor Density: | na |
| Relative Density: | na |
| Solubility: | na |
| Partition coefficient: | na |
| Auto-Ignition Temperature: | na |
| Decomposition Temperature: | na |
| Specific Gravity: | na |
| % Volatile: | na |

Safety Data Sheet

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Section 10. Stability and reactivity

Reactivity: Non reactive

Chemical stability: Stable under normal conditions.

Possibility of hazardous reactions: None known

Conditions to avoid: Excessive heat or open flame.

Incompatible materials: Avoid contact with acidic materials and strong oxidizers.

Hazardous Decomposition Products: Under normal conditions, none are known

Section 11. Toxicological information

Routes of entry: ☐ Inhalation ☒ Absorption ☒ Ingestion

Acute Exposure Hazards:

Eye contact: Irritation, stinging, redness, burns.

Dermal: Irritation, burns upon prolonged exposure.

Oral: Nausea, vomiting.

Inhalation: Not expected route of entry. Irritation

| COMPONENT | Result | Species | Dose | Exposure |
|-----------|--------|---------|------|----------|
|-----------|--------|---------|------|----------|

Safety Data Sheet

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Section 12. Ecological information

Ecotoxicity: No data available.
Persistence & degradability: No data available.
Bioaccumulative potential: No data available.
Mobility in soil: No data available.
Other adverse effects: No data available.

| Component | Result | Species | Dose | Exposure |
|-----------|--------|---------|------|----------|
|-----------|--------|---------|------|----------|

Section 13. Disposal considerations

Material that cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Processing, use or contamination of this product may change the waste management options. Waste generators must decide if discarded material is a hazardous waste. State and local disposal regulations may differ from federal disposal definitions. Dispose of container and unused contents in accordance with federal, state and local requirements.

Section 14. Transport information

DOT (US)

UN Number: N/A
Shipping Name:
Technical Name:
Hazard Class:
Packaging Group: N/A

Section 15. Regulatory information

| SARA 313 Components | CAS No. | % Less Than |
|---------------------|---------|-------------|
|---------------------|---------|-------------|

| California Prop. 65 Components | CAS No. | % Less Than |
|--------------------------------|---------|-------------|
|--------------------------------|---------|-------------|

Safety Data Sheet

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Section 16. Other information

Hazardous Material Information System (U.S.A.)

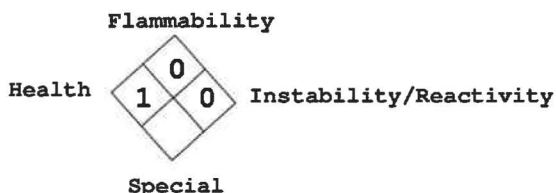
| | |
|---------------------|---|
| Health Hazard | 1 |
| Fire Hazard | 0 |
| Reactivity | 0 |
| Personal Protection | A |

Caution: HMIS ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks and 4 representing significant hazards or risks.

PERSONAL PROTECTION INDEX

| | |
|---|---|
| A | Safety Glasses |
| B | Safety Glasses, Gloves |
| C | Safety Glasses, Gloves, Apron |
| D | Face Shield, Gloves, Apron |
| E | Safety Glasses, Gloves, Dust Respirator |
| F | Safety Glasses, Gloves, Apron, Dust Respirator |
| G | Safety Glasses, Gloves, Vapor Respirator |
| H | Splash Goggles, Gloves, Apron, Dust & Vapor Respirator |
| I | Safety Glasses, Gloves, Dust & Vapor Respirator |
| J | Splash Goggles, Gloves, Apron, Dust & Vapor Respirator |
| K | Airline Hood or Mask, Gloves, Full Suit, Boots |
| X | Consult your supervisor for special handling directions |

National Fire Protection
Association (U.S.A.)



NFPA warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals.

Information on this form is furnished solely for the purpose of compliance with the Occupational Safety and Health Act of 1970 and shall not be used for any other purpose. Use or dissemination of all or any part of this information can be grounds for legal action.

To the best of our knowledge, the information provided in this Safety Data Sheet is accurate as of the date of its issue. However, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE. The information this Safety Data Sheet contains is being given for safety guidance purposes and relates only to the specific material and uses described in it. This information does not necessarily apply to that material when combined with other material(s) or when used otherwise than as described herein.

In all cases, it is the responsibility of the user to determine the applicability of such information and recommendations and the suitability of any product for its own particular purpose. All materials may represent unknown hazards and should be used with caution.



Safety Data Sheet

Big D dumpster D plus C

SECTION 1. IDENTIFICATION

| | |
|-------------------------------|--|
| Product Identifier | Big D dumpster D plus C |
| Other Means of Identification | 017700, 017800, & C0417703 |
| Other Identification | Granular Deodorant |
| Product Family | Dry Deodorants |
| Recommended Use | Dry Deodorants. |
| Restrictions on Use | None known. |
| Manufacturer / Supplier | Big D Industries, Inc., 5620 SW 29th St, Oklahoma City, OK, 73179, 405 682 2541, BigDInd.com |
| Emergency Phone No. | Big D Industries, 800 535 5053, 24hr (Infotrac) |
| SDS No. | 0329 |

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Serious eye damage/eye irritation - Category 2B; Skin sensitization - Category 1; Germ cell mutagenicity - Category 2; Carcinogenicity - Category 1A

GHS Label Elements



Signal Word:
Danger

Hazard Statement(s):

| | |
|------|---------------------------------------|
| H317 | May cause an allergic skin reaction. |
| H320 | Causes eye irritation. |
| H341 | Suspected of causing genetic defects. |
| H350 | May cause cancer if inhaled. |

Precautionary Statement(s):

Prevention:

| | |
|------|--|
| P201 | Obtain special instructions before use. |
| P202 | Do not handle until all safety precautions have been read and understood. |
| P261 | Avoid breathing dust. |
| P264 | Wash thoroughly after handling. |
| P272 | Contaminated work clothing must not be allowed out of the workplace. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |

| | |
|----------------------|-------------------------|
| Product Identifier: | Big D dumpster D plus C |
| SDS No.: | 0329 |
| Date of Preparation: | February 23, 2015 |

Response:

P302 + P352 IF ON SKIN: Wash with plenty of water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P313 IF exposed or concerned: Get medical advice/attention.

P321 Specific treatment (see on this label).

P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

P337 + P313 If eye irritation persists: Get medical advice/attention.

P363 Wash contaminated clothing before reuse.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/container in accordance with local, regional, national and international regulations.

Other Hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS No. | % | Other Identifiers |
|--|------------|--------|-------------------|
| Silica, quartz | 14808-60-7 | 6 | |
| Montmorillonite ((Al _{1.33} -1.67Mg _{0.33} -0.67)(Ca ₀ -1Na ₀ -1)0.33Si ₄ (OH) ₂ O ₁₀ .xH ₂ O), calcined | 70892-59-0 | 75 | |
| Silica, cristobalite | 14464-46-1 | 2.4 | |
| Other components below reportable Levels | No CAS | 16.55 | |
| Citronella oil | 8000-29-1 | 0.0476 | |

SECTION 4. FIRST-AID MEASURES**First-aid Measures****Inhalation**

Move to fresh air. Call a Poison Centre or doctor if you feel unwell or are concerned.

Skin Contact

Wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes. Call a Poison Centre or doctor if you feel unwell or are concerned.

Eye Contact

Rinse the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes, while holding the eyelid(s) open.

Ingestion

Never give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. Immediately call a Poison Centre or doctor.

Most Important Symptoms and Effects, Acute and Delayed**If inhaled:**

Can cause severe irritation of the nose and throat.

If in eyes:

May cause mild irritation.

If swallowed:

Large amounts symptoms may include nausea, vomiting, stomach cramps and diarrhea.

Product Identifier: Big D dumpster D plus C

SDS No.: 0329

Date of Preparation: February 23, 2015

Immediate Medical Attention and Special Treatment

Special Instructions

Not applicable.

Medical Conditions Aggravated by Exposure

None known.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Not combustible. Use extinguishing agent suitable for surrounding fire.

Unsuitable Extinguishing Media

None known.

Specific Hazards Arising from the Chemical

Does not burn.

This product presents no unusual hazards in a fire situation.

Not known to generate any hazardous decomposition products in a fire.

Special Protective Equipment and Precautions for Fire-fighters

No special precautions are necessary.

See Skin Protection in Section 8 (Exposure Controls/Personal Protection) for advice on suitable chemical protective materials.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

No special precautions are necessary.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

Avoid generating dust.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Do not breathe in this product. Only use where there is adequate ventilation.

Conditions for Safe Storage

Separate from incompatible materials (see Section 10: Stability and Reactivity).

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

| Chemical Name | ACGIH TLV® | | OSHA PEL | | AIHA WEEL | |
|--|------------------------|------|---------------------|---------|-----------|-----|
| | TWA | STEL | TWA | Ceiling | 8-hr TWA | TWA |
| Montmorillonite ((Al _{1.33} -1.67Mg _{0.33} -0.67)(Ca ₀ -1Na ₀ -1)O ₃₃ Si ₄ (OH)2O10.xH ₂ O), calcined | 0.05 mg/m ³ | | 5 mg/m ³ | | | |
| Silica, cristobalite | 0.05 mg/m ³ | | 5 mg/m ³ | | | |
| Silica, quartz | 0.05 mg/m ³ | | 5 mg/m ³ | | | |

Appropriate Engineering Controls

Use a local exhaust ventilation and enclosure, if necessary, to control amount in the air.

Product Identifier: Big D dumpster D plus C

SDS No.: 0329

Date of Preparation: February 23, 2015

Individual Protection Measures

Eye/Face Protection

Not required but it is good practice to wear safety glasses or chemical safety goggles.

Skin Protection

Not required, if used as directed.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

| | |
|--|---|
| Appearance | Dark pellets. |
| Odour | Fragrant (Fragrance) |
| Odour Threshold | Not available |
| pH | Not applicable |
| Melting Point/Freezing Point | Not applicable (freezing) |
| Initial Boiling Point/Range | Not applicable |
| Flash Point | > 200 °F (estimated) (Montmorillonite ((Al _{1.33} -1.67Mg _{0.33} -0.67)(Ca ₀ -1Na ₀ -1)0.33Si ₄ (OH) ₂ O ₁₀ .xH ₂ O), calcined) |
| Evaporation Rate | Not applicable |
| Flammability (solid, gas) | Not available |
| Upper/Lower Flammability or Explosive Limit | Not available (upper); Not available (lower) |
| Vapour Pressure | Not applicable |
| Vapour Density (air = 1) | Not available |
| Relative Density (water = 1) | Not applicable |
| Solubility | Insoluble (less than 1 mg/L) in water |
| Partition Coefficient, n-Octanol/Water (Log Kow) | Not available |
| Auto-ignition Temperature | Not available |
| Decomposition Temperature | Not available |
| Viscosity | Not applicable (kinematic); Not applicable (dynamic) |
| Other Information | |
| Physical State | Solid |

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None known.

Conditions to Avoid

Incompatible materials.

Incompatible Materials

Unsaturated hydrocarbons (e.g. turpentine), strong acids (e.g. hydrochloric acid).

Hazardous Decomposition Products

None known.

Product Identifier: Big D dumpster D plus C

SDS No.: 0329

Page 04 of 06

Date of Preparation: February 23, 2015

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Inhalation; skin contact; eye contact; ingestion.

Acute Toxicity

LC50: No information was located.

LD50 (oral): No information was located.

LD50 (dermal): No information was located.

Skin Corrosion/Irritation

No information was located.

Serious Eye Damage/Irritation

No information was located.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

No information was located.

Skin Absorption

No information was located.

Ingestion

No information was located.

Aspiration Hazard

Not known to be an aspiration hazard.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

No information was located.

Respiratory and/or Skin Sensitization

No information was located.

Carcinogenicity

| Chemical Name | IARC | ACGIH® | NTP | OSHA |
|---|------|--------|------------------|------|
| Montmorillonite ((Al ₁ .33-1.67Mg _{0.33-0.67})(Ca ₀₋₁ Na ₀₋₁)O ₃ Si ₄ (OH) ₂ O ₁₀ .xH ₂ O), calcined | | | Known carcinogen | |
| Silica, cristobalite | | | Known carcinogen | |
| Silica, quartz | | | Known carcinogen | |

Reproductive Toxicity

Development of Offspring

No information was located.

Sexual Function and Fertility

No information was located.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

No information was located.

Interactive Effects

No information was located.

Product Identifier: Big D dumpster D plus C

SDS No.: 0329

Date of Preparation: February 23, 2015

SECTION 12. ECOLOGICAL INFORMATION

Environmental information was not located.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

The required hazard evaluation of the waste and compliance with the applicable hazardous waste laws are the responsibility of the user.

SECTION 14. TRANSPORT INFORMATION

Not regulated under Canadian TDG Regulations. Not regulated under US DOT Regulations.

Special Precautions for User Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

WHMIS Classification



Class D2A

D2A - Very Toxic

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by the Controlled Products Regulations.

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

All ingredients are listed on the DSL/NDSL.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

All ingredients are listed on the TSCA Inventory.

Additional USA Regulatory Lists

California Proposition 65. (Silica, cristobalite). (Silica, quartz) SARA Title III - Section 311/312. (Silica, cristobalite). (Silica, quartz)

SECTION 16. OTHER INFORMATION

| | | | |
|----------------------|--|------------------|-----------------|
| NFPA Rating | Health - 1 | Flammability - 0 | Instability - 0 |
| SDS Prepared By | Wayne Hegstrom | | |
| Phone No. | 405 682 2541 | | |
| Date of Preparation | February 23, 2015 | | |
| Key to Abbreviations | ACGIH® = American Conference of Governmental Industrial Hygienists NFPA = National Fire Prevention Association NTP = National Toxicology Program OSHA = US Occupational Safety and Health Administration NTP = National Toxicology Program | | |

Product Identifier: Big D dumpster D plus C
SDS No.: 0329
Date of Preparation: February 23, 2015

Page 06 of 06



Bravo Heavy-Duty Low Odor Stripper

Version Number: 2

Preparation date: 2015-09-15

1. IDENTIFICATION

Product name: Bravo Heavy-Duty Low Odor Stripper
Product Code: 95115940, 95115958, 95115991
SDS #: MS0800787
Recommended use:

- Industrial/Institutional
- Floor stripper
- This product is intended to be diluted prior to use

Uses advised against: Uses other than those identified are not recommended

| | |
|---|---|
| Manufacturer, importer, supplier: US Headquarters Diversey, Inc. 2415 Cascade Pointe Blvd. Charlotte, NC 28208 Phone: 1-888-352-2249 SDS Internet Address: https://sds.diversey.com | Canadian Headquarters Diversey, Inc. - Canada 3755 Laird Road Units 8-11 Mississauga, Ontario L5L 0B3 Phone: 1-800-668-7171 |
|---|---|

Emergency telephone number: 1-800-851-7145; 1-651-917-6133 (Int'l)

2. HAZARDS IDENTIFICATION

Classification for the undiluted product

| | |
|-----------------------------------|-------------|
| Skin corrosion/irritation | Category 1A |
| Serious eye damage/eye irritation | Category 1 |
| Metal Corrosion: | Category 1 |



Signal Word: Danger.

Precautionary Statements

CAUSES SEVERE SKIN BURNS AND SERIOUS EYE DAMAGE. MAY BE CORROSIVE TO METALS.

Causes burns/ serious damage to mouth, throat and stomach. Avoid contact with eyes, skin and clothing. Keep container tightly closed. Keep only in original container. Do not breathe vapors. Wash affected areas thoroughly after handling. Wear chemical-splash goggles, chemical-resistant gloves and protective footwear. IF SWALLOWED: Rinse mouth. DO NOT induce vomiting unless directed to do so by medical personnel. Drink a cupful of milk or water. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water for at least 15 minutes. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. Immediately call a Poison Center (1-800-851-7145) or physician. Absorb spillage to prevent material damage. Store in corrosive-resistant container with a resistant inner liner. Dispose of in accordance with all federal, state and local applicable regulations. SUPPLEMENTAL INFORMATION: Mix only with water. DO NOT MIX WITH ANY OTHER PRODUCT OR CHEMICAL. Can react to release hazardous gases. May vigorously react with acids resulting in spattering and excessive heat.

Health hazards not otherwise classified (HHNOC) - Not applicable

Physical hazards not otherwise classified (PHNOC) - Not applicable

Classification for the diluted product @ 1:4Skin corrosion/irritation
Serious eye damage/eye irritationCategory 2
Category 2A**Dilution Signal word:**

Warning.

Precautionary Statements**CAUSES SKIN AND SERIOUS EYE IRRITATION.**

Avoid contact with eyes, skin and clothing. Wash affected areas thoroughly after handling. May cause irritation to mouth, throat and stomach. Wear chemical-splash goggles and chemical-resistant gloves. IF SWALLOWED: Rinse mouth. Drink a cupful of milk or water. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice or attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists: Get medical advice or attention. Dispose of in accordance with all federal, state and local applicable regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS**Classified Ingredients**

| Ingredient(s) | CAS # | Weight % |
|------------------|-----------|----------|
| Sodium hydroxide | 1310-73-2 | 5 - 10% |
| Monoethanolamine | 141-43-5 | 3 - < 5% |

*Exact percentages are being withheld as trade secret information

4. FIRST AID MEASURES**Undiluted Product:**

Eyes: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes.

Skin: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water for at least 15 minutes.

Inhalation: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Ingestion: IF SWALLOWED: Rinse mouth. DO NOT induce vomiting unless directed to do so by medical personnel. Drink a cupful of milk or water.

Most Important Symptoms/Effects: No information available.

Immediate medical attention and special treatment needed Not applicable.

Aggravated Medical Conditions: Individuals with chronic respiratory disorders such as asthma, chronic bronchitis, emphysema, etc., may be more susceptible to irritating effects.

Diluted Product:

Eyes: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists: Get medical advice/attention

Skin: IF ON SKIN: Wash with plenty of soap and water If skin irritation occurs: Get medical advice/attention

Inhalation: No specific first aid measures are required

Ingestion: IF SWALLOWED: Rinse mouth. Drink a cupful of milk or water.

5. FIRE-FIGHTING MEASURES

Specific methods:

No special methods required

Suitable extinguishing media:

The product is not flammable. Extinguish fire using agent suitable for surrounding fire.

Specific hazards:

Not applicable.

Special protective equipment for firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Extinguishing media which must not be used for safety reasons: No information available.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:
Environmental precautions
and clean-up methods:

Put on appropriate personal protective equipment (see Section 8.).
Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal. Use a water rinse for final clean-up.

7. HANDLING AND STORAGE

Handling: Avoid contact with skin, eyes and clothing. Do not taste or swallow. Avoid breathing vapors or mists. Use only with adequate ventilation. Remove and wash contaminated clothing and footwear before re-use. Wash thoroughly after handling. Product residue may remain on/in empty containers. All precautions for handling the product must be used in handling the empty container and residue. Mix only with water. Do not mix with any other product or chemical. Can react to release hazardous gases. May vigorously react with acids resulting in spattering and excessive heat. FOR COMMERCIAL AND INDUSTRIAL USE ONLY.

Storage: Protect from freezing. Keep tightly closed in a dry, cool and well-ventilated place. KEEP OUT OF REACH OF CHILDREN.

Aerosol Level (if applicable) : Not applicable.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines:

| Ingredient(s) | CAS # | ACGIH | OSHA |
|------------------|-----------|-------------------------------|--|
| Sodium hydroxide | 1310-73-2 | 2 mg/m ³ (Ceiling) | 2 mg/m ³ (TWA) |
| Monoethanolamine | 141-43-5 | 6 ppm (STEL) 3 ppm (TWA) | 3 ppm (TWA) 6 mg/m ³ (TWA) |

Undiluted Product:

Engineering measures to reduce exposure:

Use only in well-ventilated areas. Good general ventilation should be sufficient to control airborne levels. Respiratory protection is not required if good ventilation is maintained.

Personal Protective Equipment

Eye protection: Chemical-splash goggles.
Hand protection: Chemical-resistant gloves.
Skin and body protection: Protective footwear. If major exposure is possible, wear suitable protective clothing and footwear.
Respiratory protection: In case of insufficient ventilation wear suitable respiratory equipment. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice.

Diluted Product:

Engineering measures to reduce exposure:

Good general ventilation should be sufficient to control airborne levels

Personal Protective Equipment

Eye protection: Chemical-splash goggles.
Hand protection: Chemical-resistant gloves.
Skin and body protection: Protective footwear.
Respiratory protection: No personal protective equipment required under normal use conditions.
Hygiene measures: Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid

Evaporation Rate: No information available

Odor threshold: No information available.

Melting point/range: Not determined

Autoignition temperature: No information available

Solubility in other solvents: No information available

Density: 9.08 lbs/gal 1.089

Bulk density: No information available

Flash point (°F): > 200 °F > 93.3 °C

Dilution Flash Point (°F): > 200 > 93.3

Elemental Phosphorus: 0 % by wt.

pH: 13

Dilution pH: 12.3 @ 1:4

Corrosion to metals: Corrosive

Color: Clear, Colorless

Odor: No Odor/Odorless

Boiling point/range: Not determined

Decomposition temperature: Not determined Not applicable

Solubility: Completely Soluble

Relative Density (relative to water): 1.089

Vapor density: No information available

Vapor pressure: No information available.

Partition coefficient (n-octanol/water): No information available

Viscosity: No information available

VOC: 5.13 % *

VOC % by wt. at use dilution 1.03 % *

Flammability (Solid or Gas): Not applicable

Sustained combustion: Not applicable

Explosion limits: - upper: Not determined - lower: Not determined

* - Title 17, California Code of Regulations, Division 3, Chapter 1, Subchapter 8.5, Article 2, Consumer Products, Sections 94508

10. STABILITY AND REACTIVITY

Reactivity: Not Applicable
Stability: The product is stable
Possibility of hazardous reactions: May vigorously react with acids resulting in spattering and excessive heat.
Hazardous decomposition products: None reasonably foreseeable.
Materials to avoid: Strong acids. Do not mix with any other product or chemical unless specified in the use directions.
Conditions to avoid: No information available.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:
Eye contact, Skin contact, Inhalation, Ingestion

Delayed, immediate, or chronic effects and symptoms from short and long-term exposure

Skin contact: Corrosive. Causes severe burns. Symptoms may include burns, blisters, redness and pain (which may be delayed).

Eye contact: Corrosive. Causes serious eye damage. Symptoms may include pain, burning sensation, redness, watering, blurred vision or loss of vision.

Ingestion: Causes burns/ serious damage to mouth, throat and stomach. Symptoms may include stomach pain and nausea.

Inhalation: May cause irritation and corrosive effects to nose, throat and respiratory tract. Symptoms may include coughing and difficulty breathing.

Sensitization: No known effects.

Target Organs (SE): None known

Target Organs (RE): None known

Carcinogen Listings: Ethyl alcohol is only classified as an IARC 1 carcinogen and California Prop 65 when it is meant for ingestion in alcoholic beverages. We do not produce alcoholic beverages; therefore it is not considered a carcinogen in our products.

| Ingredient(s) | CAS # | NTP | IARC | OSHA | CA Prop 65 | CA Prop 65 Reproductive |
|---------------|---------|-----|------|------|------------|----------------------------|
| Ethyl alcohol | 64-17-5 | | - | | Carcinogen | Developmental |

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATE - Oral (mg/kg): 4200 mg/kg
ATE - Dermal (mg/kg): >5000 mg/kg mg/L
ATE - Inhalatory, mists (mg/l): >20 mg/L
ATE - Inhalatory, vapors (mg/l): >50 mg/L

12. ECOLOGICAL INFORMATION

Ecotoxicity: No information available.

Persistence and Degradability: No information available.

Bioaccumulation: No information available.

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products (undiluted product): This product, as sold, if discarded or disposed, is a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the waste solution meets RCRA criteria for hazardous waste. Dispose in compliance with all Federal, state, provincial, and local laws and regulations. This product, when diluted as stated on this SDS, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the waste solution meets RCRA criteria for hazardous waste. Dispose in compliance with all Federal, state, provincial, and local laws and regulations.

Waste from residues / unused products (diluted product): This product, when diluted as stated on this SDS, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the waste solution meets RCRA criteria for hazardous waste. Dispose in compliance with all Federal, state, provincial, and local laws and regulations.

RCRA Hazard Class (undiluted product): D002 Corrosive Waste

RCRA Hazard Class (diluted product): Not Regulated

Contaminated Packaging: Do not re-use empty containers.

14. TRANSPORT INFORMATION

DOT/TDG/IMDG: Proper shipping descriptions can vary by pack size. Please refer to the Diversey HazMat Library, <http://naextranet.diversey.com/dot/>, for up to date shipping information.

DOT (Ground) Bill of Lading Description: UN3266, CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S., (sodium hydroxide, ethanolamine), 8, II

IMDG (Ocean) Bill of Lading Description: UN3266, CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S., (sodium hydroxide, ethanolamine), 8, II

15. REGULATORY INFORMATION

International Inventories at CAS# Level

All components of this product are listed on the following inventories: U.S.A. (TSCA), Canada (DSL/NDSL).

RIGHT TO KNOW (RTK)

| Ingredient(s) | CAS # | MARTK: | NJRTK: | PARTK: | RIRTK: |
|--------------------------|------------|--------|--------|--------|--------|
| Water | 7732-18-5 | - | - | - | - |
| Sodium hydroxide | 1310-73-2 | X | X | X | X |
| Monoethanolamine | 141-43-5 | X | X | X | - |
| Sodium xylene sulfonate | 1300-72-7 | - | - | - | - |
| Ammonium laureth sulfate | 67762-19-0 | - | - | - | - |
| Ethyl alcohol | 64-17-5 | X | X | X | - |

CERCLA/ SARA

| Ingredient(s) | CAS # | Weight % | CERCLA/SARA RQ (lbs) | Section 302 TPQ (lbs) | Section 313 |
|------------------|-----------|----------|----------------------|-----------------------|-------------|
| Sodium hydroxide | 1310-73-2 | 5 - 10% | 1000 | | |

Canadian Regulations

| Ingredient(s) | CAS # | NPRI |
|---------------|---------|------|
| Ethyl alcohol | 64-17-5 | X |

16. OTHER INFORMATION

NFPA (National Fire Protection Association)

Rating Scale: (Low Hazard) 0 - 4 (Extreme Hazard)

Health 3

Flammability 0

Instability 0

Diluted Product:

Version Number: 2

Preparation date: 2015-09-15

Reason for revision:

Not applicable

Prepared by:

NAPRAC

Additional advice:

• Does not contain an added fragrance

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SECTION 1: Product and Company Information

Product Name: Brite Stripe - All Colors Trade Name: Brite Stripe

Product Code: ATHBLA5, ATHBL5, ATHBRO5, ATHBUR5, ATHBY5, ATHCRED5, ATHDBL5, ATHDG5, ATHDGR5, ATHGBLA5, ATHGY5, ATHGRE5, ATHLRED5, ATHLBL5, ATHMAR5, ATHNBL5, ATHOG5, ATHOR5, ATHPINK5, ATPUR5, ATHRED5, ATHRSB5, ATHSIL5, ATHSBL5, ATHSIL5, ATHVG5, ATHY5, ATHSY5, ATHC*(all custom colors)

PIONEER ATHLETICS
4529 INDUSTRIAL PARKWAY
CLEVELAND OHIO
800-877-1500

For chemical emergency call INFOTRAC 1-800-535-5053,
24 hrs. per day 7 days a week

SECTION 2 - HAZARDS**GHS Ratings:****GHS Hazards****GHS Precautions****Signal Word:**

There are no GHS ratings that apply to this product at this time.

SECTION 3 - COMPOSITION INFORMATION ON INGREDIENTS

This product is not classified as a hazardous mixture.

None of the listed ingredients individually exceed 25% by weight.

The exact percentage of each of these ingredients is being withheld as a trade secret. Some colors and formulations also include Titanium Dioxide (CAS No. 13463-67-7) in a concentration not exceeding 25% by weight which varies by color and formulation. The exact concentration of Titanium Dioxide in each formula where present is being withheld as a trade secret. If present, the Titanium Dioxide in this product is encapsulated and remains encapsulated during the approved use of this product on natural grass.

| Chemical Name | CAS number | Weight Concentration % |
|---------------|------------|------------------------|
| Acrylic Latex | | |

SECTION 4 - FIRST AID**Eye Contact:**

Prevention: Wear eye protection when mixing or applying paint.

Response: Check for and remove any contact lenses. Immediately flush eyes thoroughly with plenty of water for at least 15 minutes, lifting upper and lower eye lids. See a physician.

Skin Contact:

Prevention: Wear protective gloves when mixing or applying paint.

Response: Wash affected area thoroughly with soap and water.

Seek medical attention for any symptoms, allergic reactions or irritation.

SECTION 5 - FIRE FIGHTING

Flash Point: N/A

LEL:

UEL:

Extinguishing Media: This product does not burn. All firefighting media are suitable.

Unusual Fire/Explosion Hazards: None

Specific hazards arising from the chemical: None

Special protective equipment and precautions for fire-fighters: None

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Spill/Leak Procedures: Wear eye protection and gloves when mixing or applying paint.
Prevent further leakage or spillage if safe to do so. Remove with inert absorbent. Wash area with soap and water.

SECTION 7 - HANDLING AND STORAGE

Precautions for Safe Handling: Keep from freezing. If a partial pail is left, cover the paint with a thin layer of water and close container tightly.

Conditions for safe storage, including any incompatibilities: Keep containers tightly closed in a cool, dry, well ventilated place. Store above 40 F.

SECTION 8 - EXPOSURE CONTROL AND PERSONAL PROTECTION

| Chemical Name / CAS No. | OSHA Exposure Limits | ACGIH Exposure Limits | Other Exposure Limits |
|-------------------------|----------------------|-----------------------|-----------------------|
| Acrylic Latex | Not Established | Not Established | Not Established |

For industrial use only. For use by trained personnel only.

Protective Gear: Wear eye protection and protective gloves when mixing or applying paint.

SECTION 9 - PHYSICAL PROPERTIES

| | |
|--|---|
| Appearance Liquid Physical State Liquid % Volume Volatile 1.11 Lbs VOC/Gallon Less Water 0.36 | Odor mild Boiling Point 100 °C Specific Gravity (SG) 1.325 |
|--|---|

SECTION 10 - STABILITY AND REACTIVITY

STABLE

Reactivity: Hazardous polymerization will not occur.

Chemical stability: Stable

Possibility of hazardous reactions: None

Conditions to avoid: Avoid freezing. Store above 40 F.

Incompatible materials: none

Hazardous decomposition products: None

NOT ESTABLISHED

NOT ESTABLISHED

Hazardous polymerization will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

Mixture Toxicity

Component Toxicity

Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact). While this product is not classified as a hazardous mixture, paint may get into eyes or on skin when mixing or applying.

NOT ESTABLISHED

NOT ESTABLISHED

Effects of Overexposure

Whether the hazardous chemical is listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition), or by OSHA: IARC's Monograph No. 93 reports there is sufficient evidence of carcinogenicity in experimental rats exposed to titanium dioxide but inadequate evidence for carcinogenicity in humans and has assigned a Group 2B rating - "possibly carcinogenic to humans". The titanium dioxide is the product is encapsulated and remains encapsulated during the approved use of this product.

CAS Number

Description

% Weight

Carcinogen Rating

None

NOT ESTABLISHED

Symptoms related to the physical, chemical and toxicological characteristics: Not classified as a hazardous mixture.

Delayed and immediate effects and also chronic effects from short- and long-term exposure: Not classified as a hazardous mixture.

Numerical measures of toxicity: No applicable information is available

SECTION 12 - ECOLOGICAL INFORMATION

Not addressed in this Safety Data Sheet.

Component Ecotoxicity

SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal of wastes and contaminated packaging should be in accordance with local, regional and national laws and regulations.

SECTION 14 - TRANSPORT INFORMATION

not addressed in this safety sheet

Agency

Proper Shipping Name

UN Number

Packing Group

Hazard Class

NOT ESTABLISHED

SECTION 15 - REGULATORY INFORMATION

State of California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): WARNING! This product contains the following chemicals which are listed by the State of California as carcinogenic or a reproductive toxin:

- None

Country

Regulation

All Components Listed

EU Risk Phrases

Safety Phrase

- None

SECTION 16 - OTHER INFORMATION

Hazardous Material Information System (HMIS)

| | |
|---------------------|--------------------------------|
| HEALTH | <input type="text" value="1"/> |
| FLAMMABILITY | <input type="text" value="0"/> |
| PHYSICAL HAZARD | <input type="text" value="0"/> |
| PERSONAL PROTECTION | <input type="text"/> |

HMIS & NFPA Hazard Rating Legend

* = Chronic Health Hazard

0 = INSIGNIFICANT

1 = SLIGHT

2 = MODERATE

3 = HIGH

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with other materials or in any process, unless specified in the text.

Reviewer Revision

Date Prepared: 4/7/2016

JD



Safety Data Sheet

Issue Date: 27-Dec-2011

Revision Date: 28-Jul-2015

Version 1

1. IDENTIFICATION

Product Identifier

Product Name Buckeye Status

Other means of identification

SDS # BE-5555

Product Code 5555

Recommended use of the chemical and restrictions on use

Recommended Use Furniture Polish, Water Based.

Details of the supplier of the safety data sheet

Supplier Address

Buckeye International, Inc.
2700 Wagner Place
Maryland Heights, MO 63043 USA

Emergency Telephone Number

Company Phone Number 1-651-632-8956 (International)
1-800-303-0441 (North America)
Emergency Telephone (24 hr) INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance White opaque solution

Physical State Liquid

Odor Lemon

Classification

| | |
|--|-------------|
| Acute toxicity - Inhalation (Dusts/Mists) | Category 4 |
| Germ cell mutagenicity | Category 1B |
| Specific target organ toxicity (repeated exposure) | Category 1 |

Hazards Not Otherwise Classified (HNOC)

Causes mild skin irritation

Signal Word

Danger

Hazard Statements

Harmful if inhaled
May cause genetic defects
Causes damage to organs through prolonged or repeated exposure

**Precautionary Statements - Prevention**

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product

Precautionary Statements - Response

If exposed or concerned: Get medical advice/attention
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS No | Weight-% |
|---------------------------|-----------|----------|
| Mineral Spirits (Rule 66) | 8052-41-3 | <8 |
| Hexylene glycol | 107-41-5 | <7 |

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES**First Aid Measures**

| | |
|-----------------------|--|
| General Advice | Provide this SDS to medical personnel for treatment. |
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult a physician. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. |
| Inhalation | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. |
| Ingestion | Give two large glasses of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention. |

Most important symptoms and effects

| | |
|-----------------|--|
| Symptoms | Harmful if inhaled. Causes mild skin irritation. Causes damage to organs through prolonged or repeated exposure. |
|-----------------|--|

Indication of any immediate medical attention and special treatment needed**Notes to Physician**

Treat symptomatically.

5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media Not determined.**Specific Hazards Arising from the Chemical**

Not determined.

Hazardous Combustion Products Carbon oxides. Silicon oxides.**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures****Personal Precautions**

Use personal protective equipment as required.

Environmental Precautions

See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up**Methods for Containment**

Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up

Pick up with mop, wet/dry vac, or absorbent material. Rinse area with clear water and allow floor to dry before allowing traffic. Dispose of contents/container to an approved waste disposal plant.

7. HANDLING AND STORAGE**Precautions for safe handling****Advice on Safe Handling**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Use only outdoors or in a well-ventilated area. Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands, and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities**Storage Conditions**

Keep container tightly closed and store in a cool, dry and well-ventilated place. Protect from extreme temperatures. Keep locked up and out of reach of children.

Incompatible Materials

Do not mix with chlorinated detergents (bleach).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|--|--------------------------|---|---|
| Mineral Spirits (Rule 66) 8052-41-3 | TWA: 100 ppm | TWA: 500 ppm TWA: 2900 mg/m ³ (vacated) TWA: 100 ppm (vacated) TWA: 525 mg/m ³ | IDLH: 20000 mg/m ³ Ceiling: 1800 mg/m ³ 15 min TWA: 350 mg/m ³ |
| Hexylene glycol 107-41-5 | Ceiling: 25 ppm | (vacated) Ceiling: 25 ppm (vacated) Ceiling: 125 mg/m ³ | Ceiling: 25 ppm Ceiling: 125 mg/m ³ |
| Triethanolamine 102-71-6 | TWA: 5 mg/m ³ | - | - |

Appropriate engineering controls

Engineering Controls

Apply technical measures to comply with the occupational exposure limits. Showers. Eyewash stations. Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection

Wear safety glasses or goggles to protect against exposure. Refer to 29 CFR 1910.133 for eye and face protection regulations.

Skin and Body Protection

Wear protective gloves. Refer to 29 CFR 1910.138 for appropriate skin and body protection.

Respiratory Protection

No protective equipment is needed under normal use conditions. Refer to 29 CFR 1910.134 for respiratory protection requirements.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice. Wash face, hands and any exposed skin thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | | | |
|------------------------------|------------------------|-------------------------|----------------|
| Physical State | Liquid | Odor | Lemon |
| Appearance | White opaque solution | Odor Threshold | Not determined |
| Color | White | | |
| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> | |
| pH | 7.4 +/- 0.2 | | |
| Melting Point/Freezing Point | Not determined | | |
| Boiling Point/Boiling Range | 100 °C / 212 °F | | |
| Flash Point | None | | |
| Evaporation Rate | 1.0 | (Water = 1) | |
| Flammability (Solid, Gas) | Liquid- Not Applicable | | |
| Upper Flammability Limits | Not determined | | |
| Lower Flammability Limit | Not determined | | |
| Vapor Pressure | Not determined | | |
| Vapor Density | Not determined | | |
| Specific Gravity | 0.98 | | |
| Water Solubility | Miscible in water | | |

| | |
|-------------------------------------|-------------------------|
| Solubility in other solvents | Not determined |
| Partition Coefficient | Not determined |
| Auto-ignition Temperature | Not determined |
| Decomposition Temperature | Not determined |
| Kinematic Viscosity | Not determined |
| Dynamic Viscosity | Not determined |
| Explosive Properties | Not determined |
| Oxidizing Properties | Not determined |
| Additional Information | % Volatile by weight 94 |

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous Polymerization

Hazardous polymerization does not occur.

Conditions to Avoid

Keep out of reach of children.

Incompatible Materials

Do not mix with chlorinated detergents (bleach).

Hazardous Decomposition Products

Carbon oxides. Silicon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

| | |
|---------------------|------------------------------|
| Eye Contact | Avoid contact with eyes. |
| Skin Contact | Causes mild skin irritation. |
| Inhalation | Harmful if inhaled. |
| Ingestion | Do not ingest. |

Component Information

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|------------------------------------|----------------------|--|-------------------------------------|
| Polydimethylsiloxane 63148-62-9 | > 17 g/kg (Rat) | > 2 g/kg (Rabbit) | - |
| Hexylene glycol 107-41-5 | = 3692 mg/kg (Rat) | = 8560 µL/kg (Rabbit) | > 310 mg/m ³ (Rat) 1 h |
| Triethanolamine 102-71-6 | = 4190 mg/kg (Rat) | > 16 mL/kg (Rat) > 20 mL/kg (Rabbit) | - |

Information on physical, chemical and toxicological effects

| | |
|-----------------|--|
| Symptoms | Please see section 4 of this SDS for symptoms. |
|-----------------|--|

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Germ cell mutagenicity May cause genetic defects.

Carcinogenicity Group 3 IARC components are "not classifiable as human carcinogens".

| Chemical Name | ACGIH | IARC | NTP | OSHA |
|-----------------------------|-------|---------|-----|------|
| Triethanolamine 102-71-6 | | Group 3 | | |

Legend

IARC (International Agency for Research on Cancer)

Group 3 IARC components are "not classifiable as human carcinogens"

STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure.

Numerical measures of toxicity

Not determined

12. ECOLOGICAL INFORMATION

Ecotoxicity

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Component Information

| Chemical Name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|-----------------------------|---|--|----------------------------|---|
| Hexylene glycol 107-41-5 | | 10500 - 11000: 96 h Pimephales promelas mg/L LC50 flow-through 10000: 96 h Lepomis macrochirus mg/L LC50 static 10700: 96 h Pimephales promelas mg/L LC50 static 8690: 96 h Pimephales promelas mg/L LC50 flow-through | EC50 = 3038 mg/L 5 min | 2700 - 3700: 48 h Daphnia magna mg/L EC50 |
| Triethanolamine 102-71-6 | 216: 72 h Desmodesmus subspicatus mg/L EC50 169: 96 h Desmodesmus subspicatus mg/L EC50 | 10600 - 13000: 96 h Pimephales promelas mg/L LC50 flow-through 1000: 96 h Pimephales promelas mg/L LC50 static 450 - 1000: 96 h Lepomis macrochirus mg/L LC50 static | | 1386: 24 h Daphnia magna mg/L EC50 |

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

| Chemical Name | Partition Coefficient |
|-----------------------------|-----------------------|
| Hexylene glycol 107-41-5 | <0.14 |
| Triethanolamine 102-71-6 | -2.53 |

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

Note

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT

Not regulated

IATA

Not regulated

IMDG

Not regulated

15. REGULATORY INFORMATION

International Inventories

| Chemical Name | TSCA | DSL | NDSL | EINECS | ELINCS | ENCS | IECSC | KECL | PICCS | AICS |
|---------------------------|---------|-----|------|---------|--------|---------|-------|---------|-------|------|
| Mineral Spirits (Rule 66) | Present | X | | Present | | Present | X | Present | X | X |
| Hexylene glycol | Present | X | | Present | | Present | X | Present | X | X |

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|--|------------|---------------|--------------|
| Mineral Spirits (Rule 66) 8052-41-3 | X | X | X |
| Hexylene glycol 107-41-5 | X | X | X |
| Triethanolamine 102-71-6 | X | X | X |

16. OTHER INFORMATION**NFPA****Health Hazards**

1

Flammability

0

Instability

0

Special Hazards

Not determined

HMIS**Health Hazards**

Not determined

Flammability

Not determined

Physical Hazards

Not determined

Personal Protection

Not determined

Issue Date:

27-Dec-2011

Revision Date:

28-Jul-2015

Revision Note:

New format

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



SAFETY DATA SHEET

1. Product and Company Identification

| | |
|-----------------------------------|--|
| Product Name | BW STAIN-AWAY |
| Product Number | 3BI |
| Product Type | Mixture |
| Product Use | Acidic Spot Remover for carpets & upholstery |
| Manufacturer | CFR, A Division of Tacony Corporation 3101 Wichita Court Fort Worth, TX 76140-1710 |
| Company Contact | 1-800-533-2557 or website www.cfrcorp.com |
| Emergency Telephone Number | 1-800-270-5201 |

2. Hazards Identification

GHS Classification in accordance with 29CFR 1910 OSHA HCS

Corrosive to metals, (Category 1) H290
Skin corrosion/irritation, (Category 1) H314
Acute Aquatic toxicity (Category 3) H402
Chronic aquatic toxicity (Category 3) H412

GHS Label elements, including precautionary statements

Pictogram



Signal Word Danger

Hazard Statements

H290 May be corrosive to metals
H314 Causes severe skin burns and eye damage.
H402 Harmful to aquatic life
H412 Harmful to aquatic life with long lasting effects.

Precautionary Statements

Prevention

P234 Keep only in original packaging.
P260 Do not breathe mists or vapors.
P264 Wash and rinse hands and exposed skin after handling concentrated product.
P280 Wear protective gloves, protective clothing, eye protection/face protection.
P273 Avoid release to the environment.

Response

P390 Absorb spillage to prevent material damage.
P301+P330+P331 IF SWALLOWED, rinse mouth, do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off all contaminated clothing. Rinse skin with water or shower.
P263 Wash contaminated clothing before reuse.
P304+P340 IF INHALED, remove person to fresh air and keep comfortable for breathing.
P310 Immediately call a POISON CENTER/doctor
P332+P313 If skin irritation occurs, get medical attention.
P305+P351+P338 IF IN EYES, Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists, get medical attention.

**Storage/Disposal**

P405

P501

Store locked up.

Dispose of contents/container in accordance with local, regional and federal regulations

3. Composition/Information on Ingredients

The criteria for listing components in this section are: Ingredients that meet the criteria for carcinogenic, toxic to reproduction, or specific target organ toxicity and components otherwise considered hazardous according to OSHA which exceed the cut off limits for SDS specified by the criteria for mixtures are listed. Non hazardous components are not listed. This is not a composition disclosure. Exact percentages are considered proprietary and a trade secret.

| Hazardous Components | CAS# | Classification | % |
|--|-------------|----------------|------|
| Alcohols, C6-C10, ethoxylated propoxylated | 168987-81-5 | H319, H402 | 1-8% |
| Citric acid, anhydrous | 77-92-9 | H319 | 1-6% |
| 1-Hydroxyethylidene-1, 1-diphosphonic acid | 2809-21-4 | H290, H318 | 1-5% |
| Gluconic acid | 526-95-4 | H314, H318 | 1-5% |

4. First Aid Measures

Description of First Aid Procedures**In case of Eye Contact**

Flush with cool running water for 15 minutes. Remove contact lenses if easy to do. Seek immediate medical attention.

In case of Skin Contact

Flush with cool water, Wash with soap and water, If irritation occurs, get medical attention.

If Inhaled

If symptoms develop, move to fresh air. If symptoms persist, get medical attention

If Ingested

Rinse mouth with water. Drink one or two glasses of water. **Do not induce vomiting.** Obtain immediate medical attention. Never give anything by mouth to an unconscious person.

.Notes to Physician

Symptoms may be delayed.

General advice

Seek medical attention if feeling unwell. Show the SDS to the physician in attendance.

5. Fire-fighting Measures

Flammable properties

Not flammable

Extinguishing media

Treat for surrounding material.

Protection of firefighters

Firefighters should wear protective clothing including self contained breathing apparatus

Hazardous combustion products

May include and not limited to oxides of carbon, nitrogen.

Unusual Fire, Explosion hazards

None known.

6. Accidental Release Measures

Personal precautions

Keep unnecessary personal away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled containers unless wearing protective Clothing. Stay upwind of spills or leaks.

Methods for containment

Stop leak if you can do so without risk. Prevent entry into waterways, sewers.

Methods for cleaning up

Before attempting clean up refer to hazard data given above. Small spills may be absorbed with non reactive absorbent and placed in suitable, covered, labeled containers. Prevent large spills from entering sewers or water ways. Dike spill.



Environmental Precautions

Absorb spill with non reactive absorbent and place in a suitable, covered, labeled container for disposal. Never return spill to original container for reuse.
Avoid release to the environment.

7. Handling and Storage

Precautions for Safe Handling Conditions for Safe Storage

Use good industrial hygiene practices when handling this material
Keep out of reach of children. Keep from freezing, store in a cool dry place away from incompatible materials.

8. Exposure Controls and Personal Protection

Exposure limits

| Ingredients | CAS-No | OSHA PEL | ACGIH TLV |
|--|-------------|---------------|--------------------------|
| Alcohols, C6-C10, ethoxylated propoxylated | 168987-81-5 | Not available | Not available |
| Citric acid, anhydrous | 77-92-9 | Not available | TWA: 10mg/m ³ |
| 1-Hydroxyethylidene-1, 1-diphosphonic acid | 2809-21-4 | Not available | Not available |
| Gluconic acid | 526-95-4 | Not available | Not available |

Engineering controls

General ventilation normally adequate

Personal protective equipment

Eye/Face protection

Wear safety glasses with side shields if splash conditions exist.

Hand protection

Rubber or nitrile gloves.

Skin and body

As required by employer code.

Respiratory protection

Use a NIOSH approved respirator when exposure guidelines are exceeded.

General hygiene considerations

Handle in accordance with good industrial hygiene practices. Do not eat or drink when using product. Wash hands well before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

| | |
|--|--|
| Appearance/form | Clear liquid |
| Color | Light straw to colorless |
| Odor | Fresh air |
| Odor threshold | Not established |
| pH | 3.0-3.4 (Concentrate) |
| Melting point/freezing point | Not established |
| Initial Boiling point | > 212° F. (100° C.) |
| Flash point | > 200° F. (93° C.) Estimated |
| Evaporation rate | Not established |
| Flammability | Not flammable |
| Upper/lower flammability or Explosive limits | Not established |
| Vapor pressure | Not established |
| Vapor density | Not established |
| Specific gravity/density | 1.08-1.11 |
| Solubility in water | Complete |
| Partition coefficient: | Not established |
| Auto ignition temperature | Not established |
| Decomposition temperature | Not established |
| Stability and Reactivity | Stable and non reactive under normal use and storage conditions. |
| VOC | < 1% |
| % Volatile | Approx. 75% |

Other safety Information

10. Stability and Reactivity

| | |
|---|---|
| Reactivity | Not reactive under normal use and storage. |
| Chemical Stability | Stable under normal storage conditions. |
| Hazardous reactions | None known. |
| Conditions to avoid | Do not mix with other chemicals. |
| Incompatible materials | Caustics, reducing agents, metals, and oxidizers. |
| Hazardous decomposition products | May include but not limited to oxides of carbon, nitrogen, and oxides of phosphorous. |
| Hazardous polymerization | Will not occur. |

11. Toxicological Information

| | |
|--|---|
| Ingredients | LC50 |
| Alcohols,C6-C10, ethoxylated propoxylated | > 50 mg/l rat 4 hours |
| Citric acid, anhydrous | No data available |
| 1-Hydroxyethylidene-1, 1-diphosphonic acid | No data available |
| Gluconic acid | No data available |
| Ingredients | LD50 |
| Alcohols,C6-C10, ethoxylated propoxylated | 2745 mg/kg (Oral-rat), > 2,000 mg/kg (Dermal-rabbit) |
| Citric acid, anhydrous | 5,400 mg/kg (Oral-rat), >2,000 mg/kg (Dermal-rabbit) |
| 1-Hydroxyethylidene-1, 1-diphosphonic acid | No data available |
| Gluconic acid | No data available |
| Effects of acute exposure | |
| Eye | Causes severe skin burns |
| Skin | Causes eye damage. |
| Inhalation | May be irritating to the respiratory tract. |
| Ingestion | May be harmful if swallowed. May cause stomach distress, nausea, or vomiting. |
| Sensitization | No data available. |
| Chronic effects of short and long term exposure | No data available. |
| Carcinogenicity | Does not contain ingredients considered carcinogenic by NTP, IARC, or OSHA. |
| Mutagenicity | No data available. |
| Reproductive effects | No data available. |
| Teratogenicity | No data available. |

12. Ecological Information

| | |
|--|--|
| Eco-toxicity | Components of this product have been identified as toxic with long lasting effects to the aquatic environmental. The low pH of the product would be expected to produce significant eco-toxicity upon exposure to aquatic organisms. |
| Environmental effects | No data available. |
| Aquatic toxicity | |
| Alcohols,C6-C10, ethoxylated, propoxylated | LC50 Fish (primephales promelas): 1-10mg/l 96 hours EC50 Algae: 1-10 mg/l 48 hours EC50 Aquatic plants: 1-10 mg/l 120 hours |
| Citric acid | LC50 Fish (Leuciscus idus melanotus): 440 mg/l 48 hours LC50 Water Flea (Daphnia Magnus): 1,535 mg/l 24 hours |



| | |
|--|--------------------|
| Persistence and Degradability | No data available |
| Bioaccumulation/accumulation | No data available. |
| Partition coefficient | No data available. |
| Mobility in environmental media | No data available. |
| Chemical fate information | No data available. |
| Other adverse effects | No data available. |

13. Disposal Considerations

| | |
|--|---|
| Disposal instructions | Dispose in accordance with local, state, and federal regulations |
| Wastes from residues/unused Product | Containerize. Rinse area with water. Keep out of storm sewer/waterways. |
| Contaminated packaging | Dispose in accordance with all applicable regulations. |

14. Transport Information

| | |
|-------------------------------------|-------------------|
| Basic shipping requirements: | Not DOT regulated |
| Proper shipping name | |
| Hazard class | |
| UN number | |
| Packing group | |
| Special provisions | |

15. Regulatory Information

| | |
|---|--|
| U.S federal regulations | This product has been classified in accordance with the Occupational Safety and Health Administration hazard criteria and the SDS contains all of the information required by OSHA HCS 2012. |
| TSCA | All ingredients are listed on the Toxic Substances Control Act or are exempt from listing. |
| CERCLA Super Fund 40CFR117.302 | Product contains a material with a Reportable Quantity (RQ): None |
| SARA Title III Section 311&312 | Immediate (Acute) Health Hazard Alcohols, C6-C10, ethoxylated propoxylated CAS#168987-81-5 Citric acid CAS#77-92-9 1-Hydroxyethylidene-1, 1-diphosphonic acid CAS#2809-21-4 |
| SARA Title III Section 313 | Ingredients subject to the reporting requirements of Section 313: None |
| California Proposition 65 | This product does not contain intentional ingredients known to the State of California to cause cancer, birth defects or reproductive effects. However trace amounts of Ethylene oxide (CAS#71-25-8) and Propylene oxide (CAS#75-56-9) may be present and are listed as possible carcinogens in the state of California. |
| States Right to Know | Reportable Chemicals: 1-Hydroxyethylidene-1, 1-diphosphonic acid CAS#2809-21-4 Gluconic acid CAS#526-95-4 Citric acid CAS#77-92-9 |

| Inventory Status | Inventory Name | On Inventory (Yes/No)* |
|-------------------------|--------------------------|-------------------------------|
| Countries | | |
| U.S. | Chemical Inventory List | Yes |
| Canada | Domestic substances list | Yes |



- A δYesö indicates that all of the components of this product comply with the inventory requirements administered by the governing country(s) listed.

16. Other Information

HMIS RATING

HMIS LEGEND

| | |
|----------|---|
| Severe | 4 |
| Serious | 3 |
| Moderate | 2 |
| Slight | 1 |
| Minimal | |

| | |
|---------------------|---|
| Health | 2 |
| Flammability | 0 |
| Reactivity | 0 |
| Personal Protection | B |

Disclaimer

To the best of our knowledge, the information included herein is accurate. However, neither the above named supplier nor any of its subsidiaries assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of the suitability of any material is the responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Issue date

May 4, 2015

Supersedes date

Previous issues.

Reason for update

Conform to GHS OSHA HCS 2012.

Expiration date

May 4, 2018

CJ Industrial Cleaner

Safety Data Sheet

SECTION 1: Product and company identification

Product name : CJ Industrial Cleaner
Use of the substance/mixture : Cleaner
Product code : 0238
Company : Continental Research Corp.
PO Box 15204
St. Louis, MO 63110 - USA
T (800) 325-4869
Emergency number : CHEM-TEL: 888-255-3924

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

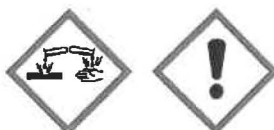
GHS-US classification

Met. Corr. 1 H290
Acute Tox. 4 (Oral) H302
Eye Dam. 1 H318
Full text of H statements : see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US)



GHS05

GHS07

Signal word (GHS-US) : Danger
Hazard statements (GHS-US) : May be corrosive to metals
Harmful if swallowed
Causes serious eye damage
Precautionary statements (GHS-US) : Keep only in original container
Wash thoroughly after handling
Do not eat, drink or smoke when using this product
Wear eye protection, protective clothing, protective gloves
If swallowed: Call a doctor, a POISON CENTER if you feel unwell
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a doctor, a POISON CENTER
Rinse mouth
Absorb spillage to prevent material damage
Store in corrosive resistant container with a resistant inner liner
Dispose of contents/container to comply with local/regional/national/international regulations

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substance

Not applicable

Full text of H-phrases: see section 16

3.2. Mixture

| Name | Product identifier | % | GHS-US classification |
|--|----------------------|-------|---|
| Urea Monohydrochloride (Organic Acid Salt) | (CAS No) 506-89-8 | 15-40 | Met. Corr. 1, H290 Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 |
| Anti-Staining Solution | (CAS No) Proprietary | 1-5 | Eye Irrit. 2A, H319 |
| UNDECETH-5 | (CAS No) 34398-01-1 | 1-5 | Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 |

A specific chemical identity and/or percentage of composition has been withheld as a trade secret. Any concentration shown as a range is to protect confidentiality or is due to batch variation.

CJ Industrial Cleaner

Safety Data Sheet

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|--|
| First-aid measures general | : If you feel unwell, seek medical advice (show the label where possible). |
| First-aid measures after inhalation | : Remove person to fresh air and keep comfortable for breathing. |
| First-aid measures after skin contact | : Rinse skin with water/shower. |
| First-aid measures after eye contact | : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician. |
| First-aid measures after ingestion | : Rinse mouth with water. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell. |

4.2. Most important symptoms and effects, both acute and delayed

| | |
|--------------------------------------|--|
| Symptoms/injuries | : Not expected to present a significant hazard under anticipated conditions of normal use. |
| Symptoms/injuries after inhalation | : May cause respiratory irritation. |
| Symptoms/injuries after skin contact | : Contact during a long period may cause light irritation. |
| Symptoms/injuries after eye contact | : Causes serious eye damage. Corrosion of the eye tissue. Permanent eye damage. |
| Symptoms/injuries after ingestion | : Harmful if swallowed. Gastrointestinal complaints. |

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

| | |
|------------------------------|------------------------------------|
| Suitable extinguishing media | : All extinguishing media allowed. |
|------------------------------|------------------------------------|

5.2. Special hazards arising from the substance or mixture

| | |
|------------|---|
| Reactivity | : Thermal decomposition may produce oxides of carbon, nitrogen and chlorine. Hydrogen gas may be released upon contact with certain metals at sustained temperatures about 140°F. |
|------------|---|

5.3. Advice for firefighters

| | |
|--------------------------------|--|
| Firefighting instructions | : Exercise caution when fighting any chemical fire. Use water spray or fog for cooling exposed containers. Take account of environmentally hazardous firefighting water. |
| Protection during firefighting | : Do not enter fire area without proper protective equipment, including respiratory protection. |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

| | |
|------------------|---|
| General measures | : Isolate from fire, if possible, without unnecessary risk. |
|------------------|---|

6.1.1. For non-emergency personnel

| | |
|----------------------|--|
| Protective equipment | : Protective goggles. Gloves. Protective clothing. |
| Emergency procedures | : Evacuate unnecessary personnel. Avoid contact with skin, eyes and clothing. Ventilate spillage area. |

6.1.2. For emergency responders

| | |
|----------------------|---|
| Protective equipment | : Equip cleanup crew with proper protection. |
| Emergency procedures | : Stop leak if safe to do so. Stop release. Ventilate area. |

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

| | |
|-------------------------|--|
| For containment | : Contain released substance, pump into suitable containers. |
| Methods for cleaning up | : Absorb spillage to prevent material damage. This material and its container must be disposed of in a safe way, and as per local legislation. |

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

| | |
|-------------------------------|--|
| Precautions for safe handling | : Comply with the legal requirements. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Do not eat, drink or smoke when using this product. Do not get in eyes, on skin, or on clothing. Handle and open the container with care. |
| Hygiene measures | : Wash thoroughly after handling. Wash contaminated clothing before reuse. |

CJ Industrial Cleaner

Safety Data Sheet

7.2. Conditions for safe storage, including any incompatibilities

| | |
|----------------------------|--|
| Technical measures | : Comply with applicable regulations. |
| Storage conditions | : Store in corrosive resistant container with a resistant inner liner. Keep container closed when not in use. Store locked up. |
| Incompatible products | : Strong oxidizers. alkalis. Chlorates. Nitrates. |
| Incompatible materials | : Sources of ignition. Metals. |
| Storage area | : Meet the legal requirements. Store in a cool area. Store in a dry area. |
| Special rules on packaging | : meet the legal requirements. Keep only in original container. |

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

| | |
|-------------------------------|--|
| Personal protective equipment | : Use appropriate personal protective equipment when risk assessment indicates this is necessary. Safety glasses. Gloves. Protective clothing. |
|-------------------------------|--|



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|--------------------------------|
| Physical state | : Liquid |
| Appearance | : amber. Clear to hazy liquid. |
| Odor | : mild |
| Odor threshold | : No data available |
| pH | : < 1 |
| Melting point | : No data available |
| Freezing point | : No data available |
| Boiling point | : No data available |
| Flash point | : > 200 °F Estimated |
| Relative evaporation rate (butyl acetate=1) | : No data available |
| Flammability (solid, gas) | : No data available |
| Explosion limits | : No data available |
| Explosive properties | : No data available |
| Oxidizing properties | : No data available |
| Vapor pressure | : No data available |
| Relative density | : No data available |
| Relative vapor density at 20 °C | : No data available |
| Specific gravity / density | : 1.09 g/ml |
| Solubility | : Soluble in water. |
| Log Pow | : No data available |
| Log Kow | : No data available |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Viscosity | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| VOC content | : < 1 % |

SECTION 10: Stability and reactivity

10.1. Reactivity

Thermal decomposition may produce oxides of carbon, nitrogen and chlorine. Hydrogen gas may be released upon contact with certain metals at sustained temperatures about 140°F.

CJ Industrial Cleaner

Safety Data Sheet

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Refer to section 10.1 on Reactivity.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

May be corrosive to metals.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

UNDECETH-5 (34398-01-1)

| | |
|---------------|--------------|
| LD50 oral rat | > 1400 mg/kg |
|---------------|--------------|

| | |
|---------------------------|-----------------------------|
| Skin corrosion/irritation | : Not classified pH: < 1 |
|---------------------------|-----------------------------|

| | |
|-------------------------------|---|
| Serious eye damage/irritation | : Causes serious eye damage. pH: < 1 |
|-------------------------------|---|

| | |
|-----------------------------------|------------------|
| Respiratory or skin sensitization | : Not classified |
|-----------------------------------|------------------|

| | |
|------------------------|------------------|
| Germ cell mutagenicity | : Not classified |
|------------------------|------------------|

| | |
|-----------------|------------------|
| Carcinogenicity | : Not classified |
|-----------------|------------------|

| | |
|-----------------------|------------------|
| Reproductive toxicity | : Not classified |
|-----------------------|------------------|

| | |
|--|------------------|
| Specific target organ toxicity (single exposure) | : Not classified |
|--|------------------|

| | |
|--|------------------|
| Specific target organ toxicity (repeated exposure) | : Not classified |
|--|------------------|

| | |
|-------------------|------------------|
| Aspiration hazard | : Not classified |
|-------------------|------------------|

| | |
|------------------------------------|-------------------------------------|
| Symptoms/injuries after inhalation | : May cause respiratory irritation. |
|------------------------------------|-------------------------------------|

| | |
|--------------------------------------|--|
| Symptoms/injuries after skin contact | : Contact during a long period may cause light irritation. |
|--------------------------------------|--|

| | |
|-------------------------------------|---|
| Symptoms/injuries after eye contact | : Causes serious eye damage. Corrosion of the eye tissue. Permanent eye damage. |
|-------------------------------------|---|

| | |
|-----------------------------------|--|
| Symptoms/injuries after ingestion | : Harmful if swallowed. Gastrointestinal complaints. |
|-----------------------------------|--|

| | |
|---------------------------|-------------------------|
| Likely routes of exposure | : Skin and eyes contact |
|---------------------------|-------------------------|

SECTION 12: Ecological information

12.1. Toxicity

UNDECETH-5 (34398-01-1)

| | |
|-------------|-----------|
| LC50 fish 1 | < 10 mg/l |
|-------------|-----------|

| | |
|----------------|-----------|
| EC50 Daphnia 1 | < 10 mg/l |
|----------------|-----------|

| | |
|---------------|-----------|
| ErC50 (algae) | < 10 mg/l |
|---------------|-----------|

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

Department of Transportation (DOT)

Additional information

Other information : When transported by ground, this product utilizes the exemption found under 49 CFR 173.154.

CJ Industrial Cleaner

Safety Data Sheet

ADR

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

California Proposition 65 - This product does not contain substances known to the state of California to cause cancer and/or reproductive toxicity.

SECTION 16: Other information

Training advice : Normal use of this product shall imply use in accordance with the instructions on the packaging.

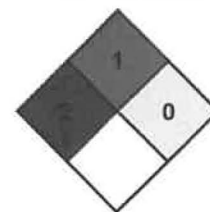
Full text of H-phrases:

| | |
|------|-------------------------------|
| H290 | May be corrosive to metals |
| H302 | Harmful if swallowed |
| H318 | Causes serious eye damage |
| H319 | Causes serious eye irritation |

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard : 1 - Must be preheated before ignition can occur.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



Prepared by: Technical Department

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. No warranty is expressed or implied regarding the accuracy of this data or the results obtained from the use thereof. Our company assumes no responsibility for personal injury or property damage to the vendee, users or third parties caused by the material. Such vendees or users assume all risks associated with the use of this material.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 196.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Calcium Chloride

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 4). Harmful if swallowed (H302). Do not eat, drink or smoke when using this product (P270).

Hazard class: Serious eye damage or irritation (Category 2A). Causes serious eye irritation (H319).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

| Component Name | CAS Number | Formula | Formula Weight | Concentration |
|-----------------------------|------------|-------------------|----------------|---------------|
| Calcium chloride, anhydrous | 10043-52-4 | CaCl ₂ | 110.98 | |

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313).

If on skin: Rinse cautiously with water for several minutes (P351).

If swallowed: Rinse mouth. Contact a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates. Store in a cool, dry place. Hygroscopic. Store in Flinn Chem-Saf™ bag.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White powder, crystals, or flakes. Odorless.

Boiling point: 1670 °C

Soluble: Water and alcohol. Liberates heat in water.

Melting point: 772 °C

Specific gravity: 2.15

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong acids.

Shelf life: Fair to poor, hygroscopic. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant.

ORL-RAT LD₅₀: 1000 mg/kg

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (233-140-8).

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

Carbon Steel Alloy Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations
Revision Date: 12/15/2014 Date of issue: 10/29/2014

Version: 1.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Carbon Steel Alloy Steel

Synonyms: Alloy #200; Alloy #900; Alloy #STAGCG57; Alloy #342; Alloy #2SA

1.2. Intended Use of the Product

Use of the Substance/Mixture: Cold Drawn Steel Bars.

1.3. Name, Address, and Telephone of the Responsible Party

Distributor

ThyssenKrupp Materials NA, Inc.
22355 W. Eleven Mile Road
Southfield, Michigan 48034
TEL: 248-233-5713

1.4. Emergency Telephone Number

Emergency Number : 248-233-5713

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Not classified

2.2. Label Elements

GHS-US Labeling No labeling applicable

2.3. Other Hazards

This product is present in a massive form as an alloy. It does not present the same hazards when the individual components are in their powdered forms. The materials present in this product in their powdered forms present aquatic toxicity to the environment, pyrophoricity, flammability, self-heating capabilities, carcinogenicity, water reactivity, and acute toxicity. When processed or where dust is generated a combustible dust hazard may be present. Avoid generating dust, generating sparks, ignition sources, and take all precautions.

Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath.

Under normal use and handling of the solid form of this material there are few health hazards. Cutting, welding, melting, grinding etc. of these materials will produce dust, fume or particulate containing the component elements of these materials. Exposure to the dust, fume or particulate of these materials may present significant health hazards. Exposure to dust or fume may cause irritation of the eyes, skin and respiratory tract. Fine particulates dispersed in air may present an explosion hazard.

2.4. Unknown Acute Toxicity (GHS-US) No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable

| Name | Product Identifier | % (w/w) | Classification (GHS-US) |
|-----------|--------------------|-----------------------|--|
| Iron | (CAS No) 7439-89-6 | 97 - 99 | Not classified |
| Nickel | (CAS No) 7440-02-0 | < 0.1, 0.1 - 1, 1 - 4 | Skin Sens. 1, H317 Carc. 2, H351 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 3, H412 |
| Chromium | (CAS No) 7440-47-3 | < 0.1, 0.1 - 1, 1 - 3 | Comb. Dust |
| Manganese | (CAS No) 7439-96-5 | 0.1 - 1, 1 - 2 | Comb. Dust |

Carbon Steel Alloy Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | | | |
|----------------------|---------------------|-----------------------|---|
| Molybdenum | (CAS No) 7439-98-7 | < 0.1, 0.1 - 1, 1 - 2 | Comb. Dust |
| Carbon | (CAS No) 7440-44-0 | < 0.1, 0.1 - 1, 1 - 2 | Comb. Dust |
| Copper | (CAS No) 7440-50-8 | < 0.1, 0.1 - 0.5 | Comb. Dust Aquatic Acute 1, H400 Aquatic Chronic 3, H412 |
| Silicon | (CAS No) 7440-21-3 | < 0.1, 0.1 - 0.5 | Comb. Dust |
| Tellurium | (CAS No) 13494-80-9 | < 0.1, 0.1 - 0.5 | Comb. Dust Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Sens. 1B, H317 STOT SE 3, H335 Aquatic Chronic 4, H413 |
| Lead | (CAS No) 7439-92-1 | 0.15 - 0.35 | Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:dust,mist), H332 Repr. 1A, H360 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| Sulfur dioxide | (CAS No) 7446-09-5 | < 0.1, 0.1 - 0.35 | Compressed gas, H280 Acute Tox. 3 (Inhalation:gas), H331 Skin Corr. 1B, H314 Eye Dam. 1, H318 |
| Vanadium pentoxide | (CAS No) 1314-62-1 | < 0.1, 0.1 - 0.25 | Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 4 (Inhalation:dust,mist), H332 Carc. 2, H351 |
| Aluminum | (CAS No) 7429-90-5 | < 0.1, 0.1 - 0.2 | Comb. Dust Flam. Sol. 1, H228 Water-react. 2, H261 |
| Bismuth | (CAS No) 7440-69-9 | < 0.1, 0.1 - 0.2 | Not classified |
| Phosphorus elemental | (CAS No) 7723-14-0 | < 0.1 | Not classified |

Full text of H-phrases: see section 16

More than one of the ranges of concentration prescribed by Controlled Products Regulations has been used where necessary due to varying composition.

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

General: IF exposed or concerned: Get medical advice/attention. Never give anything by mouth to an unconscious person.

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Keep at rest and in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

Skin Contact: Cool skin rapidly with cold water after contact with molten product. Removal of solidified molten material from skin requires medical assistance. Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Wash with plenty of soap and water. Wash contaminated clothing before reuse. Obtain medical attention if irritation persists.

Eye Contact: Removal of solidified molten material from the eyes requires medical assistance. Immediately rinse with water for a prolonged period (at least 15 minutes) while holding the eyelids wide open. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.

Ingestion: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER/doctor/physician if you feel unwell.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

General: Welding, cutting, or processing this material may release dust or fumes that are hazardous.

Carbon Steel Alloy Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

Inhalation: Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath.

Skin Contact: May cause an allergic skin reaction. Dust from physical alteration of this product causes skin irritation. Causes severe skin burns. Contact with fumes or metal powder will irritate skin. Contact with hot, molten metal will cause thermal burns. Dust may cause irritation in skin folds or by contact in combination with tight clothing. Mechanical damage via flying particles and chipped slag is possible.

Eye Contact: Dust may cause mechanical irritation to eyes, nose, throat, and lungs.

Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: In massive form, no hazard exists. If physically altered to present slivers, ribbons, dusts or fumes from molten material: Aluminum: Inhalation of finely divided aluminum powder may cause pulmonary fibrosis. Inhalation of iron oxide fumes undergoing decomposition may cause irritation and flu-like symptoms, otherwise iron oxide is not hazardous. Inhalation of Nickel compounds has been shown in studies to provide an increased incidence of cancer of the nasal cavity, lung and possibly larynx in nickel refinery workers. Nickel: May cause a form of dermatitis known as nickel itch and intestinal irritation, which may cause disorders, convulsions and asphyxia. Chromium: Certain hexavalent chromium compounds have been demonstrated to be carcinogenic on the basis of epidemiological investigations on workers and experimental studies in animals. Increased incidences of respiratory cancer have been found in chromium (VI) workers. There is an increased incidence of lung cancer in industrial workers exposed to chromium (VI) compounds. Please refer to IARC volume 23 for a more detailed discussion. Manganese: Chronic exposure can cause inflammation of the lung tissue, scarring the lungs (pulmonary fibrosis). Copper: Overexposure to fumes may cause metal fume fever (chills, muscle aches, nausea, fever, dry throat, cough, weakness, lassitude); metallic or sweet taste; discoloration of skin and hair. Tissue damage of mucous membranes may follow chronic dust exposure. Silicon: Can cause chronic bronchitis and narrowing of the airways. Lead: Exposure can result in lassitude (weakness, exhaustion), insomnia; facial pallor; anorexia, weight loss, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremor; encephalopathy; kidney disease; hypertension.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire. Dry sand; Class D Extinguishing Agent (for metal powder fires).

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire. Do not use water when molten material is involved, may react violently or explosively on contact with water.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: A non-combustible material, not considered flammable but will melt above 1215 °F (657.2 °C).

Explosion Hazard: In molten state: reacts violently with water (moisture).

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Under fire conditions, hazardous fumes will be present.

Firefighting Instructions: Exercise caution when fighting any chemical fire.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Oxides of tin. Oxides of nickel. Oxides of copper. Chromium oxides. Oxides of silicone and carbon. Oxides of lead. Oxides of aluminum. Phosphorus oxides.

Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not handle until all safety precautions have been read and understood. Do not breathe vapors from molten product. Avoid all eye and skin contact and do not breathe dust, fumes, and vapors.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

Carbon Steel Alloy Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain and collect as any solid.

Methods for Cleaning Up: Clear up spills immediately and dispose of waste safely. For particulates and dust: Avoid actions that cause dust to become airborne during clean-up such as dry sweeping or using compressed air. Use PPE described in Section 8. Vacuum must be fitted with HEPA filter to prevent release of particulates during clean-up.

6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection. Concerning disposal elimination after cleaning, see item 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: May generate flammable/explosive dusts or turnings when brushed, machined or ground. Use care during processing to minimize generation of dust. Where excessive dust may result, use approved respiratory protection equipment. Heating of product can release toxic or irritating fumes; ensure proper ventilation is employed, proper precautions are enforced, and applicable regulations are followed. Inhalation of fumes may cause metal fume fever.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do NOT eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store in a dry, cool and well-ventilated place.

Incompatible Materials: Strong acids, strong bases, strong oxidizers. Alkalis. Metal oxides. Water, humidity. Corrosive substances in contact with metals may produce flammable hydrogen gas.

7.3. Specific End Use(s)

Cold Drawn Steel Bars.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

| Nickel (7440-02-0) | | |
|-------------------------|--------------------------------------|--|
| Mexico | OEL TWA (mg/m ³) | 1 mg/m ³ |
| USA ACGIH | ACGIH TWA (mg/m ³) | 1.5 mg/m ³ (inhalable fraction) |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 1 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 0.015 mg/m ³ |
| USA IDLH | US IDLH (mg/m ³) | 10 mg/m ³ |
| Alberta | OEL TWA (mg/m ³) | 1.5 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 0.05 mg/m ³ |
| Manitoba | OEL TWA (mg/m ³) | 1.5 mg/m ³ (inhalable fraction) |
| New Brunswick | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 1.5 mg/m ³ (inhalable fraction) |
| Nova Scotia | OEL TWA (mg/m ³) | 1.5 mg/m ³ (inhalable fraction) |
| Nunavut | OEL STEL (mg/m ³) | 2 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Northwest Territories | OEL STEL (mg/m ³) | 2 mg/m ³ |
| Northwest Territories | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Ontario | OEL TWA (mg/m ³) | 1 mg/m ³ (inhalable) |
| Prince Edward Island | OEL TWA (mg/m ³) | 1.5 mg/m ³ (inhalable fraction) |
| Québec | VEMP (mg/m ³) | 1 mg/m ³ |

Carbon Steel Alloy Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | | |
|------------------------------------|---|--|
| Saskatchewan | OEL STEL (mg/m ³) | 3 mg/m ³ (inhalable fraction) |
| Saskatchewan | OEL TWA (mg/m ³) | 1.5 mg/m ³ (inhalable fraction) |
| Yukon | OEL STEL (mg/m ³) | 3 mg/m ³ |
| Yukon | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Chromium (7440-47-3) | | |
| Mexico | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.5 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 1 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 0.5 mg/m ³ |
| USA IDLH | US IDLH (mg/m ³) | 250 mg/m ³ |
| Alberta | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Manitoba | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| New Brunswick | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Nova Scotia | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Nunavut | OEL STEL (mg/m ³) | 1.5 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Northwest Territories | OEL STEL (mg/m ³) | 1.5 mg/m ³ |
| Northwest Territories | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Ontario | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Prince Edward Island | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Québec | VEMP (mg/m ³) | 0.5 mg/m ³ |
| Saskatchewan | OEL STEL (mg/m ³) | 1.5 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Yukon | OEL STEL (mg/m ³) | 3.0 mg/m ³ |
| Yukon | OEL TWA (mg/m ³) | 0.1 mg/m ³ |
| Manganese (7439-96-5) | | |
| Mexico | OEL TWA (mg/m ³) | 0.2 mg/m ³ 1 mg/m ³ (fume) |
| Mexico | OEL STEL (mg/m ³) | 3 mg/m ³ (fume) |
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.02 mg/m ³ (respirable fraction) 0.1 mg/m ³ (inhalable fraction) |
| USA OSHA | OSHA PEL (Ceiling) (mg/m ³) | 5 mg/m ³ (fume) |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 1 mg/m ³ (fume) |
| USA NIOSH | NIOSH REL (STEL) (mg/m ³) | 3 mg/m ³ |
| USA IDLH | US IDLH (mg/m ³) | 500 mg/m ³ |
| Alberta | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| Manitoba | OEL TWA (mg/m ³) | 0.02 mg/m ³ (respirable fraction) |
| New Brunswick | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 0.02 mg/m ³ (respirable fraction) |
| Nova Scotia | OEL TWA (mg/m ³) | 0.02 mg/m ³ (respirable fraction) |
| Nunavut | OEL Ceiling (mg/m ³) | 5 mg/m ³ |
| Nunavut | OEL STEL (mg/m ³) | 3 mg/m ³ (fume) |
| Nunavut | OEL TWA (mg/m ³) | 1 mg/m ³ (fume) |
| Northwest Territories | OEL Ceiling (mg/m ³) | 5 mg/m ³ |
| Northwest Territories | OEL STEL (mg/m ³) | 3 mg/m ³ (fume) |
| Northwest Territories | OEL TWA (mg/m ³) | 1 mg/m ³ (fume) |
| Ontario | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| Prince Edward Island | OEL TWA (mg/m ³) | 0.02 mg/m ³ (respirable fraction) |

Carbon Steel Alloy Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | | |
|------------------------------------|--------------------------------------|--|
| Québec | VEMP (mg/m ³) | 0.2 mg/m ³ (total dust and fume) |
| Saskatchewan | OEL STEL (mg/m ³) | 0.6 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| Yukon | OEL Ceiling (mg/m ³) | 5 mg/m ³ |
| Molybdenum (7439-98-7) | | |
| USA ACGIH | ACGIH TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) 3 mg/m ³ (respirable fraction) |
| USA IDLH | US IDLH (mg/m ³) | 5000 mg/m ³ |
| Alberta | OEL TWA (mg/m ³) | 10 mg/m ³ (total) |
| British Columbia | OEL TWA (mg/m ³) | 3 mg/m ³ (respirable) |
| Manitoba | OEL TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) |
| Nova Scotia | OEL TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) |
| Ontario | OEL TWA (mg/m ³) | 10 mg/m ³ (metal-inhalable) |
| Prince Edward Island | OEL TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) |
| Saskatchewan | OEL STEL (mg/m ³) | 20 mg/m ³ (inhalable fraction) |
| Saskatchewan | OEL TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) |
| Carbon (7440-44-0) | | |
| Mexico | OEL TWA (mg/m ³) | 2 mg/m ³ (dust) |
| Copper (7440-50-8) | | |
| Mexico | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) 1 mg/m ³ (dust and mist) |
| Mexico | OEL STEL (mg/m ³) | 2 mg/m ³ (fume) 2 mg/m ³ (dust and mist) |
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 0.1 mg/m ³ (fume) 1 mg/m ³ (dust and mist) |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 1 mg/m ³ (dust and mist) 0.1 mg/m ³ (fume) |
| USA IDLH | US IDLH (mg/m ³) | 100 mg/m ³ (dust, fume and mist) |
| Alberta | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| British Columbia | OEL TWA (mg/m ³) | 1 mg/m ³ (dust and mist) |
| Manitoba | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| New Brunswick | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Nova Scotia | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Nunavut | OEL STEL (mg/m ³) | 0.6 mg/m ³ (fume) |
| Nunavut | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Northwest Territories | OEL STEL (mg/m ³) | 0.6 mg/m ³ (fume) |
| Northwest Territories | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Ontario | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Prince Edward Island | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Québec | VEMP (mg/m ³) | 0.2 mg/m ³ (fume) |
| Saskatchewan | OEL STEL (mg/m ³) | 0.6 mg/m ³ (fume) |
| Saskatchewan | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Yukon | OEL STEL (mg/m ³) | 0.2 mg/m ³ (fume) |
| Yukon | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Silicon (7440-21-3) | | |
| Mexico | OEL TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) |
| Mexico | OEL STEL (mg/m ³) | 20 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 15 mg/m ³ (total dust) |

Carbon Steel Alloy Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | | |
|------------------------------------|--------------------------------------|---|
| | | 5 mg/m ³ (respirable fraction) |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust) |
| British Columbia | OEL TWA (mg/m ³) | 10 mg/m ³ (total dust) |
| New Brunswick | OEL TWA (mg/m ³) | 10 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 5 mg/m ³ (respirable mass) |
| Northwest Territories | OEL TWA (mg/m ³) | 5 mg/m ³ (respirable mass) |
| Ontario | OEL TWA (mg/m ³) | 10 mg/m ³ (total dust) |
| Québec | VEMP (mg/m ³) | 10 mg/m ³ (containing no Asbestos and <1% Crystalline silica-total dust) |
| Saskatchewan | OEL STEL (mg/m ³) | 20 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 10 mg/m ³ |
| Yukon | OEL STEL (mg/m ³) | 20 mg/m ³ |
| Yukon | OEL TWA (mg/m ³) | 30 mppcf |
| Tellurium (13494-80-9) | | |
| Mexico | OEL TWA (mg/m ³) | 0.1 mg/m ³ |
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.1 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 0.1 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 0.1 mg/m ³ |
| USA IDLH | US IDLH (mg/m ³) | 25 mg/m ³ |
| Alberta | OEL TWA (mg/m ³) | 0.1 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 0.1 mg/m ³ |
| Manitoba | OEL TWA (mg/m ³) | 0.1 mg/m ³ |
| New Brunswick | OEL TWA (mg/m ³) | 0.1 mg/m ³ |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 0.1 mg/m ³ |
| Nova Scotia | OEL TWA (mg/m ³) | 0.1 mg/m ³ |
| Nunavut | OEL STEL (mg/m ³) | 0.3 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 0.1 mg/m ³ |
| Northwest Territories | OEL STEL (mg/m ³) | 0.3 mg/m ³ |
| Northwest Territories | OEL TWA (mg/m ³) | 0.1 mg/m ³ |
| Ontario | OEL TWA (mg/m ³) | 0.1 mg/m ³ |
| Prince Edward Island | OEL TWA (mg/m ³) | 0.1 mg/m ³ |
| Québec | VEMP (mg/m ³) | 0.1 mg/m ³ |
| Saskatchewan | OEL STEL (mg/m ³) | 0.3 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 0.1 mg/m ³ |
| Yukon | OEL STEL (mg/m ³) | 0.1 mg/m ³ |
| Yukon | OEL TWA (mg/m ³) | 0.1 mg/m ³ |
| Lead (7439-92-1) | | |
| Mexico | OEL TWA (mg/m ³) | 0.15 mg/m ³ (dust and fume) |
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.05 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 50 µg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 0.050 mg/m ³ |
| USA IDLH | US IDLH (mg/m ³) | 100 mg/m ³ |
| Alberta | OEL TWA (mg/m ³) | 0.05 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 0.05 mg/m ³ |
| Manitoba | OEL TWA (mg/m ³) | 0.05 mg/m ³ |
| New Brunswick | OEL TWA (mg/m ³) | 0.05 mg/m ³ |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 0.05 mg/m ³ |
| Nova Scotia | OEL TWA (mg/m ³) | 0.05 mg/m ³ |
| Nunavut | OEL STEL (mg/m ³) | 0.45 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 0.15 mg/m ³ |

Carbon Steel Alloy Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | | |
|------------------------------------|---------------------------------------|---|
| Northwest Territories | OEL STEL (mg/m ³) | 0.45 mg/m ³ |
| Northwest Territories | OEL TWA (mg/m ³) | 0.15 mg/m ³ |
| Ontario | OEL TWA (mg/m ³) | 0.05 mg/m ³ (designated substances regulation) |
| Prince Edward Island | OEL TWA (mg/m ³) | 0.05 mg/m ³ |
| Québec | VEMP (mg/m ³) | 0.05 mg/m ³ |
| Saskatchewan | OEL STEL (mg/m ³) | 0.15 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 0.05 mg/m ³ |
| Yukon | OEL STEL (mg/m ³) | 0.45 mg/m ³ (dust and fume) |
| Yukon | OEL TWA (mg/m ³) | 0.15 mg/m ³ (dust and fume) |
| Sulfur dioxide (7446-09-5) | | |
| Mexico | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Mexico | OEL TWA (ppm) | 2 ppm |
| Mexico | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Mexico | OEL STEL (ppm) | 5 ppm |
| USA ACGIH | ACGIH STEL (ppm) | 0.25 ppm |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 13 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (ppm) | 5 ppm |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 5 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (ppm) | 2 ppm |
| USA NIOSH | NIOSH REL (STEL) (mg/m ³) | 13 mg/m ³ |
| USA NIOSH | NIOSH REL (STEL) (ppm) | 5 ppm |
| USA IDLH | US IDLH (ppm) | 100 ppm |
| Alberta | OEL STEL (mg/m ³) | 13 mg/m ³ |
| Alberta | OEL STEL (ppm) | 5 ppm |
| Alberta | OEL TWA (mg/m ³) | 5.2 mg/m ³ |
| Alberta | OEL TWA (ppm) | 2 ppm |
| British Columbia | OEL STEL (ppm) | 5 ppm |
| British Columbia | OEL TWA (ppm) | 2 ppm |
| Manitoba | OEL STEL (ppm) | 0.25 ppm |
| New Brunswick | OEL STEL (mg/m ³) | 13 mg/m ³ |
| New Brunswick | OEL STEL (ppm) | 5 ppm |
| New Brunswick | OEL TWA (mg/m ³) | 5.2 mg/m ³ |
| New Brunswick | OEL TWA (ppm) | 2 ppm |
| Newfoundland & Labrador | OEL STEL (ppm) | 0.25 ppm |
| Nova Scotia | OEL STEL (ppm) | 0.25 ppm |
| Nunavut | OEL STEL (mg/m ³) | 13 mg/m ³ |
| Nunavut | OEL STEL (ppm) | 5 ppm |
| Nunavut | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Nunavut | OEL TWA (ppm) | 2 ppm |
| Northwest Territories | OEL STEL (mg/m ³) | 13 mg/m ³ |
| Northwest Territories | OEL STEL (ppm) | 5 ppm |
| Northwest Territories | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Northwest Territories | OEL TWA (ppm) | 2 ppm |
| Ontario | OEL STEL (mg/m ³) | 10.4 mg/m ³ |
| Ontario | OEL STEL (ppm) | 5 ppm |
| Ontario | OEL TWA (mg/m ³) | 5.2 mg/m ³ |
| Ontario | OEL TWA (ppm) | 2 ppm |
| Prince Edward Island | OEL STEL (ppm) | 0.25 ppm |
| Québec | VECD (mg/m ³) | 13 mg/m ³ |
| Québec | VECD (ppm) | 5 ppm |
| Québec | VEMP (mg/m ³) | 5.2 mg/m ³ |

Carbon Steel Alloy Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | | |
|--------------|-------------------------------|----------------------|
| Québec | VEMP (ppm) | 2 ppm |
| Saskatchewan | OEL STEL (ppm) | 5 ppm |
| Saskatchewan | OEL TWA (ppm) | 2 ppm |
| Yukon | OEL STEL (mg/m ³) | 13 mg/m ³ |
| Yukon | OEL STEL (ppm) | 5 ppm |
| Yukon | OEL TWA (mg/m ³) | 13 mg/m ³ |
| Yukon | OEL TWA (ppm) | 5 ppm |

| | | |
|---------------------------------------|--|---|
| Vanadium pentoxide (1314-62-1) | | |
| Mexico | OEL TWA (mg/m ³) | 0.5 mg/m ³ (respirable dust and fume) |
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.05 mg/m ³ (inhalable fraction) |
| USA NIOSH | NIOSH REL (ceiling) (mg/m ³) | 0.05 mg/m ³ (dust and fume) |
| USA IDLH | US IDLH (mg/m ³) | 35 mg/m ³ (dust and fume) |
| Alberta | OEL TWA (mg/m ³) | 0.05 mg/m ³ (fume or respirable particulate) |
| British Columbia | OEL Ceiling (mg/m ³) | 0.05 mg/m ³ (respirable dust and fume) |
| British Columbia | OEL TWA (mg/m ³) | 0.2 mg/m ³ (total dust) |
| Manitoba | OEL TWA (mg/m ³) | 0.05 mg/m ³ (inhalable fraction) |
| New Brunswick | OEL TWA (mg/m ³) | 0.05 mg/m ³ (respirable dust or fume) |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 0.05 mg/m ³ (inhalable fraction) |
| Nova Scotia | OEL TWA (mg/m ³) | 0.05 mg/m ³ (inhalable fraction) |
| Nunavut | OEL Ceiling (mg/m ³) | 0.05 mg/m ³ (fume) |
| Nunavut | OEL STEL (mg/m ³) | 1.5 mg/m ³ (dust) |
| Nunavut | OEL TWA (mg/m ³) | 0.5 mg/m ³ (dust) |
| Northwest Territories | OEL Ceiling (mg/m ³) | 0.05 mg/m ³ (fume) |
| Northwest Territories | OEL STEL (mg/m ³) | 1.5 mg/m ³ (dust) |
| Northwest Territories | OEL TWA (mg/m ³) | 0.5 mg/m ³ (dust) |
| Ontario | OEL TWA (mg/m ³) | 0.05 mg/m ³ (inhalable) |
| Prince Edward Island | OEL TWA (mg/m ³) | 0.05 mg/m ³ (inhalable fraction) |
| Québec | VEMP (mg/m ³) | 0.05 mg/m ³ (fume and respirable dust) |
| Saskatchewan | OEL STEL (mg/m ³) | 0.15 mg/m ³ (dust and fume, respirable fraction) |
| Saskatchewan | OEL TWA (mg/m ³) | 0.05 mg/m ³ (dust and fume, respirable fraction) |
| Yukon | OEL Ceiling (mg/m ³) | 0.05 mg/m ³ (fume) |
| Yukon | OEL STEL (mg/m ³) | 1.5 mg/m ³ (dust) |
| Yukon | OEL TWA (mg/m ³) | 0.5 mg/m ³ (dust) |

| | | |
|-----------------------------|--------------------------------------|--|
| Aluminum (7429-90-5) | | |
| Mexico | OEL TWA (mg/m ³) | 10 mg/m ³ (dust) |
| USA ACGIH | ACGIH TWA (mg/m ³) | 1 mg/m ³ (respirable fraction) |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction) |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust) |
| Alberta | OEL TWA (mg/m ³) | 10 mg/m ³ (dust) |
| British Columbia | OEL TWA (mg/m ³) | 1.0 mg/m ³ (respirable) |
| Manitoba | OEL TWA (mg/m ³) | 1 mg/m ³ (respirable fraction) |
| New Brunswick | OEL TWA (mg/m ³) | 10 mg/m ³ (metal dust) |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 1 mg/m ³ (respirable fraction) |
| Nova Scotia | OEL TWA (mg/m ³) | 1 mg/m ³ (respirable fraction) |
| Nunavut | OEL STEL (mg/m ³) | 20 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 10 mg/m ³ |
| Northwest Territories | OEL STEL (mg/m ³) | 20 mg/m ³ |
| Northwest Territories | OEL TWA (mg/m ³) | 10 mg/m ³ |
| Ontario | OEL TWA (mg/m ³) | 1 mg/m ³ (respirable) |

Carbon Steel Alloy Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | | |
|---|-------------------------------|---|
| Prince Edward Island | OEL TWA (mg/m ³) | 1 mg/m ³ (respirable fraction) |
| Québec | VEMP (mg/m ³) | 10 mg/m ³ |
| Saskatchewan | OEL STEL (mg/m ³) | 20 mg/m ³ (dust) |
| Saskatchewan | OEL TWA (mg/m ³) | 10 mg/m ³ (dust) |
| Phosphorus elemental (7723-14-0) | | |
| Alberta | OEL TWA (mg/m ³) | 0.1 mg/m ³ (yellow) |
| New Brunswick | OEL TWA (mg/m ³) | 0.1 mg/m ³ (yellow) |
| New Brunswick | OEL TWA (ppm) | 0.02 ppm (yellow) |
| Québec | VEMP (mg/m ³) | 0.1 mg/m ³ (yellow) |

8.2. Exposure Controls

Appropriate Engineering Controls: Use local exhaust or general dilution ventilation or other suppression methods to maintain dust levels below exposure limits. Power equipment should be equipped with proper dust collection devices. Ensure all national/local regulations are observed.

Personal Protective Equipment: Protective clothing. Gloves. Safety glasses. Dust formation: dust mask. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing: Chemically resistant materials and fabrics. With molten material wear thermally protective clothing.

Hand Protection: Wear chemically resistant protective gloves. If material is hot, wear thermally resistant protective gloves.

Eye Protection: Chemical goggles or safety glasses.

Skin and Body Protection: Wear suitable protective clothing. Wash contaminated clothing before reuse.

Respiratory Protection: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

| | |
|--|------------------------------------|
| Physical State | : Solid |
| Appearance | : Metallic |
| Odor | : Odorless |
| Odor Threshold | : Not available |
| pH | : Not available |
| Evaporation Rate | : Not available |
| Melting Point | : 440 - 1215 °F (226.7 - 657.2 °C) |
| Freezing Point | : Not available |
| Boiling Point | : Not available |
| Flash Point | : Not applicable |
| Auto-ignition Temperature | : Not available |
| Decomposition Temperature | : Not available |
| Flammability (solid, gas) | : Not available |
| Lower Flammable Limit | : Not available |
| Upper Flammable Limit | : Not available |
| Vapor Pressure | : Not available |
| Relative Vapor Density at 20 °C | : Not available |
| Relative Density | : Not available |
| Specific Gravity | : 2.5 - 2.9 |
| Solubility | : Insoluble in water |
| Partition Coefficient: N-octanol/water | : Not available |
| Viscosity | : Not available |

Carbon Steel Alloy Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

Explosion Data – Sensitivity to Mechanical Impact : Not expected to present an explosion hazard due to mechanical impact.

Explosion Data – Sensitivity to Static Discharge : Not expected to present an explosion hazard due to static discharge.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity: Hazardous reactions will not occur under normal conditions.

10.2. Chemical Stability: Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

10.4. Conditions to Avoid: Avoid creating or spreading dust. Sparks, heat, open flame and other sources of ignition.

10.5. Incompatible Materials: When molten: water. Strong acids, strong bases, strong oxidizers. Alkalis. Metal oxides. Moisture. Corrosive substances in contact with metals may produce flammable hydrogen gas.

10.6. Hazardous Decomposition Products: Inhalation of fumes may cause metal fume fever. Oxides of iron and carbon. Organic acid vapors. Oxides of lead. Chromium (VI) compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects - Product

Acute Toxicity: Not classified

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Not classified

Serious Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified.

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not classified

Carcinogenicity: Not classified.

Specific Target Organ Toxicity (Repeated Exposure): Not classified.

Reproductive Toxicity: Not classified.

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath.

Symptoms/Injuries After Skin Contact: May cause an allergic skin reaction. Dust from physical alteration of this product causes skin irritation. Causes severe skin burns. Contact with fumes or metal powder will irritate skin. Contact with hot, molten metal will cause thermal burns. Dust may cause irritation in skin folds or by contact in combination with tight clothing. Mechanical damage via flying particles and chipped slag is possible.

Symptoms/Injuries After Eye Contact: Dust may cause mechanical irritation to eyes, nose, throat, and lungs.

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: In massive form, no hazard exists. If physically altered to present slivers, ribbons, dusts or fumes from molten material: Aluminum: Inhalation of finely divided aluminum powder may cause pulmonary fibrosis. Inhalation of iron oxide fumes undergoing decomposition may cause irritation and flu-like symptoms, otherwise iron oxide is not hazardous. Inhalation of Nickel compounds has been shown in studies to provide an increased incidence of cancer of the nasal cavity, lung and possibly larynx in nickel refinery workers. Nickel: May cause a form of dermatitis known as nickel itch and intestinal irritation, which may cause disorders, convulsions and asphyxia. Chromium: Certain hexavalent chromium compounds have been demonstrated to be carcinogenic on the basis of epidemiological investigations on workers and experimental studies in animals. Increased incidences of respiratory cancer have been found in chromium (VI) workers. There is an increased incidence of lung cancer in industrial workers exposed to chromium (VI) compounds. Please refer to IARC volume 23 for a more detailed discussion. Manganese : Chronic exposure can cause inflammation of the lung tissue, scarring the lungs (pulmonary fibrosis). Copper: Overexposure to fumes may cause metal fume fever (chills, muscle aches, nausea, fever, dry throat, cough, weakness, lassitude); metallic or sweet taste; discoloration of skin and hair. Tissue damage of mucous membranes may follow chronic dust exposure. Silicon : Can cause chronic bronchitis and narrowing of the airways. Lead: Exposure can result in lassitude (weakness, exhaustion), insomnia; facial pallor; anorexia, weight loss, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremor; encephalopathy; kidney disease; hypertension.

11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Carbon Steel Alloy Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | |
|---|--|
| Nickel (7440-02-0) | |
| LD50 Oral Rat | > 9000 mg/kg |
| Chromium (7440-47-3) | |
| LD50 Oral Rat | > 5000 mg/kg |
| Manganese (7439-96-5) | |
| LD50 Oral Rat | > 2000 mg/kg |
| Molybdenum (7439-98-7) | |
| LD50 Oral Rat | > 2000 mg/kg |
| LD50 Dermal Rat | > 2000 mg/kg |
| Carbon (7440-44-0) | |
| LD50 Oral Rat | > 10000 mg/kg |
| Tellurium (13494-80-9) | |
| LD50 Oral Rat | 83 mg/kg |
| LC50 Inhalation Rat | > 2420 mg/m ³ (Exposure time: 4 h) |
| ATE US (dust, mist) | 1.50 mg/l/4h |
| Lead (7439-92-1) | |
| ATE US (oral) | 500.00 mg/kg body weight |
| ATE US (dust, mist) | 1.50 mg/l/4h |
| Sulfur dioxide (7446-09-5) | |
| LC50 Inhalation Rat | 2500 ppm/1h |
| ATE US (gases) | 1,250.00 ppmV/4h |
| Vanadium pentoxide (1314-62-1) | |
| LD50 Oral Rat | 10 mg/kg |
| LD50 Dermal Rabbit | 50 mg/kg |
| LC50 Inhalation Rat | 4.29 mg/l/4h |
| Phosphorus elemental (7723-14-0) | |
| LD50 Oral Rat | 3.03 mg/kg |
| LD50 Dermal Rat | 100 mg/kg |
| LC50 Inhalation Rat | 4.3 mg/l (Exposure time: 1 h) |
| Nickel (7440-02-0) | |
| IARC Group | 2B |
| National Toxicity Program (NTP) Status | Reasonably anticipated to be Human Carcinogen. |
| Chromium (7440-47-3) | |
| IARC Group | 3 |
| Lead (7439-92-1) | |
| IARC Group | 2A |
| National Toxicity Program (NTP) Status | Reasonably anticipated to be Human Carcinogen. |
| Sulfur dioxide (7446-09-5) | |
| IARC Group | 3 |
| Vanadium pentoxide (1314-62-1) | |
| IARC Group | 2B |
| National Toxicity Program (NTP) Status | Evidence of Carcinogenicity. |

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity No additional information available

| | |
|---------------------------|---|
| Nickel (7440-02-0) | |
| LC50 Fish 1 | 100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio) |

Carbon Steel Alloy Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | |
|--------------------------------|--|
| EC50 Daphnia 1 | 13 (13 - 200) µg/l (Exposure time: 48h - Species: Ceriodaphnia dubia [static]) |
| LC 50 Fish 2 | 1.3 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static]) |
| EC50 Daphnia 2 | 1 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static]) |
| EC50 Other Aquatic Organisms 2 | 0.174 (0.174 - 0.311) mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata [static]) |

| | |
|------------------------------|---|
| Manganese (7439-96-5) | |
| NOEC chronic fish | 3.6 mg/l (Exposure time: 96h; Species: Oncorhynchus mykiss) |

| | |
|--------------------------------|---|
| Copper (7440-50-8) | |
| LC50 Fish 1 | <= 0.0068 (0.0068 - 0.0156) mg/l (Exposure time: 96 h - Species: Pimephales promelas) |
| EC50 Daphnia 1 | 0.03 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static]) |
| EC50 Other Aquatic Organisms 1 | 0.0426 (0.0426 - 0.0535) mg/l (Exposure time: 72 h - Species: Pseudokirchneriella subcapitata [static]) |
| LC 50 Fish 2 | 0.3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static]) |
| EC50 Other Aquatic Organisms 2 | 0.031 (0.031 - 0.054) mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata [static]) |

| | |
|-------------------------|---|
| Lead (7439-92-1) | |
| LC50 Fish 1 | 0.44 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static]) |
| EC50 Daphnia 1 | 600 µg/l (Exposure time: 48 h - Species: water flea) |
| LC 50 Fish 2 | 1.17 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through]) |

Persistence and Degradability

| | |
|---------------------------------|----------------------------|
| Carbon Steel Alloy Steel | |
| Persistence and Degradability | Not established. |
| Copper (7440-50-8) | |
| Persistence and Degradability | Not readily biodegradable. |

12.3. Bioaccumulative Potential

| | |
|-----------------------------------|-------------------------------|
| Carbon Steel Alloy Steel | |
| Bioaccumulative Potential | Not established. |
| Sulfur dioxide (7446-09-5) | |
| BCF Fish 1 | (no bioaccumulation expected) |

12.4. Mobility in Soil

Not available

12.5. Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Treatment Methods: Recycle product or dispose properly.

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.

SECTION 14: TRANSPORT INFORMATION

- | | | |
|-------|-------------------------|-----------------------------|
| 14.1. | In Accordance with DOT | Not regulated for transport |
| 14.2. | In Accordance with IMDG | Not regulated for transport |
| 14.3. | In Accordance with IATA | Not regulated for transport |
| 14.4. | In Accordance with TDG | Not regulated for transport |

SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

| | |
|---|---------------------------------|
| Carbon Steel Alloy Steel | |
| SARA Section 311/312 Hazard Classes | Delayed (chronic) health hazard |
| Iron (7439-89-6) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |

Carbon Steel Alloy Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | |
|---|---|
| Nickel (7440-02-0) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| RQ (Reportable Quantity, Section 304 of EPA's List of Lists): | 100 lb (only applicable if particles are < 100 µm) |
| SARA Section 313 - Emission Reporting | 0.1 % |
| Chromium (7440-47-3) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| SARA Section 313 - Emission Reporting | 1.0 % |
| Manganese (7439-96-5) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| SARA Section 313 - Emission Reporting | 1.0 % |
| Molybdenum (7439-98-7) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Carbon (7440-44-0) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Copper (7440-50-8) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| SARA Section 313 - Emission Reporting | 1.0 % |
| Silicon (7440-21-3) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Tellurium (13494-80-9) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Lead (7439-92-1) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| SARA Section 313 - Emission Reporting | 0.1 % |
| Sulfur dioxide (7446-09-5) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on the United States SARA Section 302 | |
| SARA Section 302 Threshold Planning Quantity (TPQ) | 500 |
| Vanadium pentoxide (1314-62-1) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on the United States SARA Section 302 | |
| SARA Section 302 Threshold Planning Quantity (TPQ) | ≤ 10000 |
| Bismuth (7440-69-9) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Aluminum (7429-90-5) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| SARA Section 313 - Emission Reporting | 1.0 % (dust or fume only) |
| Phosphorus elemental (7723-14-0) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on the United States SARA Section 302 | |
| Listed on United States SARA Section 313 | |
| SARA Section 302 Threshold Planning Quantity (TPQ) | 100 (This material is a reactive solid. The TPQ does not default to 10000 pounds for non-powder, non-molten, non-solution form) |

Carbon Steel Alloy Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | |
|--|-------------------------|
| SARA Section 313 - Emission Reporting | 1.0 % (yellow or white) |
|--|-------------------------|

15.2. US State Regulations

| | |
|--|--|
| Nickel (7440-02-0) | |
| U.S. - California - Proposition 65 - Carcinogens List | WARNING: This product contains chemicals known to the State of California to cause cancer. |
| Lead (7439-92-1) | |
| U.S. - California - Proposition 65 - Carcinogens List | WARNING: This product contains chemicals known to the State of California to cause cancer. |
| U.S. - California - Proposition 65 - Developmental Toxicity | WARNING: This product contains chemicals known to the State of California to cause birth defects. |
| U.S. - California - Proposition 65 - Reproductive Toxicity - Female | WARNING: This product contains chemicals known to the State of California to cause (Female) reproductive harm. |
| U.S. - California - Proposition 65 - Reproductive Toxicity - Male | WARNING: This product contains chemicals known to the State of California to cause (Male) reproductive harm. |
| Sulfur dioxide (7446-09-5) | |
| U.S. - California - Proposition 65 - Developmental Toxicity | WARNING: This product contains chemicals known to the State of California to cause birth defects. |
| Vanadium pentoxide (1314-62-1) | |
| U.S. - California - Proposition 65 - Carcinogens List | WARNING: This product contains chemicals known to the State of California to cause cancer. |
| Nickel (7440-02-0) | |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances U.S. - Pennsylvania - RTK (Right to Know) List | |
| Chromium (7440-47-3) | |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances U.S. - Pennsylvania - RTK (Right to Know) List | |
| Manganese (7439-96-5) | |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List | |
| Molybdenum (7439-98-7) | |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List | |
| Copper (7440-50-8) | |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List | |
| Silicon (7440-21-3) | |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List | |

Carbon Steel Alloy Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | |
|---|--|
| Tellurium (13494-80-9) | |
| U.S. - Massachusetts - Right To Know List | |
| U.S. - New Jersey - Right to Know Hazardous Substance List | |
| U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List | |
| U.S. - Pennsylvania - RTK (Right to Know) List | |
| Lead (7439-92-1) | |
| U.S. - Massachusetts - Right To Know List | |
| U.S. - New Jersey - Right to Know Hazardous Substance List | |
| U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List | |
| U.S. - Pennsylvania - RTK (Right to Know) List | |
| Sulfur dioxide (7446-09-5) | |
| U.S. - Massachusetts - Right To Know List | |
| U.S. - New Jersey - Right to Know Hazardous Substance List | |
| U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List | |
| U.S. - Pennsylvania - RTK (Right to Know) List | |
| Vanadium pentoxide (1314-62-1) | |
| U.S. - Massachusetts - Right To Know List | |
| U.S. - New Jersey - Right to Know Hazardous Substance List | |
| U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List | |
| U.S. - Pennsylvania - RTK (Right to Know) List | |
| Aluminum (7429-90-5) | |
| U.S. - Massachusetts - Right To Know List | |
| U.S. - New Jersey - Right to Know Hazardous Substance List | |
| U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List | |
| U.S. - Pennsylvania - RTK (Right to Know) List | |
| Phosphorus elemental (7723-14-0) | |
| U.S. - Massachusetts - Right To Know List | |
| U.S. - New Jersey - Right to Know Hazardous Substance List | |
| U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List | |
| U.S. - Pennsylvania - RTK (Right to Know) List | |

15.3. Canadian Regulations

| | |
|---|---|
| Carbon Steel Alloy Steel | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Iron (7439-89-6) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| WHMIS Classification | Class B Division 4 - Flammable Solid |
| Nickel (7440-02-0) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 0.1 % | |
| WHMIS Classification | Class D Division 2 Subdivision B - Toxic material causing other toxic effects |
| Chromium (7440-47-3) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 0.1 % | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Manganese (7439-96-5) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |

Carbon Steel Alloy Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | |
|---|---|
| IDL Concentration 1 % | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Molybdenum (7439-98-7) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Carbon (7440-44-0) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Copper (7440-50-8) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Silicon (7440-21-3) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Tellurium (13494-80-9) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects |
| Lead (7439-92-1) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 0.1 % | |
| WHMIS Classification | Class D Division 2 Subdivision A - Very toxic material causing other toxic effects |
| Sulfur dioxide (7446-09-5) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Class A - Compressed Gas Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects Class E - Corrosive Material |
| Vanadium pentoxide (1314-62-1) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 0.1 % | |
| WHMIS Classification | Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision A - Very toxic material causing other toxic effects |
| Bismuth (7440-69-9) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |

Carbon Steel Alloy Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | |
|---|--|
| Aluminum (7429-90-5) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Class B Division 6 - Reactive Flammable Material Class B Division 4 - Flammable Solid |
| Phosphorus elemental (7723-14-0) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Class B Division 4 - Flammable Solid Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class E - Corrosive Material |

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 12/15/2014
Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

| | |
|-------------------------------------|---|
| Acute Tox. 1 (Dermal) | Acute toxicity (dermal) Category 1 |
| Acute Tox. 2 (Oral) | Acute toxicity (oral) Category 2 |
| Acute Tox. 3 (Inhalation:gas) | Acute toxicity (inhalation:gas) Category 3 |
| Acute Tox. 3 (Oral) | Acute toxicity (oral) Category 3 |
| Acute Tox. 4 (Inhalation:dust,mist) | Acute toxicity (inhalation:dust,mist) Category 4 |
| Acute Tox. 4 (Oral) | Acute toxicity (oral) Category 4 |
| Aquatic Acute 1 | Hazardous to the aquatic environment - Acute Hazard Category 1 |
| Aquatic Chronic 1 | Hazardous to the aquatic environment - Chronic Hazard Category 1 |
| Aquatic Chronic 3 | Hazardous to the aquatic environment - Chronic Hazard Category 3 |
| Aquatic Chronic 4 | Hazardous to the aquatic environment - Chronic Hazard Category 4 |
| Carc. 2 | Carcinogenicity Category 2 |
| Comb. Dust | Combustible Dust |
| Compressed gas | Gases under pressure Compressed gas |
| Eye Dam. 1 | Serious eye damage/eye irritation Category 1 |
| Flam. Sol. 1 | Flammable solids Category 1 |
| Repr. 1A | Reproductive toxicity Category 1A |
| Skin Corr. 1B | Skin corrosion/irritation Category 1B |
| Skin Sens. 1 | Skin sensitization Category 1 |
| Skin Sens. 1B | Skin sensitization Category 1B |
| STOT RE 1 | Specific target organ toxicity (repeated exposure) Category 1 |
| STOT SE 3 | Specific target organ toxicity (single exposure) Category 3 |
| Water-react. 2 | Substances and mixtures which in contact with water emit flammable gases Category 2 |
| H228 | Flammable solid |
| | May form combustible dust concentrations in air |
| H261 | In contact with water releases flammable gases |
| H280 | Contains gas under pressure; may explode if heated |
| H300 | Fatal if swallowed |
| H301 | Toxic if swallowed |

Carbon Steel Alloy Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | |
|------|--|
| H302 | Harmful if swallowed |
| H310 | Fatal in contact with skin |
| H314 | Causes severe skin burns and eye damage |
| H317 | May cause an allergic skin reaction |
| H318 | Causes serious eye damage |
| H331 | Toxic if inhaled |
| H332 | Harmful if inhaled |
| H335 | May cause respiratory irritation |
| H351 | Suspected of causing cancer |
| H360 | May damage fertility or the unborn child |
| H372 | Causes damage to organs through prolonged or repeated exposure |
| H400 | Very toxic to aquatic life |
| H410 | Very toxic to aquatic life with long lasting effects |
| H412 | Harmful to aquatic life with long lasting effects |
| H413 | May cause long lasting harmful effects to aquatic life |

Party Responsible for the Preparation of This Document

ThyssenKrupp Materials NA, Inc.
22355 W. Eleven Mile Road
Southfield, Michigan 48034
TEL: 248-233-5681

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

North America GHS US 2012 & WHMIS 2

Chlorosorb® II Media

Safety Data Sheet

according to the federal final rule of hazard communication revised in 2012 (HazCom 2012)

purafil

SECTION 1: Identification of the substance or mixture and of the supplier

1.1. Product identifier

Trade name : Chlorosorb® II Media
Product code : PUR-024

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use : Dry granular medium for use in gas-phase air filtration
Restrictions of use : Only use for the intended purpose.
: The product is not intended to remove dangerous particulates or biological agents.
: The product is not intended to purify water.

1.3. Details of the supplier of the safety data sheet

Manufacturer : Purafil, Inc.
2654 Weaver Way
Doraville, Georgia 30340 USA
Tel: +1-770-662-8545, +1-800-222-6367 (toll-free within the USA & Canada)
Fax: +1-770-263-6922
www.purafil.com

1.4. Emergency telephone number

CHEMTREC : For Hazardous Materials [or Dangerous Goods] Incident
Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300 CCN723586
Outside USA and Canada: +1-703-741-5970 (collect calls accepted)

Purafil, Inc. : +1-770-662-8545, +1-800-222-6367 (toll-free within the USA and Canada)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin Irrit. 2 H315
Eye Irrit. 2A H319

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US)



GHS07

Signal word (GHS-US)

: Warning

Hazard statements (GHS-US)

: H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation

Precautionary statements (GHS-US)

: P261 - Avoid breathing dust, fume, gas, mist, spray, vapours
P264 - Wash hands thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear eye protection, protective clothing, protective gloves
P302+P352 - If on skin: Wash with plenty of water
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P312 - Call a doctor, a POISON CENTER if you feel unwell
P321 - Specific treatment (see ... on this label)
P332+P313 - If skin irritation occurs: Get medical advice/attention
P337+P313 - If eye irritation persists: get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P501 - Dispose of contents/container to comply with applicable local, national and international regulation.

2.3. Other hazards

May cause respiratory irritation.

Special danger of slipping on spilled product.

The components in this mixture do not meet the criteria for classification as PBT or vPvB.

2.4. Unknown acute toxicity (GHS-US)

No data available.

SECTION 3: Composition/information on ingredients

| Name | Product identifier | % | GHS-US classification |
|---|--------------------|---------|--|
| Carbon (C) | (CAS No) 7440-44-0 | 35 - 45 | Not classified |
| Aluminum oxide (Al ₂ O ₃) | (CAS No) 1344-28-1 | 15 - 25 | Not classified |
| Carbonic acid, dipotassium salt (Na ₂ CO ₃) | (CAS No) 584-08-7 | 15 - 25 | Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335 |
| Sodium thiosulfate (Na ₂ S ₂ O ₃ ·5H ₂ O) | (CAS No) 7772-98-7 | 1 - 5 | Not classified |

SECTION 4: First aid measures**4.1. Description of first aid measures**

General information

: First aider: Pay attention to self-protection!

After inhalation

: Provide fresh air. In case of respiratory tract irritation, consult a physician.

After contact with skin

: After contact with skin, wash with water and soap. Change contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

After contact with eyes

: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an ophthalmologist.

After ingestion

: If swallowed, rinse mouth with water (only if the person is conscious). Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

: Following inhalation: Coughing, asthmatic complaints. Repeated and prolonged contact may aggravate asthma and dermatitis.
: After skin contact: Irritation and reddening. Skin rashes.
: Following eye contact: Irritation and reddening. Causes serious eye irritation.
: After ingestion: May cause irritation of the gastrointestinal mucosa, abdominal pain, vomiting and diarrhea.

4.3. Indication of any immediate medical attention and special treatment needed

: Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media**

Suitable extinguishing media

: If involved in a fire, flood with plenty of water. Coordinate firefighting measures to the fire surroundings.

Unsuitable extinguishing media

: None known.

5.2. Special hazards arising from the substance or mixture

: This material does not contribute fuel when attacked by flame and emits only negligible amounts of smoke).

5.3. Advice for firefighters

: Wear NIOSH approved self-contained breathing apparatus and chemical protective clothing.

5.4. Additional information

: Suppress gases/vapors/mists with water spray jet.
: Contaminated firefighting water must be collected separately. Do not allow to enter into surface water or drains.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

: Provide adequate ventilation. Avoid generation of dust. Do not breathe dust. Avoid contact with skin, eyes and clothes. Wear personal protection equipment.

6.2. Environmental precautions

: None known.

6.3. Methods and material for containment and cleaning up

- : Pick up dry. Take up mechanically. Avoid generation of dust. Treat the recovered material as prescribed in section 13 on waste disposal.

6.4. Reference to other sections

- : Protection measures in accordance with section 8.
- : Disposal in accordance with section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Advice on safe handling
- : Avoid generation of dust. Use air conveying (vacuum) for bulk removal. If manual handling is used for transfer (from vessel, slingbags, boxes, or pails), use mechanical ventilation or other measures to remove airborne dust.

7.2. Conditions for safe storage, including any incompatibilities

- Requirements for storage rooms and vessels
- : Store only in original container. Keep container tightly closed in a cool, well-ventilated place.
 - : Protect from water and exposure to contaminated air (gaseous, particulate, and aerosol contaminated), otherwise the product may be rendered useless.

Further information on storage conditions

- : Recommended packaging materials:
 - Corrugated double wall boxes with plastic liners.
 - Injection molded polystyrene pails and lids including a neoprene seal.

7.3. Specific end use(s)

- : Dry granular medium for use in gas-phase air filtration.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Aluminum oxide (1344-28-1)

| | | |
|------|-------------------------------------|--|
| OSHA | OSHA PEL (TWA) (mg/m ³) | 15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction) |
|------|-------------------------------------|--|

8.2. Exposure controls

- Appropriate engineering controls
- : If handled uncovered, arrangements with local exhaust ventilation have to be used. Avoid breathing dust.
- Protective and hygiene measures
- : Remove contaminated, saturated clothing immediately. After work, wash hands and face.
 - : When using, do not eat or drink.
- Eye and face protection
- : Tightly fitting safety glasses with side shields.
- Hand protection
- : Protect skin by using skin protective cream.
 - : Wear suitable gloves.
 - Suitable material: NR (natural rubber (India rubber, caoutchouc), natural latex).
 - Thickness of glove material: ≥ 0.1 mm
 - Penetration time (maximum wearing period): >480 Min.
 - The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.
- Skin protection
- : Full cover clothing covering arms and legs.
- Respiratory protection
- : Dust mask: NIOSH N95; identification color: white. Observe the wear time limits.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state (appearance)**
- : Solid, roughly spherical pellets or granules, 1/16 - 1/4" (1.6 – 6.4 mm) in diameter
- Color
- : Dark grey to black
- Odor
- : No specific odor
- Odor threshold
- : No data available
- pH
- : No data available
- Changes in the physical state**
- Melting point/freezing point
- : No data available
- Initial boiling point and boiling range
- : No data available
- Flash point
- : No data available

Chlorosorb® II Media

Safety Data Sheet

according to the federal final rule of hazard communication revised in 2012 (HazCom 2012)

purafil

| | |
|-------------------------------------|---|
| Evaporation rate | : No data available |
| Flammability | |
| Solid | : Not flammable under normal use conditions |
| Upper/lower flammability | : No data available |
| Explosive properties | : No danger of explosion under normal conditions, high concentrations of carbon dust in the air can form an explosive dust/air mixture. |
| Lower explosion limit | |
| Upper explosion limit | : No data available |
| Ignition temperature | : No data available |
| Auto-ignition temperature | |
| Solid | : No data available |
| Decomposition temperature | : No data available |
| Vapor pressure | : No data available |
| Vapor density | : No data available |
| Relative density | : ca. 45 lb/ft ³ , 0.7210 g/cc, 721 kg/m ³ |
| Water Solubility | : Partially soluble |
| Solubility in other solvents | : No data available |
| Soluble in | : Insoluble |
| Partition coefficient | |
| n-octanol/water | : No data available |
| Viscosity, dynamic | : No data available |
| Viscosity, kinematic | : No data available |

| | |
|-------------------------------|----------------------|
| 9.2. Other information | : No data available. |
|-------------------------------|----------------------|

SECTION 10: Stability and reactivity

| | |
|---|---|
| 10.1. Reactivity | : No dangerous reactivity under normal conditions. |
| 10.2. Chemical stability | : The product is stable under normal conditions. |
| 10.3. Possibility of hazardous reactions | : Fire may occur in contact with strong oxidizing agents. |
| 10.4. Conditions to avoid | : Liquid water, moisture. Heat sources, open flames and other ignition sources. |
| 10.5. Incompatible materials | : Strong oxidizing agents. |
| 10.6. Hazardous decomposition products | : Carbon monoxide may be generated during combustion of this material. |

SECTION 11: Toxicological information

11.1. Information on toxicological effects

| | |
|---|----------------------------|
| Aluminum oxide (1344-28-1) | |
| LD ₅₀ oral rat | > 5,000 mg/kg |
| Carbon (7440-44-0) | |
| LD50 oral rat | > 10,000 mg/kg |
| Carbonic acid, dipotassium salt (584-08-7) | |
| LD50 oral rat | 1,870 mg/kg |
| ATE US (oral) | 1,870.000 mg/kg bodyweight |

| | |
|----------------------------|---|
| Acute toxicity | : Based on available data, the classification criteria are not met. |
| Irritation and corrosivity | : Based on available data, the classification criteria are not met. |
| Sensitizing effects | : Based on available data, the classification criteria are not met. |

| | |
|---|---|
| STOT-single exposure | : Based on available data, the classification criteria are not met. |
| Severe effects after repeated or prolonged exposure | : Based on available data, the classification criteria are not met. |
| Carcinogenic/mutagenic/toxic effects for reproduction | : Based on available data, the classification criteria are not met. |
| Aspiration hazard | : Based on available data, the classification criteria are not met. |

SECTION 12: Ecological information**12.1. Toxicity**

Acute Daphnia toxicity : No data available.

Algae toxicity : No data available.

12.2. Persistence and degradability

: No data available.

12.3. Bioaccumulative potential

: No data available.

12.4. Mobility in soil

: No data available.

12.5. Results of PBT and vPvB assessment

: The components in this mixture do not meet the criteria for classification as PBT or vPvB.

12.6. Other adverse effects

: No data available.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Advice on disposal : Waste disposal should be in accordance with existing federal, state, and local environmental control regulations. Spent media that has removed toxic chemicals should be examined for specific hazards. Spilled product may be recovered for use if it has not come in contact with liquids or been exposed to significant amounts of gaseous contaminants.

Disposal of residues/unused products : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to an approved waste disposal plant. Avoid release to the environment.

Disposal of packaging : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to an approved waste disposal plant. Avoid release to the environment.

SECTION 14: Transport information**14.1. Land transport (DOT)**

UN number : None on finished product.
UN proper shipping name : Not regulated.
Transport hazard classes : None on finished product.
Packing group : None on finished product.
Marine pollutant : No

14.2. Water transport (IMDG / IMO)

UN number : None on finished product.
UN proper shipping name : Not regulated.
Transport hazard classes : None on finished product.
Packing group : None on finished product.
Marine pollutant : No

14.3. Air transport (IATA / ICAO)

UN number : None on finished product.
UN proper shipping name : Not regulated.
Transport hazard classes : None on finished product.
Packing group : None on finished product.
Marine pollutant : No

14.4. Environmental hazards

Environmentally hazardous : No

14.5. Special precautions for user

: No special precautions known.

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Aluminum oxide (1344-28-1)

Listed on United States SARA Section 313

| | |
|---------------------------------------|-----------------------|
| SARA Section 313 - Emission Reporting | 1.0 % (fibrous forms) |
|---------------------------------------|-----------------------|

15.2. International regulations

CANADA

Aluminum oxide (1344-28-1)

Listed on the Canadian DSL (Domestic Substances List)

| | |
|----------------------|---|
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
|----------------------|---|

Carbon (7440-44-0)

Listed on the Canadian DSL (Domestic Substances List)

| | |
|----------------------|---|
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
|----------------------|---|

Sodium thiosulfate (7772-98-7)

Listed on the Canadian DSL (Domestic Substances List)

| | |
|----------------------|---|
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
|----------------------|---|

Carbonic acid, dipotassium salt (584-08-7)

Listed on the Canadian DSL (Domestic Substances List)

| | |
|----------------------|---|
| WHMIS Classification | Class D Division 2 Subdivision B - Toxic material causing other toxic effects Class E - Corrosive Material |
|----------------------|---|

EU-Regulations

Aluminum oxide (1344-28-1)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Carbon (7440-44-0)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Sodium thiosulfate (7772-98-7)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Carbonic acid, dipotassium salt (584-08-7)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

15.2.2. National regulations

Aluminum oxide (1344-28-1)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Canadian IDL (Ingredient Disclosure List)

Carbon (7440-44-0)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Sodium thiosulfate (7772-98-7)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on INSQ (Mexican national Inventory of Chemical Substances)
Listed on Turkish inventory of chemical

Carbonic acid, dipotassium salt (584-08-7)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Canadian IDL (Ingredient Disclosure List)
Listed on INSQ (Mexican national Inventory of Chemical Substances)
Listed on Turkish inventory of chemical

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm.

SECTION 16: Other information

Abbreviations and acronyms:

ACGIH: American Conference of Governmental Industrial Hygienists
ATE: acute toxicity estimate
CAS: Chemical Abstracts Service
CLP: Classification, Labeling, Packaging
DOT: United States Department of Transportation
DNEL: Derived No Effect Level
EC₅₀: median effective concentration for immobilization
ErC₅₀: effective concentration of a substance that causes 50% reduction in growth rate
GHS: Globally Harmonized System of Classification and Labeling of Chemicals

IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Code for Dangerous Goods
IMO: International Maritime Organization
LC₅₀: Lethal concentration, 50% of test population
OECD: Organization for Economic Co-operation and Development
LD₅₀: Lethal dose, 50% of test population
PNEC: Predicted No Effect Concentration
STOT: Specific Target Organ Toxicity
TLV: Threshold Limiting Value
TWA-TLV: Threshold Limit Value for the Time Weighted Average 8 hour day (ACGIH Standard)

Full text of H-statements:

| | |
|---------------------|---|
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Eye Irrit. 2A | Serious eye damage/eye irritation, Category 2A |
| Ox. Sol. 2 | Oxidising Solids, Category 2 |
| Skin Irrit. 2 | Skin corrosion/irritation Category 2 |
| STOT SE 3 | Specific target organ toxicity (single exposure) Category 3 |
| H272 | May intensify fire; oxidiser |
| H302 | Harmful if swallowed |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| H335 | May cause respiratory irritation |



SAFETY DATA SHEET

1. Identification

Product number 1000000083
Product identifier CINNAMON AIR FRESHENER & DEODORIZER
Company information Claire Manufacturing Co.
1005 S. Westgate Drive
Addison, IL 60101 United States
Company phone General Assistance 1-630-543-7600
Emergency telephone US 1-866-836-8855
Emergency telephone outside US 1-952-852-4646
Version # 01
Recommended use Air Freshener
Recommended restrictions None known.

2. Hazard(s) identification

Physical hazards Flammable aerosols Category 1
Health hazards Serious eye damage/eye irritation Category 2A
Specific target organ toxicity, single exposure Category 3 narcotic effects
Environmental hazards Not classified.
OSHA defined hazards Not classified.
Label elements



Signal word Danger
Hazard statement Extremely flammable aerosol. Causes serious eye irritation. May cause drowsiness or dizziness.
Precautionary statement
Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Avoid breathing gas. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear eye/face protection.
Response If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor if you feel unwell. If eye irritation persists: Get medical advice/attention. Collect spillage.
Storage Store in a well-ventilated place. Keep container tightly closed. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC) None known.
Supplemental information None.

3. Composition/information on ingredients

Mixtures

| Chemical name | Common name and synonyms | CAS number | % |
|---------------|--------------------------|------------|---------|
| Acetone | | 67-64-1 | 60 - 80 |
| Butane | | 106-97-8 | 10 - 20 |

| Chemical name | Common name and synonyms | CAS number | % |
|--|--------------------------|------------|---------|
| Propane | | 74-98-6 | 10 - 20 |
| Other components below reportable levels | | | 1 - 2.5 |

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

| | |
|---|--|
| Inhalation | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. |
| Skin contact | Wash off with soap and water. Get medical attention if irritation develops and persists. |
| Eye contact | Rinse with water. Get medical attention if irritation develops and persists. |
| Ingestion | Rinse mouth. Get medical attention if symptoms occur. |
| Most important symptoms/effects, acute and delayed | May cause drowsiness and dizziness. Headache. Nausea, vomiting. Irritation of nose and throat. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. |
| Indication of immediate medical attention and special treatment needed | Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed. |
| General information | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |

5. Fire-fighting measures

| | |
|--|--|
| Suitable extinguishing media | Powder. Alcohol resistant foam. Carbon dioxide (CO ₂). |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | Contents under pressure. Pressurized container may explode when exposed to heat or flame. |
| Special protective equipment and precautions for firefighters | Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. |
| Fire-fighting equipment/instructions | Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers. In the event of fire and/or explosion do not breathe fumes. |
| General fire hazards | Extremely flammable aerosol. |

6. Accidental release measures

| | |
|--|---|
| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing gas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. |
| Methods and materials for containment and cleaning up | Refer to attached safety data sheets and/or instructions for use. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Isolate area until gas has dispersed. For waste disposal, see section 13 of the SDS. |
| Environmental precautions | Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. |

7. Handling and storage

Precautions for safe handling

Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Do not re-use empty containers. Avoid breathing gas. Avoid contact with eyes. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Level 3 Aerosol.

Store locked up. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Refrigeration recommended. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| Components | Type | Value |
|-----------------------|------|------------------------|
| Acetone (CAS 67-64-1) | PEL | 2400 mg/m3 1000 ppm |
| Propane (CAS 74-98-6) | PEL | 1800 mg/m3 1000 ppm |

US. ACGIH Threshold Limit Values

| Components | Type | Value |
|-----------------------|------|----------|
| Acetone (CAS 67-64-1) | STEL | 750 ppm |
| | TWA | 500 ppm |
| Butane (CAS 106-97-8) | STEL | 1000 ppm |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value |
|-----------------------|------|------------------------|
| Acetone (CAS 67-64-1) | TWA | 590 mg/m3 250 ppm |
| Butane (CAS 106-97-8) | TWA | 1900 mg/m3 800 ppm |
| Propane (CAS 74-98-6) | TWA | 1800 mg/m3 1000 ppm |

Biological limit values

ACGIH Biological Exposure Indices

| Components | Value | Determinant | Specimen | Sampling Time |
|-----------------------|---------|-------------|----------|---------------|
| Acetone (CAS 67-64-1) | 50 mg/l | Acetone | Urine | * |

* - For sampling details, please see the source document.

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Individual protection measures, such as personal protective equipment

| | |
|-------------------------------|---|
| Eye/face protection | If contact is likely, safety glasses with side shields are recommended. |
| Hand protection | For prolonged or repeated skin contact use suitable protective gloves. |
| Skin protection | |
| Other | Wear suitable protective clothing. |
| Respiratory protection | In case of insufficient ventilation, wear suitable respiratory equipment. |
| Thermal hazards | Wear appropriate thermal protective clothing, when necessary. |

General hygiene considerations

When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

| | |
|---|--|
| Appearance | Clear. |
| Physical state | Liquid. |
| Form | Aerosol. |
| Color | Pale yellow |
| Odor | Cinnamon. |
| Odor threshold | Not available. |
| pH | Not available. |
| Melting point/freezing point | Not available. |
| Initial boiling point and boiling range | 132.89 °F (56.05 °C) estimated |
| Flash point | -156.0 °F (-104.4 °C) Propellant estimated |
| Evaporation rate | Not available. |
| Flammability (solid, gas) | Not available. |
| Upper/lower flammability or explosive limits | |
| Flammability limit - lower (%) | 1.9 % estimated |
| Flammability limit - upper (%) | 9.5 % estimated |
| Explosive limit - lower (%) | Not available. |
| Explosive limit - upper (%) | Not available. |
| Vapor pressure | 60 - 70 psig @20C estimated |
| Vapor density | Not available. |
| Relative density | Not available. |
| Solubility(ies) | |
| Solubility (water) | Not available. |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |
| Other information | |
| Specific gravity | 0.79 - 0.8 estimated |

10. Stability and reactivity

| | |
|---|---|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | Hazardous polymerization does not occur. |
| Conditions to avoid | Avoid temperatures exceeding the flash point. Contact with incompatible materials. |
| Incompatible materials | Acids. Strong oxidizing agents. Nitrates. Fluorine. Chlorine. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information**Information on likely routes of exposure**

| | |
|---------------------|--|
| Ingestion | Expected to be a low ingestion hazard. |
| Inhalation | May cause drowsiness and dizziness. Headache. Nausea, vomiting. Narcotic effects. Prolonged inhalation may be harmful. |
| Skin contact | No adverse effects due to skin contact are expected. |

| | | |
|--|--|------------------------|
| Eye contact | Causes serious eye irritation. | |
| Symptoms related to the physical, chemical and toxicological characteristics | May cause drowsiness and dizziness. Headache. Nausea, vomiting. Irritation of nose and throat. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. | |
| Information on toxicological effects | | |
| Acute toxicity | Narcotic effects. | |
| Components | Species | Test Results |
| Acetone (CAS 67-64-1) | | |
| Acute | | |
| Dermal | | |
| LD50 | Guinea pig | > 7426 mg/kg, 24 Hours |
| | | > 9.4 ml/kg, 24 Hours |
| | Rabbit | > 7426 mg/kg, 24 Hours |
| | | > 9.4 ml/kg, 24 Hours |
| Inhalation | | |
| LC50 | Rat | 55700 ppm, 3 Hours |
| | | 132 mg/l, 3 Hours |
| | | 50.1 mg/l |
| Oral | | |
| LD50 | Rat | 5800 mg/kg |
| | | 2.2 ml/kg |
| Butane (CAS 106-97-8) | | |
| Acute | | |
| Inhalation | | |
| LC50 | Mouse | 1237 mg/l, 120 Minutes |
| | | 52 %, 120 Minutes |
| | Rat | 1355 mg/l |
| Propane (CAS 74-98-6) | | |
| Acute | | |
| Inhalation | | |
| LC50 | Mouse | 1237 mg/l, 120 Minutes |
| | | 52 %, 120 Minutes |
| | Rat | 1355 mg/l |
| | | 658 mg/l/4h |
| * Estimates for product may be based on additional component data not shown. | | |
| Skin corrosion/irritation | Prolonged skin contact may cause temporary irritation. | |
| Serious eye damage/eye irritation | Causes serious eye irritation. | |
| Respiratory or skin sensitization | | |
| Respiratory sensitization | Not available. | |
| Skin sensitization | This product is not expected to cause skin sensitization. | |
| Germ cell mutagenicity | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. | |
| Carcinogenicity | This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. | |
| OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) | | |
| Not listed. | | |
| Reproductive toxicity | This product is not expected to cause reproductive or developmental effects. | |
| Specific target organ toxicity - single exposure | May cause drowsiness and dizziness. | |

| | |
|---|---|
| Specific target organ toxicity - repeated exposure | Not classified. |
| Aspiration hazard | Not likely, due to the form of the product. |
| Chronic effects | Prolonged inhalation may be harmful. |

12. Ecological information

Ecotoxicity

| Components | | Species | Test Results |
|-----------------------|------|---|----------------------------|
| Acetone (CAS 67-64-1) | | | |
| Aquatic | | | |
| Crustacea | EC50 | Water flea (Daphnia magna) | 21.6 - 23.9 mg/l, 48 hours |
| Fish | LC50 | Rainbow trout,donaldson trout (Oncorhynchus mykiss) | 4740 - 6330 mg/l, 96 hours |

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

| | |
|---------|-------|
| Acetone | -0.24 |
| Butane | 2.89 |
| Propane | 2.36 |

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

US RCRA Hazardous Waste U List: Reference

Acetone (CAS 67-64-1) U002

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers.

14. Transport information

DOT

| | |
|-------------------------------------|---|
| UN number | UN1950 |
| UN proper shipping name | Aerosols, flammable, (each not exceeding 1 L capacity) |
| Transport hazard class(es) | |
| Class | 2.1 |
| Subsidiary risk | - |
| Label(s) | 2.1 |
| Packing group | Not applicable. |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |
| Special provisions | N82 |
| Packaging exceptions | 306 |
| Packaging non bulk | None |
| Packaging bulk | None |

This product meets the exception requirements of section 173.306 as a limited quantity and may be shipped as a limited quantity. Until 12/31/2020, the "Consumer Commodity - ORM-D" marking may still be used in place of the new limited quantity diamond mark for packages of UN 1950 Aerosols. Limited quantities require the limited quantity diamond mark on cartons after 12/31/20 and may be used now in place of the "Consumer Commodity ORM-D" marking and both may be displayed concurrently.

IATA

| | |
|-------------------------------------|---|
| UN number | UN1950 |
| UN proper shipping name | Aerosols, flammable |
| Transport hazard class(es) | |
| Class | 2.1 |
| Subsidiary risk | - |
| Label(s) | 2.1 |
| Packing group | Not applicable. |
| Environmental hazards | No. |
| ERG Code | 10L |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |
| Other information | |
| Passenger and cargo aircraft | Allowed. |
| Cargo aircraft only | Allowed. |
| Packaging Exceptions | LTD QTY |

IMDG

| | |
|-------------------------------------|---|
| UN number | UN1950 |
| UN proper shipping name | AEROSOLS |
| Transport hazard class(es) | |
| Class | 2.1 |
| Subsidiary risk | - |
| Label(s) | 2.1 |
| Packing group | Not applicable. |
| Environmental hazards | |
| Marine pollutant | No. |
| EmS | F-D, S-U |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |
| Packaging Exceptions | LTD QTY |

Transport in bulk according to

Annex II of MARPOL 73/78 and

the IBC Code

DOT



IATA; IMDG



15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Acetone (CAS 67-64-1)

Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - Yes
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Butane (CAS 106-97-8)

Propane (CAS 74-98-6)

Safe Drinking Water Act (SDWA)

Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Acetone (CAS 67-64-1)

6532

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Acetone (CAS 67-64-1)

35 %WV

DEA Exempt Chemical Mixtures Code Number

Acetone (CAS 67-64-1)

6532

US state regulations

US. Massachusetts RTK - Substance List

Acetone (CAS 67-64-1)

Butane (CAS 106-97-8)

Propane (CAS 74-98-6)

US. New Jersey Worker and Community Right-to-Know Act

Acetone (CAS 67-64-1)

Butane (CAS 106-97-8)

Propane (CAS 74-98-6)

US. Pennsylvania Worker and Community Right-to-Know Law

Acetone (CAS 67-64-1)

Butane (CAS 106-97-8)

Propane (CAS 74-98-6)

US. Rhode Island RTK

Acetone (CAS 67-64-1)

Butane (CAS 106-97-8)

Propane (CAS 74-98-6)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|--|------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | No |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | No |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | No |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | No |
| New Zealand | New Zealand Inventory | No |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 06-22-2015

Version # 01

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

SAFETY DATA SHEET

Citrus Scrub 'N Shine

Section 1. Identification

GHS product identifier : Citrus Scrub 'N Shine
Other means of identification : 525FR
Product type : Liquid

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Supplier's details : Essential Industries, Inc.
P.O. Box 12
Merton, WI 53056-0012
Phone: 262-538-1122

Emergency telephone number (with hours of operation) : 800-843-6174 (24 Hours)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 2

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : May cause an allergic skin reaction.
Suspected of causing cancer.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Avoid breathing vapor. Contaminated work clothing should not be allowed out of the workplace.

Response : IF exposed or concerned: Get medical attention. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

Date of issue/Date of revision : 12/29/2014. **Date of previous issue** : No previous validation. **Version** : 0.01 1/11

Section 3. Composition/information on ingredients

Substance/mixture : Mixture
Other means of identification : Not available

CAS number/other identifiers

CAS number : Not applicable
Product code : 525FR

| Ingredient name | % | CAS number |
|----------------------------|-------|------------|
| Coconut oil diethanolamide | 1 - 5 | 68603-42-9 |
| d-Limonene | 0 - 1 | 5989-27-5 |
| Diethanolamine | 0 - 1 | 111-42-2 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : May cause an allergic skin reaction.
Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Date of issue/Date of revision : 12/29/2014. **Date of previous issue** : No previous validation. **Version** : 0.01

2/11

Section 4. First aid measures

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Section 6. Accidental release measures

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|-----------------|---|
| Diethanolamine | OSHA PEL 1989 (United States, 3/1989). TWA: 3 ppm 8 hours. TWA: 15 mg/m ³ 8 hours. NIOSH REL (United States, 10/2013). TWA: 3 ppm 10 hours. TWA: 15 mg/m ³ 10 hours. ACGIH TLV (United States, 6/2013). Absorbed through skin. TWA: 1 mg/m ³ 8 hours. Form: Inhalable fraction and vapor |

Section 8. Exposure controls/personal protection

| | |
|--|--|
| Appropriate engineering controls | : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. |
| Environmental exposure controls | : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. |
| <u>Individual protection measures</u> | |
| Hygiene measures | : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location. |
| Eye/face protection | : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. |
| <u>Skin protection</u> | |
| Hand protection | : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. |
| Body protection | : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. |
| Other skin protection | : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. |
| Respiratory protection | : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. |

Section 9. Physical and chemical properties

Appearance

| | |
|----------------------------------|--|
| Physical state | : Liquid |
| Color | : Light Yellow |
| Odor | : Citrus |
| Odor threshold | : Not available |
| pH | : 9.7 to 10.7 |
| Melting point | : 0°C (32°F) |
| Boiling point | : 100°C (212°F) |
| Flash point | : Closed cup: >98.89°C (>210°F) [No sustained combustion under required test conditions listed in DOT 173.120(3).] |
| Evaporation rate | : Not available |
| Flammability (solid, gas) | : Not available |

Section 9. Physical and chemical properties

| | |
|---|---|
| Lower and upper explosive (flammable) limits | : Not available |
| Vapor pressure | : <4 kPa (<30 mm Hg) [room temperature] |
| Vapor density | : <1 [Air = 1] |
| Specific gravity | : 1 g/cm ³ |
| Solubility | : Not available |

| | |
|---|-----------------|
| Partition coefficient: n-octanol/water | : Not available |
| Auto-ignition temperature | : Not available |
| Viscosity | : Not available |
| VOC content | : 1.4% |

VOCs are calculated following the requirements under 40 CFR, Part 59, Subpart C for Consumer Products and Subpart D for Architectural Coatings.

Section 10. Stability and reactivity

| | |
|---|--|
| Reactivity | : No specific test data related to reactivity available for this product or its ingredients. |
| Chemical stability | : The product is stable. |
| Possibility of hazardous reactions | : Under normal conditions of storage and use, hazardous reactions will not occur. |
| Conditions to avoid | : No specific data. |
| Incompatible materials | : No specific data. |
| Hazardous decomposition products | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|----------------------------|-------------|---------|-------------|----------|
| Coconut oil diethanolamide | LD50 Dermal | Rabbit | 12200 mg/kg | - |
| | LD50 Oral | Rat | 1600 mg/kg | - |
| d-Limonene | LD50 Dermal | Rabbit | >5000 mg/kg | - |
| | LD50 Oral | Rat | 4400 mg/kg | - |
| Diethanolamine | LD50 Dermal | Rabbit | 12200 mg/kg | - |
| | LD50 Oral | Rat | 710 mg/kg | - |

Irritation/Corrosion

Section 11. Toxicological information

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|----------------------------|--------------------------|---------|-------|-------------------------|-------------|
| Coconut oil diethanolamide | Eyes - Severe irritant | Rabbit | - | 100 microliters | - |
| | Skin - Moderate irritant | Rabbit | - | 300 microliters | - |
| d-Limonene | Skin - Mild irritant | Rabbit | - | 24 hours 10 Percent | - |
| Diethanolamine | Eyes - Severe irritant | Rabbit | - | 24 hours 750 Micrograms | - |
| | Eyes - Severe irritant | Rabbit | - | 5500 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 50 milligrams | - |

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

| Product/ingredient name | OSHA | IARC | NTP |
|----------------------------|------|------|-----|
| Coconut oil diethanolamide | - | 2B | - |
| d-Limonene | - | 3 | - |
| Diethanolamine | - | 2B | - |

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

| Name | Result |
|------------|--------------------------------|
| d-Limonene | ASPIRATION HAZARD - Category 1 |

Information on the likely routes of exposure : Not available

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : May cause an allergic skin reaction.
Ingestion : No known significant effects or critical hazards.

Section 11. Toxicological information

Symptoms related to the physical, chemical and toxicological characteristics

| | |
|---------------------|--|
| Eye contact | : No specific data. |
| Inhalation | : No specific data. |
| Skin contact | : Adverse symptoms may include the following: irritation redness |
| Ingestion | : No specific data. |

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

| | |
|------------------------------------|-----------------|
| Potential immediate effects | : Not available |
| Potential delayed effects | : Not available |

Long term exposure

| | |
|------------------------------------|-----------------|
| Potential immediate effects | : Not available |
| Potential delayed effects | : Not available |

Potential chronic health effects

Not available.

| | |
|------------------------------|---|
| General | : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. |
| Carcinogenicity | : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure. |
| Mutagenicity | : No known significant effects or critical hazards. |
| Teratogenicity | : No known significant effects or critical hazards. |
| Developmental effects | : No known significant effects or critical hazards. |
| Fertility effects | : No known significant effects or critical hazards. |

Numerical measures of toxicity

Acute toxicity estimates

| Route | ATE value |
|-------|---------------|
| Oral | 96383.4 mg/kg |

Section 12. Ecological information

Toxicity

| Product/ingredient name | Result | Species | Exposure |
|-------------------------|-----------------------------------|--|----------|
| d-Limonene | Acute EC50 421 µg/l Fresh water | Daphnia - Daphnia magna | 48 hours |
| | Acute EC50 688 µg/l Fresh water | Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) | 96 hours |
| Diethanolamine | Acute EC50 12 mg/l Fresh water | Algae - Pseudokirchneriella subcapitata | 96 hours |
| | Acute LC50 28800 µg/l Fresh water | Crustaceans - Ceriodaphnia dubia - Neonate | 48 hours |
| | Acute LC50 2150 µg/l Fresh water | Daphnia - Daphnia pulex | 48 hours |
| | Acute LC50 100 mg/l Fresh water | Fish - Pimephales promelas - | 96 hours |

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Section 12. Ecological information

| | | | |
|--|--|---|--|
| | | Juvenile (Fledgling, Hatchling, Weanling) | |
|--|--|---|--|

Persistence and degradability

Not available.

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|-------------------------|--------------------|------|-----------|
| d-Limonene | 4.38 | 1022 | high |
| Diethanolamine | -1.43 | - | low |

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

| | DOT Classification | IMDG | IATA |
|----------------------------|--------------------|---------------|---------------|
| UN number | Not regulated | Not regulated | Not regulated |
| UN proper shipping name | - | - | - |
| Transport hazard class(es) | - | - | - |
| Packing group | - | - | - |
| Environmental hazards | No. | No. | No. |
| Additional information | - | - | - |

Section 14. Transport information

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **United States inventory (TSCA 8b):** All components are listed or exempted.

Clean Air Act Section 112 : Not listed

(b) Hazardous Air Pollutants (HAPs)

SARA 311/312

Classification : Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

| Name | % | Fire hazard | Sudden release of pressure | Reactive | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|----------------------------|-------|-------------|----------------------------|----------|---------------------------------|---------------------------------|
| Coconut oil diethanolamide | 1 - 5 | No. | No. | No. | Yes. | Yes. |
| d-Limonene | 0 - 1 | Yes. | No. | No. | Yes. | No. |
| Diethanolamine | 0 - 1 | No. | No. | No. | Yes. | Yes. |

State regulations

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

| Ingredient name | Cancer | Reproductive | No significant risk level | Maximum acceptable dosage level |
|----------------------------|--------|--------------|---------------------------|---------------------------------|
| Coconut oil diethanolamide | Yes. | No. | No. | No. |
| Diethanolamine | Yes. | No. | No. | No. |

International regulations

Canada inventory : All components are listed or exempted.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

| | | |
|------------------|---|---|
| Health | * | 2 |
| Flammability | | 0 |
| Physical hazards | | 0 |
| | | |

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

Date of issue/Date of revision : 12/29/2014. **Date of previous issue** : No previous validation. **Version** : 0.01 10/11

Section 16. Other information

The customer is responsible for determining the PPE code for this material.

[National Fire Protection Association \(U.S.A.\)](#)



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

[History](#)

Date of printing : 12/29/2014.

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Date of previous issue : No previous validation.

Key to abbreviations :

- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- UN = United Nations

References : Not available

Indicates information that has changed from previously issued version.

[Notice to reader](#)

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



SAFETY DATA SHEET

1. Identification

Product number 1000000940
Product identifier JET FORCE WASP & HORNET KILLER
Company information Claire Manufacturing Co.
1005 S. Westgate Drive
Addison, IL 60101 United States
Company phone General Assistance 1-630-543-7600
Emergency telephone US 1-866-836-8855
Emergency telephone outside US 1-952-852-4646
Version # 01
Recommended use PESTICIDE
Recommended restrictions None known.

2. Hazard(s) identification

Physical hazards Flammable aerosols Category 1
Health hazards Aspiration hazard Category 1
Environmental hazards Hazardous to the aquatic environment, acute hazard Category 2
Hazardous to the aquatic environment, long-term hazard Category 2
OSHA defined hazards Not classified.

Label elements



Signal word Danger
Hazard statement Extremely flammable aerosol. May be fatal if swallowed and enters airways.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Avoid release to the environment.

Response If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. Collect spillage.

Storage Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

| Chemical name | Common name and synonyms | CAS number | % |
|---|--------------------------|------------|----------|
| Distillates (Petroleum), Hydrotreated Light | | 64742-47-8 | 80 - 90 |
| Carbon Dioxide | | 124-38-9 | 2.5 - 10 |
| Isopropyl Alcohol | | 67-63-0 | 2.5 - 10 |
| d-Phenothrin | | 26002-80-2 | 0.1 - 1 |

| Chemical name | Common name and synonyms | CAS number | % |
|--|--------------------------|------------|---------|
| Tetramethrin | | 7696-12-0 | 0.1 - 1 |
| Other components below reportable levels | | | 1 - 2.5 |

#: This substance has workplace exposure limit(s).

vPvB: very persistent and very bioaccumulative substance.

PBT: persistent, bioaccumulative and toxic substance.

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

| | |
|---|---|
| Inhalation | If symptoms develop move victim to fresh air. Get medical attention if symptoms persist. |
| Skin contact | Wash off with soap and water. Get medical attention if irritation develops and persists. |
| Eye contact | Rinse with water. Get medical attention if irritation develops and persists. |
| Ingestion | Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. |
| Most important symptoms/effects, acute and delayed | Aspiration may cause pulmonary edema and pneumonitis. |
| Indication of immediate medical attention and special treatment needed | Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed. |
| General information | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |

5. Fire-fighting measures

| | |
|--|---|
| Suitable extinguishing media | Alcohol resistant foam. Water fog. Dry chemical powder. Dry chemicals. Carbon dioxide (CO2). |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | Contents under pressure. Pressurized container may explode when exposed to heat or flame. |
| Special protective equipment and precautions for firefighters | Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. |
| Fire-fighting equipment/instructions | Move containers from fire area if you can do so without risk. Cool containers exposed to heat with water spray and remove container, if no risk is involved. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. In the event of fire and/or explosion do not breathe fumes. |
| General fire hazards | Extremely flammable aerosol. |

6. Accidental release measures

| | |
|--|---|
| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. |
| Methods and materials for containment and cleaning up | Refer to attached safety data sheets and/or instructions for use. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Use water spray to reduce vapors or divert vapor cloud drift. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. |
| Environmental precautions | Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS. Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. |

7. Handling and storage

Precautions for safe handling

Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Do not re-use empty containers. Avoid prolonged or repeated contact with skin. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Level 3 Aerosol.

Store locked up. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Store away from incompatible materials (see Section 10 of the SDS). Level 3 Aerosol.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| Components | Type | Value |
|---------------------------------|------|----------------------------------|
| Carbon Dioxide (CAS 124-38-9) | PEL | 9000 mg/m3 |
| Isopropyl Alcohol (CAS 67-63-0) | PEL | 5000 ppm 980 mg/m3 400 ppm |

US. ACGIH Threshold Limit Values

| Components | Type | Value |
|---------------------------------|-------------|---------------------|
| Carbon Dioxide (CAS 124-38-9) | STEL | 30000 ppm |
| Isopropyl Alcohol (CAS 67-63-0) | TWA STEL | 5000 ppm 400 ppm |
| | TWA | 200 ppm |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value |
|---------------------------------|------|-------------------------------------|
| Carbon Dioxide (CAS 124-38-9) | STEL | 54000 mg/m3 |
| | TWA | 30000 ppm 9000 mg/m3 5000 ppm |
| Isopropyl Alcohol (CAS 67-63-0) | STEL | 1225 mg/m3 |
| | TWA | 500 ppm 980 mg/m3 400 ppm |

Biological limit values

ACGIH Biological Exposure Indices

| Components | Value | Determinant | Specimen | Sampling Time |
|---------------------------------|---------|-------------|----------|---------------|
| Isopropyl Alcohol (CAS 67-63-0) | 40 mg/l | Acetone | Urine | * |

* - For sampling details, please see the source document.

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection

Face shield is recommended. Wear safety glasses with side shields (or goggles).

| | |
|---------------------------------------|--|
| Hand protection | Wear appropriate chemical resistant gloves. |
| Skin protection | |
| Other | Wear suitable protective clothing. |
| Respiratory protection | If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator. |
| Thermal hazards | Wear appropriate thermal protective clothing, when necessary. |
| General hygiene considerations | When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. |

9. Physical and chemical properties

Appearance

| | |
|--|-------------------------------|
| Physical state | Gas. |
| Form | Aerosol. |
| Color | Colorless. |
| Odor | Solvent. |
| Odor threshold | Not available. |
| pH | Not available. |
| Melting point/freezing point | Not available. |
| Initial boiling point and boiling range | 180.5 °F (82.5 °C) estimated |
| Flash point | 228.2 °F (109.0 °C) estimated |
| Evaporation rate | Not available. |
| Flammability (solid, gas) | Not available. |

Upper/lower flammability or explosive limits

| | |
|--|------------------------------|
| Flammability limit - lower (%) | 0.5 % estimated |
| Flammability limit - upper (%) | Not available. |
| Explosive limit - lower (%) | Not available. |
| Explosive limit - upper (%) | Not available. |
| Vapor pressure | 90 - 110 psig @70F estimated |
| Vapor density | Not available. |
| Relative density | Not available. |
| Solubility(ies) | |
| Solubility (water) | Not available. |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | 421 °F (216.11 °C) estimated |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |
| Other information | |
| Specific gravity | 0.826 estimated |

10. Stability and reactivity

| | |
|---|---|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | Hazardous polymerization does not occur. |
| Conditions to avoid | Avoid temperatures exceeding the flash point. Contact with incompatible materials. |
| Incompatible materials | Acids. Strong oxidizing agents. Isocyanates. Chlorine. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information

Information on likely routes of exposure

| | |
|---------------------|--|
| Ingestion | Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia. |
| Inhalation | Prolonged inhalation may be harmful. |
| Skin contact | No adverse effects due to skin contact are expected. |
| Eye contact | Direct contact with eyes may cause temporary irritation. |

Symptoms related to the physical, chemical and toxicological characteristics Aspiration may cause pulmonary edema and pneumonitis.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways.

| Product | Species | Test Results |
|--|---------|--------------|
| JET FORCE WASP & HORNET KILLER (CAS Mixture) | | |

Acute

Dermal

| | | |
|------|-----|------------|
| LD50 | Rat | 2237 mg/kg |
|------|-----|------------|

Inhalation

| | | |
|------|-----|-----------|
| LC50 | Rat | 6 mg/l/4h |
|------|-----|-----------|

Oral

| | | |
|------|-----|--|
| LD50 | Rat | |
|------|-----|--|

| Components | Species | Test Results |
|------------|---------|--------------|
|------------|---------|--------------|

Distillates (Petroleum), Hydrotreated Light (CAS 64742-47-8)

Acute

Dermal

| | | |
|------|--------|--|
| LD50 | Rabbit | > 2000 mg/kg > 2000 mg/kg, 24 Hours |
|------|--------|--|

Inhalation

| | | |
|------|-----|--|
| LC50 | Rat | > 7.5 mg/l, 6 Hours > 4.6 mg/l, 4 Hours |
|------|-----|--|

Oral

| | | |
|------|-----|--------------|
| LD50 | Rat | > 5000 mg/kg |
|------|-----|--------------|

Isopropyl Alcohol (CAS 67-63-0)

Acute

Dermal

| | | |
|------|--------|----------------------|
| LD50 | Rabbit | 16.4 ml/kg, 24 Hours |
|------|--------|----------------------|

Inhalation

| | | |
|------|-----|----------------------|
| LC50 | Rat | > 10000 ppm, 6 Hours |
|------|-----|----------------------|

Oral

| | | |
|------|-----|-----------|
| LD50 | Rat | 5.84 g/kg |
|------|-----|-----------|

Tetramethrin (CAS 7696-12-0)

Acute

Oral

| | | |
|------|-----|------------|
| LD50 | Rat | 4640 mg/kg |
|------|-----|------------|

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Not available.

| | |
|---|--|
| Skin sensitization | This product is not expected to cause skin sensitization. |
| Germ cell mutagenicity | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
| Carcinogenicity | This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. |
| OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) | |
| Not listed. | |
| Reproductive toxicity | This product is not expected to cause reproductive or developmental effects. |
| Specific target organ toxicity - single exposure | Not classified. |
| Specific target organ toxicity - repeated exposure | Not classified. |
| Aspiration hazard | May be fatal if swallowed and enters airways. |
| Chronic effects | Prolonged inhalation may be harmful. |

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

| Product | Species | | Test Results |
|--|---------|---|-----------------------------|
| JET FORCE WASP & HORNET KILLER (CAS Mixture) | | | |
| Aquatic | | | |
| Algae | IC50 | Algae | 11769 mg/L, 72 Hours |
| Crustacea | EC50 | Daphnia | 629 mg/L, 48 Hours |
| Fish | LC50 | Fish | 48.7193 mg/L, 96 Hours |
| Components | Species | | Test Results |
| Distillates (Petroleum), Hydrotreated Light (CAS 64742-47-8) | | | |
| Aquatic | | | |
| Fish | LC50 | Rainbow trout,donaldson trout (Oncorhynchus mykiss) | 2.9 mg/l, 96 hours |
| Isopropyl Alcohol (CAS 67-63-0) | | | |
| Aquatic | | | |
| Algae | IC50 | Algae | 1000.0001 mg/L, 72 Hours |
| Crustacea | EC50 | Daphnia | 13299 mg/L, 48 Hours |
| Fish | LC50 | Bluegill (Lepomis macrochirus) | > 1400 mg/l, 96 hours |
| Tetramethrin (CAS 7696-12-0) | | | |
| Aquatic | | | |
| Fish | LC50 | Carp (Cyprinus carpio) | 0.095 - 0.16 mg/l, 96 hours |

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

| | |
|-------------------|------|
| Isopropyl Alcohol | 0.05 |
| Tetramethrin | 4.73 |

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

| | |
|--|--|
| Hazardous waste code | The waste code should be assigned in discussion between the user, the producer and the waste disposal company. |
| Waste from residues / unused products | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). |
| Contaminated packaging | Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers. |

14. Transport information

DOT

| | |
|---|---|
| UN number | UN1950 |
| UN proper shipping name | Aerosols, flammable |
| Transport hazard class(es) | |
| Class | 2.1 |
| Subsidiary risk | None |
| Label(s) | 2.1 |
| Packing group | Not applicable. |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling. |
| Special provisions | N82 |
| Packaging exceptions | 306 |
| Packaging non bulk | None |
| Packaging bulk | None |
| This product meets the exception requirements of section 173.306 as a limited quantity and may be shipped as a limited quantity. Until 12/31/2020, the "Consumer Commodity - ORM-D" marking may still be used in place of the new limited quantity diamond mark for packages of UN 1950 Aerosols. Limited quantities require the limited quantity diamond mark on cartons after 12/31/20 and may be used now in place of the "Consumer Commodity ORM-D" marking and both may be displayed concurrently. | |

IATA

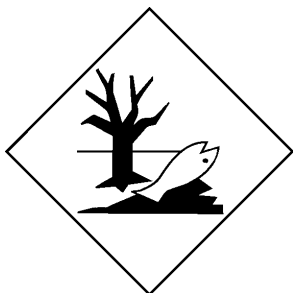
| | |
|-------------------------------------|---|
| UN number | UN1950 |
| UN proper shipping name | Aerosols, flammable |
| Transport hazard class(es) | |
| Class | 2.1 |
| Subsidiary risk | - |
| Label(s) | 2.1 |
| Packing group | Not applicable. |
| Environmental hazards | Yes |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling. |
| Other information | |
| Passenger and cargo aircraft | Forbidden. |
| Cargo aircraft only | Forbidden. |
| Packaging Exceptions | LTD QTY |

IMDG

| | |
|---|---|
| UN number | UN1950 |
| UN proper shipping name | AEROSOLS |
| Transport hazard class(es) | |
| Class | 2.1 |
| Subsidiary risk | - |
| Label(s) | 2.1 |
| Packing group | Not applicable. |
| Environmental hazards | |
| Marine pollutant | Yes |
| EmS | Not available. |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling. |
| Packaging Exceptions | LTD QTY |
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | Not applicable. |



Marine pollutant



15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

No

SARA 313 (TRI reporting)

| Chemical name | CAS number | % by wt. |
|---------------|------------|----------|
| d-Phenothrin | 26002-80-2 | 0.1 - 1 |
| Tetramethrin | 7696-12-0 | 0.1 - 1 |

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

Hazard statement

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The pesticide label also includes other important information, including directions for use.

CAUTION!

Harmful if absorbed through skin.
Moderately irritating to the eyes.

US state regulations**US. Massachusetts RTK - Substance List**

Carbon Dioxide (CAS 124-38-9)
Isopropyl Alcohol (CAS 67-63-0)

US. New Jersey Worker and Community Right-to-Know Act

Carbon Dioxide (CAS 124-38-9)
d-Phenothrin (CAS 26002-80-2)
Isopropyl Alcohol (CAS 67-63-0)
Tetramethrin (CAS 7696-12-0)

US. Pennsylvania Worker and Community Right-to-Know Law

Carbon Dioxide (CAS 124-38-9)
Isopropyl Alcohol (CAS 67-63-0)

US. Rhode Island RTK

d-Phenothrin (CAS 26002-80-2)
Isopropyl Alcohol (CAS 67-63-0)
Tetramethrin (CAS 7696-12-0)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|--|------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | Yes |
| Canada | Domestic Substances List (DSL) | No |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | No |
| New Zealand | New Zealand Inventory | Yes |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 01-26-2015
Version # 01

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. We cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.



SAFETY DATA SHEET

1. Identification

Product number 1000006763
Product identifier STAINLESS STEEL POLISH & CLEANER (OIL BASE)
Revision date 09-22-2015
Company information Claire Manufacturing Co.
1005 S. Westgate Drive
Addison, IL 60101 United States
Company phone General Assistance 1-630-543-7600
Emergency telephone US 1-866-836-8855
Emergency telephone outside US 1-952-852-4646
Version # 10
Supersedes date 09-16-2015
Recommended use CLEANER
Recommended restrictions None known.

2. Hazard(s) identification

Physical hazards Flammable aerosols Category 1
Health hazards Serious eye damage/eye irritation Category 2A
Specific target organ toxicity, single exposure Category 3 narcotic effects
Aspiration hazard Category 1
Environmental hazards Not classified.
OSHA defined hazards Not classified.
Label elements



Signal word Danger

Hazard statement Extremely flammable aerosol. May be fatal if swallowed and enters airways. Causes serious eye irritation. May cause drowsiness or dizziness.

Precautionary statement

Prevention

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Avoid breathing gas. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear eye/face protection.

Response

If swallowed: Immediately call a poison center/doctor. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor if you feel unwell. Do NOT induce vomiting. If eye irritation persists: Get medical advice/attention.

Storage

Store in a well-ventilated place. Keep container tightly closed. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

Disposal

Not available.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

| Chemical name | Common name and synonyms | CAS number | % |
|---|--------------------------|------------|----------|
| Distillates (Petroleum), Hydrotreated Light | | 64742-47-8 | 20 - 40 |
| White Mineral Oil | | 8042-47-5 | 20 - 40 |
| Acetone | | 67-64-1 | 10 - 20 |
| Propane | | 74-98-6 | 10 - 20 |
| Methyl Acetate | | 79-20-9 | 2.5 - 10 |
| Other components below reportable levels | | | 1 - 2.5 |

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

| | |
|---|---|
| Inhalation | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. |
| Skin contact | Wash off with soap and water. Get medical attention if irritation develops and persists. |
| Eye contact | Rinse with water. Get medical attention if irritation develops and persists. |
| Ingestion | Rinse mouth. Get medical attention if symptoms occur. |
| Most important symptoms/effects, acute and delayed | May cause drowsiness and dizziness. Headache. Nausea, vomiting. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. |
| Indication of immediate medical attention and special treatment needed | Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed. |
| General information | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |

5. Fire-fighting measures

| | |
|--|---|
| Suitable extinguishing media | Powder. Alcohol resistant foam. Dry chemicals. Carbon dioxide (CO2). |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | Contents under pressure. Pressurized container may explode when exposed to heat or flame. |
| Special protective equipment and precautions for firefighters | Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. |
| Fire-fighting equipment/instructions | Move containers from fire area if you can do so without risk. Cool containers exposed to heat with water spray and remove container, if no risk is involved. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. In the event of fire and/or explosion do not breathe fumes. |
| General fire hazards | Extremely flammable aerosol. |

6. Accidental release measures

| | |
|--|---|
| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing gas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. |
| Methods and materials for containment and cleaning up | Refer to attached safety data sheets and/or instructions for use. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Use water spray to reduce vapors or divert vapor cloud drift. Isolate area until gas has dispersed. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS. |
| Environmental precautions | Avoid discharge into drains, water courses or onto the ground. |

7. Handling and storage

Precautions for safe handling

Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Do not re-use empty containers. Avoid breathing gas. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Level 3 Aerosol.

Store locked up. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Refrigeration recommended. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| Components | Type | Value |
|------------------------------|------|------------------------|
| Acetone (CAS 67-64-1) | PEL | 2400 mg/m3 1000 ppm |
| Methyl Acetate (CAS 79-20-9) | PEL | 610 mg/m3 200 ppm |
| Propane (CAS 74-98-6) | PEL | 1800 mg/m3 1000 ppm |

US. ACGIH Threshold Limit Values

| Components | Type | Value |
|------------------------------|------|---------|
| Acetone (CAS 67-64-1) | STEL | 750 ppm |
| | TWA | 500 ppm |
| Methyl Acetate (CAS 79-20-9) | STEL | 250 ppm |
| | TWA | 200 ppm |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value |
|------------------------------|------|---------------------------------|
| Acetone (CAS 67-64-1) | TWA | 590 mg/m3 250 ppm |
| Methyl Acetate (CAS 79-20-9) | STEL | 760 mg/m3 |
| | TWA | 250 ppm 610 mg/m3 200 ppm |
| Propane (CAS 74-98-6) | TWA | 1800 mg/m3 1000 ppm |

Biological limit values

ACGIH Biological Exposure Indices

| Components | Value | Determinant | Specimen | Sampling Time |
|-----------------------|---------|-------------|----------|---------------|
| Acetone (CAS 67-64-1) | 50 mg/l | Acetone | Urine | * |

* - For sampling details, please see the source document.

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

| | |
|---------------------------------------|--|
| Hand protection | Wear appropriate chemical resistant gloves. |
| Skin protection | |
| Other | Wear appropriate chemical resistant clothing. |
| Respiratory protection | If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator. |
| Thermal hazards | Wear appropriate thermal protective clothing, when necessary. |
| General hygiene considerations | When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. |

9. Physical and chemical properties

| | |
|---|--|
| Appearance | Clear. |
| Physical state | Gas. |
| Form | Aerosol. |
| Color | Light yellow. |
| Odor | Citrus |
| Odor threshold | Not available. |
| pH | Not available. |
| Melting point/freezing point | Not available. |
| Initial boiling point and boiling range | 62.94 °F (17.19 °C) estimated |
| Flash point | -156.0 °F (-104.4 °C) Propellant estimated |
| Evaporation rate | Not available. |
| Flammability (solid, gas) | Not available. |
| Upper/lower flammability or explosive limits | |
| Flammability limit - lower (%) | 2.6 % estimated |
| Flammability limit - upper (%) | 12.3 % estimated |
| Explosive limit - lower (%) | Not available. |
| Explosive limit - upper (%) | Not available. |
| Vapor pressure | 45 - 65 psig @70F estimated |
| Vapor density | Not available. |
| Relative density | Not available. |
| Solubility(ies) | |
| Solubility (water) | Not available. |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | 590.25 °F (310.14 °C) estimated |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |
| Other information | |
| Specific gravity | 0.765 - 0.865 estimated |

10. Stability and reactivity

| | |
|---|---|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | Hazardous polymerization does not occur. |
| Conditions to avoid | Avoid temperatures exceeding the flash point. Contact with incompatible materials. |
| Incompatible materials | Acids. Strong oxidizing agents. Nitrates. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information

Information on likely routes of exposure

| | |
|---------------------|--|
| Ingestion | Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia. |
| Inhalation | May cause drowsiness and dizziness. Headache. Nausea, vomiting. Narcotic effects. Prolonged inhalation may be harmful. |
| Skin contact | No adverse effects due to skin contact are expected. |
| Eye contact | Causes serious eye irritation. |

Symptoms related to the physical, chemical and toxicological characteristics May cause drowsiness and dizziness. Headache. Nausea, vomiting. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways. Narcotic effects.

| Components | Species | Test Results |
|--|------------|------------------------|
| Acetone (CAS 67-64-1) | | |
| Acute | | |
| <i>Dermal</i> | | |
| LD50 | Guinea pig | > 7426 mg/kg, 24 Hours |
| | | > 9.4 ml/kg, 24 Hours |
| | Rabbit | > 7426 mg/kg, 24 Hours |
| | | > 9.4 ml/kg, 24 Hours |
| <i>Inhalation</i> | | |
| LC50 | Rat | 55700 ppm, 3 Hours |
| | | 132 mg/l, 3 Hours |
| | | 50.1 mg/l |
| <i>Oral</i> | | |
| LD50 | Rat | 5800 mg/kg |
| | | 2.2 ml/kg |
| Distillates (Petroleum), Hydrotreated Light (CAS 64742-47-8) | | |
| Acute | | |
| <i>Dermal</i> | | |
| LD50 | Rabbit | > 2000 mg/kg |
| | | > 2000 mg/kg, 24 Hours |
| <i>Inhalation</i> | | |
| LC50 | Rat | > 7.5 mg/l, 6 Hours |
| | | > 4.6 mg/l, 4 Hours |
| <i>Oral</i> | | |
| LD50 | Rat | > 5000 mg/kg |
| Methyl Acetate (CAS 79-20-9) | | |
| Acute | | |
| <i>Dermal</i> | | |
| LD50 | Rat | > 2000 mg/kg, 24 Hours |
| <i>Inhalation</i> | | |
| LC100 | Rabbit | 98.4 mg/l, 4 Hours |
| <i>Oral</i> | | |
| LD50 | Rat | 6482 mg/kg |
| Propane (CAS 74-98-6) | | |
| Acute | | |
| <i>Inhalation</i> | | |
| LC50 | Mouse | 1237 mg/l, 120 Minutes |

| Components | Species | Test Results |
|-----------------------------------|---------|------------------------|
| White Mineral Oil (CAS 8042-47-5) | | 52 %, 120 Minutes |
| | Rat | 1355 mg/l |
| | | 658 mg/l/4h |
| Acute | | |
| <i>Dermal</i> | | |
| LD50 | Rabbit | > 2000 mg/kg, 24 Hours |
| <i>Inhalation</i> | | |
| LC50 | Rat | 2.18 mg/l, 4 Hours |
| <i>Oral</i> | | |
| LD50 | Rat | 5000.0001 mg/kg |

* Estimates for product may be based on additional component data not shown.

| | |
|---|--|
| Skin corrosion/irritation | Prolonged skin contact may cause temporary irritation. |
| Serious eye damage/eye irritation | Causes serious eye irritation. |
| Respiratory or skin sensitization | |
| Respiratory sensitization | Not available. |
| Skin sensitization | This product is not expected to cause skin sensitization. |
| Germ cell mutagenicity | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
| Carcinogenicity | This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. |
| OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) | |
| | Not listed. |
| Reproductive toxicity | This product is not expected to cause reproductive or developmental effects. |
| Specific target organ toxicity - single exposure | May cause drowsiness and dizziness. |
| Specific target organ toxicity - repeated exposure | Not classified. |
| Aspiration hazard | May be fatal if swallowed and enters airways. |
| Chronic effects | Prolonged inhalation may be harmful. |

12. Ecological information

| | |
|--------------------|--|
| Ecotoxicity | The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. |
|--------------------|--|

| Components | | Species | Test Results |
|--|------|---|----------------------------|
| Acetone (CAS 67-64-1) | | | |
| Aquatic | | | |
| Crustacea | EC50 | Water flea (Daphnia magna) | 21.6 - 23.9 mg/l, 48 hours |
| Fish | LC50 | Rainbow trout,donaldson trout (Oncorhynchus mykiss) | 4740 - 6330 mg/l, 96 hours |
| Distillates (Petroleum), Hydrotreated Light (CAS 64742-47-8) | | | |
| Aquatic | | | |
| Fish | LC50 | Rainbow trout,donaldson trout (Oncorhynchus mykiss) | 2.9 mg/l, 96 hours |
| Methyl Acetate (CAS 79-20-9) | | | |
| Aquatic | | | |
| Algae | IC50 | Algae | 120.0001 mg/L, 72 Hours |
| Crustacea | EC50 | Daphnia | 1026.7 mg/L, 48 Hours |
| Fish | LC50 | Fathead minnow (Pimephales promelas) | 295 - 348 mg/l, 96 hours |

| Components | Species | Test Results |
|-----------------------------------|---------|----------------------|
| White Mineral Oil (CAS 8042-47-5) | | |
| Aquatic | | |
| Fish | LC50 | Fish |
| | | 10000.0001, 96 Hours |

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

| | |
|----------------|-------|
| Acetone | -0.24 |
| Methyl Acetate | 0.18 |
| Propane | 2.36 |

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

US RCRA Hazardous Waste U List: Reference

| | |
|-----------------------|------|
| Acetone (CAS 67-64-1) | U002 |
|-----------------------|------|

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers.

14. Transport information

DOT

| | |
|-------------------------------------|---|
| UN number | UN1950 |
| UN proper shipping name | Aerosols, flammable |
| Transport hazard class(es) | |
| Class | 2.1 |
| Subsidiary risk | - |
| Label(s) | 2.1 |
| Packing group | Not applicable. |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |
| Special provisions | N82 |
| Packaging exceptions | 306 |
| Packaging non bulk | None |
| Packaging bulk | None |

This product meets the exception requirements of section 173.306 as a limited quantity and may be shipped as a limited quantity. Until 12/31/2020, the "Consumer Commodity - ORM-D" marking may still be used in place of the new limited quantity diamond mark for packages of UN 1950 Aerosols. Limited quantities require the limited quantity diamond mark on cartons after 12/31/20 and may be used now in place of the "Consumer Commodity ORM-D" marking and both may be displayed concurrently.

IATA

| | |
|-----------------------------------|---------------------|
| UN number | UN1950 |
| UN proper shipping name | Aerosols, flammable |
| Transport hazard class(es) | |
| Class | 2.1 |
| Subsidiary risk | - |
| Label(s) | 2.1 |
| Packing group | Not applicable. |
| Environmental hazards | No. |
| ERG Code | 10L |

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Other information

Passenger and cargo aircraft Allowed.

Cargo aircraft only Allowed.

Packaging Exceptions LTD QTY

IMDG

UN number UN1950

UN proper shipping name AEROSOLS

Transport hazard class(es)

Class 2.1

Subsidiary risk -

Label(s) 2.1

Packing group Not applicable.

Environmental hazards

Marine pollutant No.

EmS F-D, S-U

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Packaging Exceptions LTD QTY

Transport in bulk according to Not applicable.

Annex II of MARPOL 73/78 and the IBC Code

DOT



IATA; IMDG



15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Acetone (CAS 67-64-1)

Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
 Delayed Hazard - No
 Fire Hazard - Yes
 Pressure Hazard - Yes
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

| Chemical name | CAS number | % by wt. |
|---------------|------------|------------|
| Methanol | 67-56-1 | 0.1 - 1 |
| Acetaldehyde | 75-07-0 | 0.01 - 0.1 |

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Propane (CAS 74-98-6)

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Acetone (CAS 67-64-1) 6532

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Acetone (CAS 67-64-1) 35 %WV

DEA Exempt Chemical Mixtures Code Number

Acetone (CAS 67-64-1) 6532

US state regulations**US. Massachusetts RTK - Substance List**

Acetone (CAS 67-64-1)
 Methyl Acetate (CAS 79-20-9)
 Propane (CAS 74-98-6)

US. New Jersey Worker and Community Right-to-Know Act

Acetone (CAS 67-64-1)
 Methyl Acetate (CAS 79-20-9)
 Propane (CAS 74-98-6)

US. Pennsylvania Worker and Community Right-to-Know Law

Acetone (CAS 67-64-1)
 Methyl Acetate (CAS 79-20-9)
 Propane (CAS 74-98-6)

US. Rhode Island RTK

Acetone (CAS 67-64-1)
 Propane (CAS 74-98-6)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Acetaldehyde (CAS 75-07-0) Listed: April 1, 1988

US - California Proposition 65 - CRT: Listed date/Developmental toxin

Methanol (CAS 67-56-1) Listed: March 16, 2012

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|----------------------|--|------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | Yes |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|--|------------------------|
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | Yes |
| Korea | Existing Chemicals List (ECL) | No |
| New Zealand | New Zealand Inventory | No |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 01-19-2015

Revision date 09-22-2015

Version # 10

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision Information Product and Company Identification: Alternate Trade Names
Composition / Information on Ingredients: Component Summary



January 5, 2015

June 14, 2015

1



5813-102

Institutional hard surface disinfecting and sanitizing bleach

No information available

The Clorox Company
1221 Broadway
Oakland, CA 94612

Phone: 1-510-271-7000

For Medical Emergencies, call: 1-800-446-1014

For Transportation Emergencies, call Chemtrec: 1-800-424-9300

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

| | |
|-----------------------------------|------------|
| Skin corrosion/irritation | Category 1 |
| Serious eye damage/eye irritation | Category 1 |

Causes severe skin burns and eye damage
Causes serious eye damage



Clear, pale yellow

Thin liquid

Bleach

Wash face, hands and any exposed skin thoroughly after handling.
Wear protective gloves, protective clothing, face protection, and eye protection such as safety glasses.

Immediately call a poison center or doctor.
If swallowed: Rinse mouth. Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
Wash contaminated clothing before reuse.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
Specific treatment (see supplemental first aid instructions on this label).
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Store locked up.

Dispose of contents in accordance with all applicable federal, state, and local regulations.

Although not expected, heart conditions or chronic respiratory problems such as asthma, chronic bronchitis, or obstructive lung disease may be aggravated by exposure to high concentrations of vapor or mist.

Product contains a strong oxidizer. Always flush drains before and after use.

Not applicable.

Very toxic to aquatic life with long lasting effects.

Reacts with other household chemicals such as toilet bowl cleaners, rust removers, acids, or products containing ammonia to produce hazardous irritating gases, such as chlorine and other chlorinated compounds.

| | | | |
|---------------------|-----------|--------|---|
| Sodium hypochlorite | 7681-52-9 | 5 - 10 | * |
|---------------------|-----------|--------|---|

* The exact percentage (concentration) of composition has been withheld as a trade secret.

Call a poison control center or doctor immediately for treatment advice. Show this safety data sheet to the doctor in attendance.

Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Move to fresh air. If breathing is affected, call a doctor.

Have person sip a glassful of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person. Call a poison control center or doctor immediately for treatment advice.

Avoid contact with skin, eyes, and clothing. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

Burning of eyes and skin.

Treat symptomatically. Probable mucosal damage may contraindicate the use of gastric lavage.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

CAUTION: Use of water spray when fighting fire may be inefficient.

This product causes burns to eyes, skin, and mucous membranes. Thermal decomposition can release sodium chlorate and irritating gases and vapors.

None.

None.

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Avoid contact with eyes, skin, and clothing. Ensure adequate ventilation. Use personal protective equipment as required. For spills of multiple products, responders should evaluate the MSDSs of the products for incompatibility with sodium hypochlorite. Breathing protection should be worn in enclosed and/or poorly-ventilated areas until hazard assessment is complete.

Refer to protective measures listed in Sections 7 and 8.

This product is toxic to fish, aquatic invertebrates, oysters, and shrimp. Do not allow product to enter storm drains, lakes, or streams. See Section 12 for ecological Information.

Prevent further leakage or spillage if safe to do so.

Absorb and containerize. Wash residual down to sanitary sewer. Contact the sanitary treatment facility in advance to assure ability to process washed-down material.

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes, and clothing. Do not eat, drink, or smoke when using this product.

Store away from children. Reclose cap tightly after each use. Store this product upright in a cool, dry area, away from direct sunlight and heat to avoid deterioration. Do not contaminate food or feed by storage of this product.

Toilet bowl cleaners, rust removers, acids, and products containing ammonia.

| | | | |
|----------------------------------|------|------|------|
| Sodium hypochlorite 7681-52-9 | None | None | None |
|----------------------------------|------|------|------|

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH: Immediately Dangerous to Life or Health.

Showers
Eyewash stations
Ventilation systems

If splashes are likely to occur: Wear safety glasses with side shields (or goggles) or face shield.

Wear rubber or neoprene gloves and protective clothing such as long-sleeved shirt.

If irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Handle in accordance with good industrial hygiene and safety practice. Wash hands after direct contact. Do not wear product-contaminated clothing for prolonged periods. Remove and wash contaminated clothing before re-use. Do not eat, drink, or smoke when using this product.

Stable under recommended storage conditions.

None known based on information supplied.

None known based on information supplied.

Exposure to vapor or mist may irritate respiratory tract and cause coughing. Inhalation of high concentrations may cause pulmonary edema.

Corrosive. May cause severe damage to eyes.

May cause severe irritation to skin. Prolonged contact may cause burns to skin.

Ingestion may cause burns to gastrointestinal tract and respiratory tract, nausea, vomiting, and diarrhea.

| | | | |
|----------------------------------|------------------|-----------------------|---|
| Sodium hypochlorite 7681-52-9 | 8200 mg/kg (Rat) | >10000 mg/kg (Rabbit) | - |
|----------------------------------|------------------|-----------------------|---|

May cause redness and tearing of the eyes. May cause burns to eyes. May cause redness or burns to skin. Inhalation may cause coughing.

No information available.

No information available.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

| | | | | |
|----------------------------------|---|---------|---|---|
| Sodium hypochlorite 7681-52-9 | - | Group 3 | - | - |
|----------------------------------|---|---------|---|---|

IARC (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in Humans

No information available.

No information available.

No information available.

Carcinogenic potential is unknown.

Respiratory system, eyes, skin, gastrointestinal tract (GI).

No information available.

54 g/kg

58 mg/L

Very toxic to aquatic life with long lasting effects.

This product is toxic to fish, aquatic invertebrates, oysters, and shrimp. Do not allow product to enter storm drains, lakes, or streams.

No information available.

No information available.

No information available.

Dispose of in accordance with all applicable federal, state, and local regulations. Do not contaminate food or feed by disposal of this product.

Do not reuse empty containers. Dispose of in accordance with all applicable federal, state, and local regulations.

Not restricted.

Not restricted for road or rail.

Not restricted, as per Special Provision A197, Environmentally Hazardous Substance exception.

Not restricted, as per Special Provision A197, Environmentally Hazardous Substance exception.

Not restricted, as per IMDG Code 2.10.2.7, Marine Pollutant exception.

All components of this product are either on the TSCA 8(b) Inventory or otherwise exempt from listing.

All components are on the DSL or NDSL.

- United States Toxic Substances Control Act Section 8(b) Inventory
- Canadian Domestic Substances List/Non-Domestic Substances List

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Yes
No
No
No
No

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

| | | | | |
|----------------------------------|--------|--|--|---|
| | | | | |
| Sodium hypochlorite 7681-52-9 | 100 lb | | | X |

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| | | | |
|----------------------------------|--------|---|---|
| | | | |
| Sodium hypochlorite 7681-52-9 | 100 lb | - | RQ 100 lb final RQ RQ 45.4 kg final RQ |

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Causes irreversible eye damage and skin burns. Harmful if swallowed. Do not get in eyes, on skin, or on clothing. Wear protective eyewear and rubber gloves when handling this product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the restroom. Avoid breathing vapors and use only in a well-ventilated area.

This product does not contain any Proposition 65 chemicals.

| | | | | | |
|----------------------------------|---|---|---|---|--|
| | | | | | |
| Sodium hypochlorite 7681-52-9 | X | X | X | X | |
| Sodium chlorate 7775-09-9 | X | X | X | | |

E - Corrosive material



| | | | | |
|-------|---|---|---|---|
| <hr/> | 3 | 0 | 0 | - |
| <hr/> | 3 | 0 | 0 | B |

Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

June 14, 2015

Revision Section 14.

1064453/166081.094

SAFETY DATA SHEET

1. Identification

| | | | |
|--|--------------------------|-------------------|--|
| Product Name: | Cloud Buster Plus | Producer: | ET Products, LLC |
| Product Number: | #1480 | Address: | PO Box 100, 747 Douglas Road Bremen, IN 46506 |
| Recommended use: | Diesel Fuel Additive | Telephone: | 800-325-5746 (general inquiries) |
| <i>24-Hour Emergency Response Number: 800-424-9300 CHEMTREC®</i> | | | |

2. Hazard(s) identification

Classification:

Physical, Flammable Liquids - Category 3
Health, Aspiration hazard - Category 1
Health, Carcinogenicity - Category 2
Health, Serious Eye Damage/Eye Irritation - Category 2A
Health, Skin corrosion/irritation - Category 2
Health, Specific target organ systemic toxicity (single exposure) - Category 3 (narcotic effects)
Environmental, Hazards to the aquatic environment - Acute, - Category 2
Environmental, Hazards to the aquatic environment - Chronic, Category 2

Labeling:

Pictograms:



Signal Word:

WARNING

Hazard Statements:

H226 - Flammable liquid and vapor
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H318 - Causes serious eye damage
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H351 - Suspected of causing cancer
H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements:

Prevention:

P210 - Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P241 - Use explosion-proof electrical/ventilating/light/equipment.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Response:

P301+P310+P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.
P302+P352 - IF ON SKIN: Wash with soap and water.
P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338 - IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue Rinsing.

P362: Take off contaminated clothing and wash before reuse.

P370+P378: IN CASE OF FIRE: Use water spray, carbon dioxide, dry chemical or alcohol foam for extinction.

P391 - Collect spillage.

Storage:

P403+P233+P235 - Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Disposal:

P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

3. Composition / Information on ingredients

| Components | CAS No. | % Volume | |
|--|--------------|----------|-------|
| | | Min | Max |
| Petroleum Naphtha | 64742-95-6 | 3.19 | 53.15 |
| 2-Ethylhexyl Nitrate | 27247-96-7 | 10.80 | 27.00 |
| Trimethylbenzene | 25551-13-7 | 7.62 | 22.44 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 2.89 | 14.28 |
| Non Hazardous Additives (Proprietary) | Proprietary | - | 13.76 |
| Heavy Aromatic Naphtha (aka Petroleum Naphtha) | 64742-94-5 | 2.78 | 6.19 |
| Diethylene Glycol Monomethyl Ether | 111-77-3 | 4.00 | 6.00 |
| Xylene | 1330-20-7 | 0.40 | 2.70 |
| Cumene | 98-82-8 | 0.28 | 1.47 |
| Alkylphenol | Confidential | 0.54 | 1.22 |
| 2, 6-Di-Tert-Butylphenol | 128-39-2 | 0.24 | 0.72 |
| Cymenes | 25155-15-1 | 0.14 | 0.64 |
| Naphthalene | 91-20-3 | 0.13 | 0.57 |
| 1,2,3-Trimethylbenzene | 526-73-8 | 0.15 | 0.48 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 0.15 | 0.48 |
| 2-Ethylhexanol | 104-76-7 | 0.20 | 0.45 |
| Ethylbenzene | 100-41-4 | 0.04 | 0.32 |
| Benzene, ethylenated, residues, distn. Lights | 178535-25-6 | 0.08 | 0.19 |
| 2,4,6-Tri-Tert-Butyl phenol | 732-26-3 | 0.08 | 0.18 |
| Diethylbenzene | 25340-17-4 | - | 0.08 |
| Triethylbenzene | 102-25-0 | - | 0.06 |
| 2,4-di-tert-butyl-phenol | 96-76-4 | 0.01 | 0.06 |
| o-Tert-Butylphenol | 88-18-6 | 0.01 | 0.06 |
| Vinyl Acetate | 108-05-4 | - | 0.06 |
| Toluene | 108-88-3 | - | 0.04 |
| p-tert-butylphenol | 98-54-4 | 0.00 | 0.01 |
| Benzene | 71-43-2 | - | 0.002 |

(See Section 8 for Exposure Controls.)

4. First-aid measures

| | |
|----------------------|---|
| Inhalation: | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. |
| Skin contact: | IF ON SKIN: Wash with soap and water. |
| Eye contact: | IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue Rinsing. |
| Ingestion: | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. |

5. Firefighting measures

| | |
|---|---|
| Suitable extinguishing media: | IN CASE OF FIRE: Use water spray, carbon dioxide, dry chemical or alcohol foam for extinction. |
| Unsuitable extinguishing media: | Do not use a solid water stream as it may scatter and spread fire. |
| Specific hazards in case of fire: | <p>Combustion may produce CO_x, reactive hydrocarbons, irritating vapors, and other decomposition products in the case of incomplete combustion.</p> <p>Extremely flammable. Vapors form flammable or explosive mixtures with air at room temperature. Vapor or gas may spread to distant ignition sources and flash back.</p> <p>Static accumulator (nonconductive) flammable or combustible material may form ignitable vapor-air mixtures in storage tanks. Bonding and grounding may be insufficient to eliminate the hazard from static accumulation.</p> <p>Explosion hazard if exposed to extreme heat.</p> |
| Special protective equipment and precaution for fire fighters: | <p>Evacuate area and fight fire from a safe distance.</p> <p>If leak or spill has not ignited, ventilate area and use water spray to disperse gas or vapor, cool adjacent structures, and to protect personnel attempting to stop a leak.</p> <p>Shut off source of flow, if possible.</p> <p>Stay away from storage tank ends. Withdraw immediately in case of rising sound from venting safety device or any discoloration of storage tank due to fire. Always stay away from tanks engulfed in flame.</p> <p>Firefighters must wear NIOSH approved positive pressure breathing apparatus (SCBA) with full face mask and full protective equipment.</p> |

6. Accidental release measures

| | |
|---|--|
| Personal precautions: | <p>Use special care to avoid static electric charges. Keep away from open flames, hot surfaces and sources of ignition. No smoking.</p> <p>Use appropriate personal protection equipment (PPE).</p> <p>Evacuate unnecessary personnel.</p> <p>Ventilate area. Eliminate ignition sources. Stop leak if safe to do so.</p> |
| Environmental precautions: | Prevent entry to sewers and public waters. |
| Methods and materials for containment and cleaning up: | <p>Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Use only non-sparking tools.</p> <p>Clear up spills immediately and dispose of waste safely. Absorb and/or contain spill with inert material. Do not take up in combustible material such as: saw dust or cellulosic material. Use explosion-proof equipment.</p> <p>See Section 8 Exposure Controls and Personal Protection for additional information.</p> |

7. Handling and storage

| | |
|---------------------------------------|--|
| Precautions for safe handling: | Keep away from heat/sparks/open flames/hot surfaces. No smoking. Use explosion-proof electrical/ventilating/light/equipment. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. |
| Conditions for safe storage: | Store in a well-ventilated place. Keep container tightly closed. Keep cool. See Section 10 for incompatible materials. |

8. Exposure controls / personal protection

Exposure Limits:

| Component | OSHA | | ACGIH | |
|------------------------------------|------------|---------|------------|------------|
| | TWA | STEL | TWA | STEL |
| 1,2,3-Trimethylbenzene | N/E | N/E | 25 ppm | N/E |
| 1,2,4-Trimethylbenzene | N/E | N/E | 25 ppm | N/E |
| 1,3,5-Trimethylbenzene | N/E | N/E | 25 ppm | N/E |
| 2-Ethylhexyl Nitrate | N/E | N/E | N/E | N/E |
| Benzene | 5 ppm | 5 ppm | 0.5ppm (s) | 2.5ppm (s) |
| Cumene | 50 ppm (s) | N/E | 50 ppm | N/E |
| Diethylene Glycol Monomethyl Ether | 30 ppm | N/E | 30 ppm | N/E |
| Ethylbenzene | 100 ppm | 125 ppm | 100 ppm | 125 ppm |
| Light Aromatic Naphtha | 500 ppm | N/E | N/E | N/E |
| Naphthalene | 10 ppm | 15 ppm | 10 ppm (s) | 15 ppm (s) |
| Petroleum Naphtha | N/E | N/E | N/E | N/E |
| Toluene | 100 ppm | 150 ppm | 20 ppm | N/E |
| Trimethylbenzene | 25 ppm | N/E | 25 ppm | N/E |
| Vinyl Acetate | 10 ppm | 20 ppm | 10 ppm | 15 ppm |
| Xylene | 100 ppm | 150 ppm | 100 ppm | 150 ppm |

(s) – Skin exposure N/E – None established

| | | |
|---|--------------------------------|---|
| Engineering Controls: | Ventilation: | Use local exhaust ventilation to control mists or vapors. Additional ventilation or exhaust may be required to maintain air concentrations below recommended exposure limits. |
| Personal Protective Equipment (PPE): | Skin Protection: | Nitrile Gloves. Long sleeve shirt is recommended. Wear either a chemical protective suit or apron when potential for contact with material exists. |
| | Eye Protection: | Safety glasses. If potential for splash or mist exists, wear goggles or face shield. |
| | Respiratory Protection: | Under normal use conditions, with adequate ventilation, no special handling equipment is required. If anticipating close contact with this product or its mist, local ventilation may be required to keep exposure below limits. Use NIOSH/MSHA approved full face respirator with a combination organic vapor and high efficiency filter cartridge if the recommended exposure limit is exceeded. Use self-contained breathing apparatus for entry into confined space, or other poorly ventilated areas and for large spill clean-up sites. |

9. Physical and chemical properties

| | | | |
|---|--------------------------------------|---------------------------------------|-------------------|
| Physical state: | Liquid | Evaporation rate: | No data available |
| Color: | Tan to Amber-Colored Liquid | Flammability: | No data available |
| Flash point (° F): | 127 | Explosive limits: | No data available |
| Relative density: | 0.91 | Vapor pressure: | No data available |
| Odor: | Mild solvent odor | Vapor density: | No data available |
| Odor threshold: | No data available | Solubility: | No data available |
| pH: | Not applicable; non aqueous solution | Partition coefficient: | No data available |
| Melting point/ Freezing point: | No data available | Autoignition temperature: | No data available |
| Initial boiling point and boiling range: | No data available | Decomposition temperature: | No data available |

10. Stability and reactivity

| | |
|--|--|
| Chemical stability: | Material is normally stable at moderately elevated temperatures and pressures. |
| Possibility of hazardous reactions: | Hazardous polymerization will not occur. |
| Conditions to avoid: | High temperatures and open flame. |
| Incompatible materials: | Avoid strong oxidizing agents and strong reducing agents. |
| Hazardous decomposition products: | Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion. |

11. Toxicological information

Acute Toxicity: Harmful if swallowed. Harmful in contact with skin.

| Component | CAS | Test | Result |
|--------------------------|------------|----------------------------|--|
| 1,2,4-Trimethylbenzene | 95-63-6 | LC50 Inhalation Rat (mg/l) | > 18 mg/l 18000 mg/kg (Exposure time: 4 h) |
| 2-Ethylhexyl nitrate | 27247-96-7 | ATE (Dermal) | 1100.000 mg/kg body weight |
| 2-Ethylhexyl nitrate | 27247-96-7 | ATE (Oral) | 500.000 mg/kg body weight |
| 2-Ethylhexyl nitrate | 27247-96-7 | ATE (Vapors) | 11.000 mg/l/4h |
| 2-Ethylhexyl nitrate | 27247-96-7 | LC50 Inhalation Rat (mg/l) | > 14 mg/l/4h |
| 2-Ethylhexyl nitrate | 27247-96-7 | LD50 Dermal Rabbit | > 4820 mg/kg |
| 2-Ethylhexyl nitrate | 27247-96-7 | LD50 Oral Rat | > 2000 mg/kg |
| Benzene | 71-43-2 | ATE (Oral) | 1800.000 mg/kg |
| Benzene | 71-43-2 | LC50 Inhalation Rat (ppm) | 13050 - 14380 ppm/4h |
| Benzene | 71-43-2 | LD50 Oral Rat | 930 mg/kg |
| Benzene, 1,2,4-trimethyl | 95-63-6 | ATE (Vapors) | 10.800 mg/l/4h |
| Benzene, 1,2,4-trimethyl | 95-63-6 | LC50 Inhalation Rat (mg/l) | 18 g/m ³ (Exposure time: 4 h) |
| Benzene, 1,2,4-trimethyl | 95-63-6 | LD50 Dermal Rabbit | > 3160 mg/kg |
| Benzene, 1,2,4-trimethyl | 95-63-6 | LD50 Oral Rat | 6000 mg/kg |
| Cumene | 98-82-8 | LC50 Inhalation Rat (mg/l) | 20 - 40 mg/l (Exposure time: 6 h) |
| Cumene | 98-82-8 | LD50 Dermal Rabbit | 10000 mg/kg |
| Cumene | 98-82-8 | LD50 Oral Rat | 2260 mg/kg |
| Ethylbenzene | 100-41-4 | LC50 Inhalation Rat (mg/l) | 17.2 mg/l/4h (Exposure time: 4 h) |
| Ethylbenzene | 100-41-4 | LD50 Dermal Rabbit | 15354 mg/kg |
| Ethylbenzene | 100-41-4 | LD50 Oral Rat | 3500 mg/kg |
| Light Aromatic Naphtha | 64742-95-6 | LC50 Inhalation Rat (mg/l) | > 5.2 mg/l |

| | | | |
|------------------------------|------------|----------------------------|--|
| Light Aromatic Naphtha | 64742-95-6 | LD50 Dermal Rat | > 2000 mg/kg |
| Light Aromatic Naphtha | 64742-95-6 | LD50 Oral Rat | > 5000 mg/kg |
| Naphthalene | 91-20-3 | LC50 Inhalation Rat (mg/l) | > 340 mg/m ³ (Exposure time: 1 h) |
| Naphthalene | 91-20-3 | LD50 Dermal Rabbit | 1120 mg/kg |
| Naphthalene | 91-20-3 | LD50 Oral Rat | 533 - 710 mg/kg |
| Toluene | 108-88-3 | LC50 Inhalation Rat (mg/l) | 12.5 mg/l/4h |
| Toluene | 108-88-3 | LD50 Dermal Rabbit | 8390 mg/kg |
| Toluene | 108-88-3 | LD50 Oral Rat | 636 mg/kg |
| Xylenes (o-, m-, p- isomers) | 1330-20-7 | ATE (Dermal) | 1100.000 mg/kg body weight |
| Xylenes (o-, m-, p- isomers) | 1330-20-7 | ATE (Vapors) | 11.000 mg/l/4h |
| Xylenes (o-, m-, p- isomers) | 1330-20-7 | LC50 Inhalation Rat (mg/l) | 47635 mg/l/4h (Exposure time: 4 h) |
| Xylenes (o-, m-, p- isomers) | 1330-20-7 | LC50 Inhalation Rat (ppm) | 6247 ppm/4h (species: Sprague-Dawley) |
| Xylenes (o-, m-, p- isomers) | 1330-20-7 | LD50 Oral Rat | 4300 mg/kg |

Skin Corrosion/Irritation: Causes skin irritation.

Serious Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: May cause genetic defects. May cause genetic defects

Carcinogenicity: May cause cancer.

| Component | CAS | Group | Notes |
|------------------------------|-----------|--|---|
| Benzene | 71-43-2 | IARC group | 1 |
| Benzene | 71-43-2 | National Toxicity Program (NTP) Status | Evidence of Carcinogenicity, Known Human Carcinogens. |
| Cumene | 98-82-8 | IARC group | 2B |
| Cumene | 98-82-8 | National Toxicity Program (NTP) Status | Evidence of Carcinogenicity. |
| Ethylbenzene | 100-41-4 | IARC group | 2B |
| Ethylbenzene | 100-41-4 | National Toxicity Program (NTP) Status | Evidence of Carcinogenicity. |
| Naphthalene | 91-20-3 | IARC group | 2B |
| Naphthalene | 91-20-3 | National Toxicity Program (NTP) Status | Evidence of Carcinogenicity, Reasonably anticipated to be Human Carcinogen. |
| Toluene | 108-88-3 | IARC group | 3 |
| Xylenes (o-, m-, p- isomers) | 1330-20-7 | IARC group | 3 |

Reproductive Toxicity: May damage fertility or the unborn child.

Specific Target Organ Toxicity (Single Exposure): May cause damage to organs.

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Aspiration Hazard: May be fatal if swallowed and enters airways.

Potential Adverse Human Health Effects and Symptoms: Harmful in contact with skin. Harmful if swallowed.

Symptoms/Injuries After Inhalation: Harmful if inhaled.

Symptoms/Injuries After Skin Contact: Harmful in contact with skin. Causes skin irritation.

Symptoms/Injuries After Eye Contact: May cause eye irritation.

Symptoms/Injuries After Ingestion: Harmful if swallowed. May be fatal if swallowed and enters airways.

Chronic Symptoms: May cause genetic defects. May cause cancer. May damage fertility. May damage the unborn child.

12. Ecological information

12.1. Toxicity

Ecology – General: Harmful to aquatic life. Toxic to aquatic life with long lasting effects.

| Component | CAS | Test | Result |
|-----------|---------|----------------|--|
| Benzene | 71-43-2 | LC50 Fish 1 | 10.7 - 14.7 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |
| Benzene | 71-43-2 | EC50 Daphnia 1 | 8.76 - 15.6 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static]) |
| Benzene | 71-43-2 | LC 50 Fish 2 | 5.3 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through]) |

| | | | |
|------------------------------|------------|------------------------|---|
| Benzene | 71-43-2 | EC50 Daphnia 2 | 10 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| Benzene, 1,2,4-trimethyl | 95-63-6 | LC50 Fish 1 | 7.19 (7.19 - 8.28) mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |
| Benzene, 1,2,4-trimethyl | 95-63-6 | EC50 Daphnia 1 | 6.14 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| Cumene | 98-82-8 | LC50 Fish 1 | 6.04 - 6.61 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |
| Cumene | 98-82-8 | EC50 Daphnia 1 | 0.6 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| Cumene | 98-82-8 | LC 50 Fish 2 | 4.8 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through]) |
| Cumene | 98-82-8 | EC50 Daphnia 2 | 7.9 - 14.1 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static]) |
| Ethylbenzene | 100-41-4 | LC50 Fish 1 | 11.0 - 18.0 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static]) |
| Ethylbenzene | 100-41-4 | EC50 Daphnia 1 | 1.8 - 2.4 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| Ethylbenzene | 100-41-4 | LC 50 Fish 2 | 4.2 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static]) |
| Light Aromatic Naphtha | 64742-95-6 | LC50 Fish | >1 mg/l |
| Light Aromatic Naphtha | 64742-95-6 | EC50 Daphnia | >1 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| Light Aromatic Naphtha | 64742-95-6 | NOEL Chronic Crustacea | 0.39-2.6 mg/l (Species Daphnia magna) |
| Light Aromatic Naphtha | 64742-95-6 | NOEL Chronic Fish | 2.6-6.4 mg/l |
| Naphthalene | 91-20-3 | LC50 Fish 1 | 5.74 - 6.44 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |
| Naphthalene | 91-20-3 | EC50 Daphnia 1 | 2.16 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| Naphthalene | 91-20-3 | LC 50 Fish 2 | 1.6 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through]) |
| Naphthalene | 91-20-3 | EC50 Daphnia 2 | 1.96 mg/l (Exposure time: 48 h - Species: Daphnia magna [Flow through]) |
| Toluene | 108-88-3 | LC50 Fish 1 | 15.22 - 19.05 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |
| Toluene | 108-88-3 | EC50 Daphnia 1 | 5.46 - 9.83 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static]) |
| Toluene | 108-88-3 | LC 50 Fish 2 | 12.6 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static]) |
| Toluene | 108-88-3 | EC50 Daphnia 2 | 11.5 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| Toluene | 108-88-3 | NOEC chronic crustacea | 0.74 mg/l (Ceriodaphnia dubia) |
| Xylenes (o-, m-, p- isomers) | 1330-20-7 | LC50 Fish 1 | 3.3 mg/l |
| Xylenes (o-, m-, p- isomers) | 1330-20-7 | EC50 Daphnia 1 | 3.82 mg/l (Exposure time: 48 h - Species: water flea) |
| Xylenes (o-, m-, p- isomers) | 1330-20-7 | LC 50 Fish 2 | 2.661 (2.661 - 4.093) mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static]) |

12.2. Persistence and Degradability: Not established.

12.3. Bioaccumulative Potential

| Component | CAS | Test | Result |
|------------------------------|------------|------------|-----------------|
| 2-Ethylhexyl nitrate | 27247-96-7 | Log Pow | 4.14 |
| Benzene | 71-43-2 | BCF fish 1 | 3.5 - 4.4 |
| Benzene | 71-43-2 | Log Pow | 1.83 |
| Benzene, 1,2,4-trimethyl | 95-63-6 | Log Pow | 3.63 |
| Cumene | 98-82-8 | BCF fish 1 | 35.5 |
| Cumene | 98-82-8 | Log Pow | 3.55 (at 23 °C) |
| Ethylbenzene | 100-41-4 | BCF fish 1 | 15 |
| Ethylbenzene | 100-41-4 | Log Pow | 3.118 |
| Naphthalene | 91-20-3 | BCF fish 1 | 30 - 430 |
| Naphthalene | 91-20-3 | Log Pow | 3.3 (at 20 °C) |
| Toluene | 108-88-3 | Log Pow | 2.65 |
| Xylenes (o-, m-, p- isomers) | 1330-20-7 | BCF fish 1 | 0.6 (0.6 - 15) |
| Xylenes (o-, m-, p- isomers) | 1330-20-7 | Log Pow | 2.77 - 3.15 |

12.4. Mobility in Soil No additional information available

12.5. Other Adverse Effects

Other Information: Avoid release to the environment.

13. Disposal considerations

| | |
|------------------------|---|
| Waste Disposal: | Dispose of waste material in accordance with all local, regional, national, provincial, territorial, and international regulations. Handle empty containers with care because residual vapors are flammable. Avoid release to the environment |
|------------------------|---|

14. Transport information

In Accordance with DOT:

This material is not regulated for US DOT transportation in quantities less than 119 gallons.

| | |
|--------------------------------|---|
| Identification number: | NA 1993 |
| Proper shipping name: | Combustible Liquid, N.O.S. (Contains Petroleum Naphtha, 2-Ethylhexyl Nitrate) |
| Transport hazard class: | 3 |
| Packing group: | III |
| Marine Pollutant: | Yes (Contains 2-Ethylhexyl Nitrate, 2, 6-Di-Tert-Butylphenol) |
| ERG Number | 128 |

15. Regulatory information

U.S. Federal Regulations

Comprehensive Environmental Response and Liability Act of 1980 (CERCLA):

| Component | CAS # | RQ (lbs) | Max Vol % | T | B |
|---------------|-----------|----------|-----------|---|---|
| Benzene | 71-43-2 | 10 | 0.002 | | |
| Naphthalene | 91-20-3 | 100 | 0.57 | | * |
| Xylene | 1330-20-7 | 100 | 2.70 | | * |
| Ethylbenzene | 100-41-4 | 1000 | 0.32 | | |
| Toluene | 108-88-3 | 1000 | 0.04 | | |
| Cumene | 98-82-8 | 5000 | 1.47 | | |
| Vinyl Acetate | 108-05-4 | 5000 | 0.06 | | |

Toxic Substances Control Act (TSCA): All components of this product are included on the TSCA inventory.

Superfund Amendments and Reauthorization Act (SARA) Title III Information:

SARA Section 311/312 (40 CFR 370) Hazard Categories:

| | |
|-------------------|-----|
| Immediate Hazard | Yes |
| Delayed Hazard | Yes |
| Fire Hazard | Yes |
| Pressure Hazard | No |
| Reactivity Hazard | No |

This product contains the following toxic chemical(s) subject to reporting requirements of SARA Section 313 (40 CFR 372)

| Component | CAS # |
|------------------------|-----------|
| 1,2,4-Trimethylbenzene | 95-63-6 |
| Benzene | 71-43-2 |
| Cumene | 98-82-8 |
| Naphthalene | 91-20-3 |
| Ethylbenzene | 100-41-4 |
| Toluene | 108-88-3 |
| Vinyl Acetate | 108-05-4 |
| Xylene | 1330-20-7 |

16. Other information

| HMIS Code | | NFPA Code | |
|--------------|----|--------------|---|
| Health | 2* | Health | 2 |
| Flammability | 2 | Flammability | 2 |
| Reactivity | 1 | Reactivity | 1 |

SDS Preparation date: August 21, 2015

The information presented herein has been compiled from sources considered to be dependable and is accurate to the best of E.T. Products LLC knowledge; however, E.T. Products LLC makes no warranty whatsoever, expressed, implied or of MERCHANTABILITY OR FITNESS FOR THE PARTICULAR PURPOSE, regarding the accuracy of such data or the results to be obtained from the use thereof. E.T. Products LLC assumes no responsibility for injury to recipient or to third persons or for any damage to any property and recipient assumes all such risks.

1. IDENTIFICATION

| | |
|----------------------------|---|
| Product Name | Comet® Deodorizing Cleanser with Chlorinol® |
| Product Code(s) | 3-10 |
| Product ID: | 97086927_PROF_NG |
| Product Type: | Finished Product - Professional Use Only |
| Recommended Use | Hard Surface Cleaner |
| Restrictions on Use | Do not mix with other cleaning products or chemicals as irritating fumes may be formed. |
| Manufacturer | Procter & Gamble Professional 2 P&G Plaza Cincinnati, Ohio 45202 Procter & Gamble Inc. P.O. Box 355, Station A Toronto, ON M5W 1C5 1-800-332-7787 |
| E-mail Address | pgsds.im@pg.com |
| Emergency Telephone | Transportation (24 HR) CHEMTREC - 1-800-424-9300 (U.S./ Canada) or 1-703-527-3887 Mexico toll free in country: 800-681-9531 |

2. HAZARD IDENTIFICATION

This product is classified under 29CFR 1910.1200(d) and the Canadian Hazardous Products Regulation as follows:.

Hazard Category

Eye Damage / Irritation Category 2B

Signal Word WARNING

Hazard Statements Causes eye irritation

Hazard pictograms None

Precautionary Statements - Prevention Wash hands thoroughly after handling
Do not mix with other cleaning products or chemicals as irritating fumes may be formed

Precautionary Statements - Response IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF SWALLOWED:
Drink 1 or 2 glasses of water

Precautionary Statements - Storage None

Precautionary Statements - Disposal Dispose of contents/container in accordance with local regulation

Hazards not otherwise classified (HNOC) None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients are listed according to 29CFR 1910.1200 Appendix D and the Canadian Hazardous Products Regulation

| Chemical Name | Synonyms | Trade Secret | CAS-No | Weight % |
|---|----------|--------------|------------|----------|
| Limestone | - | No | 1317-65-3 | 40 - 100 |
| Sodium carbonate | - | No | 497-19-8 | 5 - 10 |
| Symclosene | - | No | 87-90-1 | 1 - 5 |
| Benzenesulfonic acid, mono-C10-16-alkyl derivs., sodium salts | - | No | 68081-81-2 | 1 - 5 |

4. FIRST AID MEASURES

First aid measures for different exposure routes

Eye contact Rinse with plenty of water. Get medical attention immediately if irritation persists.

Skin contact Rinse with plenty of water. Get medical attention if irritation develops and persists.

Ingestion Drink 1 or 2 glasses of water. Do NOT induce vomiting. Get medical attention immediately if symptoms occur.

Inhalation Move to fresh air. If symptoms persist, call a physician.

Most important symptoms/effects, acute and delayed None under normal use conditions.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media Dry chemical, CO₂, alcohol-resistant foam or water spray.

Unsuitable Extinguishing Media None.

Special hazard None known.

Special protective equipment for fire-fighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Specific hazards arising from the chemical None.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment. Do not get in eyes, on skin, or on clothing.

Advice for emergency responders Use personal protective equipment as required.

Methods and materials for containment and cleaning up

Methods for containment Prevent dust cloud. Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Sweep up and shovel into suitable containers for disposal. Dispose of in accordance with local regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Use personal protective equipment as required. Keep container closed when not in use. Never return spills in original containers for re-use. Keep out of the reach of children.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible products Do not mix with other cleaning products or chemicals as irritating fumes may be formed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

| Chemical Name | CAS-No | ACGIH TLV | OSHA PEL | Mexico PEL |
|---------------|-----------|-----------|--|---|
| Limestone | 1317-65-3 | | TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 15 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction | Mexico: TWA 10 mg/m ³ Mexico: STEL 20 mg/m ³ |

| Chemical Name | CAS-No | Alberta | Quebec | Ontario TWAEV | British Columbia |
|---------------|-----------|---------------------------|---------------------------|---------------|---|
| Limestone | 1317-65-3 | TWA: 10 mg/m ³ | TWA: 10 mg/m ³ | | TWA: 10 mg/m ³ TWA: 3 mg/m ³ STEL: 20 mg/m ³ |

No relevant exposure guidelines for other ingredients

Exposure controls

Engineering Measures

Distribution, Workplace and Household Settings:

Ensure adequate ventilation

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):

Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction

Personal Protective Equipment

Eye Protection

Distribution, Workplace and Household Settings:
No special protective equipment required

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):
Use appropriate eye protection

Hand Protection

Distribution, Workplace and Household Settings:
No special protective equipment required

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):
Protective gloves

Skin and Body Protection

Distribution, Workplace and Household Settings:
No special protective equipment required

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):
Wear suitable protective clothing

Respiratory Protection

Distribution, Workplace and Household Settings:
No special protective equipment required

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):
In case of insufficient ventilation wear suitable respiratory equipment

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State @20°C

solid

Appearance

white

Odor

Pine

Odor threshold

No information available

Property

Values

Note

pH value

11.5

(as 1% solution)

Melting/freezing point

No information available

Boiling point/boiling range

No information available

Flash point

No information available

Evaporation rate

No information available

Flammability (solid, gas)

No information available

Flammability Limits in Air

Upper flammability limit

No information available

Lower Flammability Limit

No information available

Vapor pressure

No information available

Vapor density

No information available

Relative density

No information available

Water solubility

15%

Solubility in other solvents

No information available

Partition coefficient: n-octanol/water No information available

Autoignition temperature

No information available

Decomposition temperature

No information available

Viscosity of Product

No information available

Oxidizing properties

These substances will accelerate burning when involved in a fire.

VOC Content (%)

Products comply with US state and federal regulations for VOC content in consumer products.

10. STABILITY AND REACTIVITY

Reactivity

None under normal use conditions.

| | |
|---|---|
| Stability | Stable under normal conditions. |
| Hazardous polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions | None under normal processing. |
| Conditions to Avoid | None under normal processing. |
| Materials to avoid | Do not mix with other cleaning products or chemicals as irritating fumes may be formed. |
| Hazardous Decomposition Products | None under normal use. |

11. TOXICOLOGICAL INFORMATION

Product Information

Information on likely routes of exposure

| | |
|---------------------|---------------------|
| Inhalation | No known effect. |
| Skin contact | No known effect. |
| Ingestion | No known effect. |
| Eye contact | Irritating to eyes. |

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|--|---------------------|
| Acute toxicity | No known effect. |
| Skin corrosion/irritation | No known effect. |
| Serious eye damage/eye irritation | Irritating to eyes. |
| Skin sensitization | No known effect. |
| Respiratory sensitization | No known effect. |
| Germ cell mutagenicity | No known effect. |
| Neurological Effects | No known effect. |
| Reproductive toxicity | No known effect. |
| Developmental toxicity | No known effect. |
| Teratogenicity | No known effect. |
| STOT - single exposure | No known effect. |
| STOT - repeated exposure | No known effect. |
| Target Organ Effects | No known effect. |
| Aspiration hazard | No known effect. |
| Carcinogenicity | No known effect. |

Component Information

| Chemical Name | CAS-No | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|------------------|----------|---------------|---|-----------------|
| Sodium carbonate | 497-19-8 | 2800 mg/kg bw | > 2000 mg/kg bw (US EPA 16 CFR 1500.40) | - |

12. ECOLOGICAL INFORMATION

Ecotoxicity

The product is not expected to be hazardous to the environment.

| | |
|--------------------------------------|---------------------------|
| Persistence and degradability | No information available. |
| Bioaccumulative potential | No information available. |
| Mobility | No information available. |
| Other adverse effects | No information available. |

13. DISPOSAL CONSIDERATIONS

Waste treatment**Waste from Residues / Unused Products**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**California Hazardous Waste Codes 331
(non-household setting)****14. TRANSPORT INFORMATION****DOT**

Not regulated

IMDG

Not regulated

IATA

Not regulated

15. REGULATORY INFORMATION**U.S. Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

| Chemical Name | CAS-No | Hazardous Substances RQs | Extremely Hazardous Substances RQs | CERCLA/SARA 302 TPQ |
|---------------|----------|--------------------------|------------------------------------|---------------------|
| Piperidine | 110-89-4 | - | 1000 lb | 1000 lb |

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

California Proposition 65

This product is not subject to warning labeling under California Proposition 65.

U.S. State Regulations (RTK)

| Chemical Name | CAS-No | New Jersey |
|---------------|-----------|------------|
| Limestone | 1317-65-3 | X |
| Symclosene | 87-90-1 | X |

| Chemical Name | CAS-No | Pennsylvania |
|---------------|-----------|--------------|
| Limestone | 1317-65-3 | X |
| Symclosene | 87-90-1 | X |

International Inventories

United States

All intentionally-added components of this product(s) are listed on the US TSCA Inventory.

Canada

This product is in compliance with CEPA for import by P&G.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

CEPA - Canadian Environmental Protection Act

16. OTHER INFORMATION

HMIS Ratings

| | |
|-----------------|---|
| Health hazard | - |
| Flammability | 0 |
| Physical hazard | 0 |

| | |
|---------------|---|
| Health hazard | 2 |
| Flammability | 0 |
| Instability | 0 |

Issuing Date: 12-Jun-2015

Revision Date: 12-Jun-2015

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS

Safety Data Sheet

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

OXYGEN, COMPRESSED GAS

Synonyms

MTG MSDS 71; OXYGEN; DIOXYGEN; MOLECULAR OXYGEN; OXYGEN MOLECULE; PURE OXYGEN; UN 1072; LOX; HYPEROXIA; O₂

Chemical Family

inorganic, Gas

Product Use

Industrial and Specialty Gas Applications

Restrictions on Use

None known.

Details of the supplier of the safety data sheet

SPECIALTY CHEMICAL PRODUCTS

1407 Pennsylvania Ave.

South Houston, TX 77587

General Information: 713-944-0900

Emergency #: 1-800-424-9300 (CHEMTREC)

Outside the US: 1-703-527-3887 (Call collect)

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.

Oxidizing Gases - Category 1

Gases Under Pressure - Compressed gas

Specific Target Organ Toxicity - Single Exposure - Category 3

GHS Label Elements**Symbol(s)****Signal Word**

Danger

Hazard Statement(s)

May cause or intensify fire; oxidizer.

Contains gas under pressure; may explode if heated.

May cause respiratory irritation.

Precautionary Statement(s)**Prevention**

Keep valves and fittings free from oil and grease.

Keep/Store away from clothing/combustible materials.

Use only outdoors or in a well-ventilated area.

Avoid breathing dust/fume/gas/mist/vapors/spray.

Response

Safety Data Sheet

In case of fire: stop leak if safe to do so.

IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.

Call a POISON CENTER or doctor if you feel unwell.

Storage

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Protect from sunlight.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

| CAS | Component Name | Percent |
|-----------|------------------------|---------|
| 7782-44-7 | OXYGEN, COMPRESSED GAS | 100 |

Section 4 - FIRST AID MEASURES

Inhalation

If adverse effects occur, remove to uncontaminated area. Get medical attention.

Skin

If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115°F; 41-46°C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention.

Eyes

Contact with liquid: Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion

If a large amount is swallowed, get medical attention.

Most Important Symptoms/Effects

Acute

Frostbite, suffocation, respiratory system

Delayed

no information on significant adverse effects.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

carbon dioxide, regular dry chemical, Large fires: Use regular foam or flood with fine water spray.

Special Hazards Arising from the Chemical

Negligible fire hazard. Oxidizer. May ignite or explode on contact with combustible materials. Containers may rupture or explode if exposed to heat.

Hazardous Combustion Products

miscellaneous decomposition products.

Fire Fighting Measures

Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Use extinguishing agents appropriate for surrounding fire. Cool containers with water. Apply water from a protected location or from a safe distance.

Safety Data Sheet

Special Protective Equipment and Precautions for Firefighters

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Stop leak if possible without personal risk. Avoid contact with combustible materials. Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering.

Methods and Materials for Containment and Cleaning Up

Avoid contact with combustible materials. Do not touch or walk through spilled material. Stop leak if possible without personal risk. Do not direct water at spill or source of leak. Keep unnecessary people away, isolate hazard area and deny entry. Isolate area until gas has dispersed. Ventilate closed spaces before entering.

Environmental Precautions

Avoid release to the environment.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Use only outdoors or in a well-ventilated area. Do not breathe gas. Wash thoroughly after handling. Keep away from clothing and other combustible materials. Keep reduction valves free from grease and oil.

Conditions for Safe Storage, Including any Incompatibilities

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Protect from sunlight.

Store and handle in accordance with all current regulations and standards. Protect from physical damage. Avoid heat, flames, sparks and other sources of ignition. Store in a clean, cool, dry place. Store below 125 °F. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Keep separated from incompatible substances.

Incompatible Materials

combustible materials, halo carbons, metals, bases, reducing agents, amines, metal salts, oxidizing materials

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

There are no biological limit values for any of this product's components.

Engineering Controls

Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection

Wear splash resistant safety goggles. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin Protection

For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing.

Respiratory Protection

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

Glove Recommendations

Wear insulated gloves.

Safety Data Sheet

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---------------------------------|----------------------|---|-----------------------|
| Appearance | Not available | Physical State | gas |
| Odor | odorless | Color | colorless |
| Odor Threshold | Not available | pH | Not available |
| Melting Point | -218.4 °C (-361 °F) | Boiling Point | -182.96 °C (-297 °F) |
| Boiling Point Range | Not available | Freezing point | Not available |
| Evaporation Rate | Not available | Flammability (solid, gas) | Not flammable |
| Autoignition Temperature | Not available | Flash Point | Not available |
| Lower Explosive Limit | Not available | Decomposition temperature | Not available |
| Upper Explosive Limit | Not available | Vapor Pressure | 760 mmHg @ -183 °C |
| Vapor Density (air 1) | 1.43 | Specific Gravity (water 1) | 1.14 at -183 °C |
| Water Solubility | 3.2 % (@ 25 °C) | Partition coefficient: n-octanol/water | Not available |
| Viscosity | 0.02075 cp | Kinematic viscosity | Not available |
| Solubility (Other) | Not available | Density | 1.309 g/L at 25 °C |
| Physical Form | gas | Taste | tasteless |
| Molecular Formula | O ₂ | Molecular Weight | 31.9988 |

Solvent Solubility

Soluble

alcohol

Section 10 - STABILITY AND REACTIVITY

Reactivity

No reactivity hazard is expected.

Chemical Stability

Stable at normal temperatures and pressure.

Possibility of Hazardous Reactions

Will not polymerize.

Conditions to Avoid

Avoid contact with combustible materials. Protect from physical damage and heat. Containers may rupture or explode if exposed to heat.

Incompatible Materials

Safety Data Sheet

combustible materials, halo carbons, metals, bases, reducing agents, amines, metal salts, oxidizing materials

Hazardous decomposition products

miscellaneous decomposition products

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation

irritation, chest pain, cough, changes in body temperature, nausea, difficulty breathing, irregular heartbeat, dizziness, Disorientation, hallucinations, mood swings, pain in extremities, tremors, lung congestion, convulsions, lung damage

Skin Contact

frostbite, blisters

Eye Contact

irritation, frostbite, blurred vision

Ingestion

ingestion of a gas is unlikely

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and no selected endpoints have been identified.

Product Toxicity Data

Acute Toxicity Estimate

No data available.

Immediate Effects

Frostbite, suffocation, respiratory system

Delayed Effects

No information on significant adverse effects.

Irritation/Corrosivity Data

No data available.

Respiratory Sensitization

No data available.

Dermal Sensitization

No data available.

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA.

Germ Cell Mutagenicity

No data available.

Tumorigenic Data

No data available

Reproductive Toxicity

No data available.

Specific Target Organ Toxicity - Single Exposure

No target organs identified.

Specific Target Organ Toxicity - Repeated Exposure

No target organs identified.

Aspiration hazard

No data available.

Medical Conditions Aggravated by Exposure

No data available.

Safety Data Sheet

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

No LOLI ecotoxicity data are available for this product's components.

Persistence and Degradability

No data available.

Bioaccumulative Potential

No data available.

Mobility

No data available.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of contents/container in accordance with local/regional/national/international regulations.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

Section 14 - TRANSPORT INFORMATION

US DOT Information:

Shipping Name: OXYGEN, COMPRESSED

Hazard Class: 2.2

UN/NA #: UN1072

Required Label(s): 2.2, 5.1

IMDG Information:

Shipping Name: OXYGEN, COMPRESSED

Hazard Class: 2.2

UN#: UN1072

Required Label(s): 2.2, 5.1

TDG Information:

Shipping Name: OXYGEN, COMPRESSED

Hazard Class: 2.2

UN#: UN1072

Required Label(s): 2.2, 5.1

International Bulk Chemical Code

This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations

None of this product's components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA Section 311/312 (40 CFR 370 Subparts B and C) reporting categories

Gas Under Pressure; Oxidizer; Specific Target Organ Toxicity

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

| | | | | | | |
|-----------|-----|----|----|----|----|----|
| Component | CAS | CA | MA | MN | NJ | PA |
|-----------|-----|----|----|----|----|----|

Safety Data Sheet

| | | | | | | |
|-------------------------------|------------------|----|-----|----|-----|-----|
| OXYGEN, COMPRESSED GAS | 7782-44-7 | No | Yes | No | Yes | Yes |
|-------------------------------|------------------|----|-----|----|-----|-----|

Not listed under California Proposition 65

Canada Regulations

Canadian WHMIS Ingredient Disclosure List (IDL)

The components of this product are either not listed on the IDL or are present below the threshold limit listed on the IDL.

WHMIS Classification

A , C

Component Analysis - Inventory

OXYGEN, COMPRESSED GAS (7782-44-7)

| US | CA | EU | AU | PH | JP - ENCS | JP - ISHL | KR KECI - Annex 1 | KR KECI - Annex 2 | KR - REACH CCA | CN | NZ | MX | TW | VN (Draft) |
|-----|-----|-----|-----|-----|-----------|-----------|-------------------|-------------------|----------------|-----|-----|-----|-----|------------|
| Yes | DSL | EIN | Yes | Yes | No | No | Yes | No | No | Yes | Yes | Yes | Yes | Yes |

Section 16 - OTHER INFORMATION

NFPA Ratings

Health: 2 Fire: 0 Reactivity: 0 Other: OX

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Summary of Changes

New SDS:01/19/2016

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; F - Background (for Venezuela Biological Exposure Indices); IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) , KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX - Mexico; Ne- Non-specific; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; Nq - Non-quantitative; NSL - Non-Domestic Substance List (Canada);

Safety Data Sheet

NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL- Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; Sc - Semi-quantitative; STEL - Short-term Exposure Limit; TCCA – Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW – Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN (Draft) - Vietnam (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada).

Other Information

Disclaimer:

Specialty Chemical Products makes no express or implied warranties, guarantees or representations regarding the product or the information herein, including but not limited to any implied warranty or merchantability or fitness for use. Specialty Chemical Products shall not be liable for any personal injury, property or other damages of any nature, whether compensatory, consequential, exemplary, or otherwise, resulting from any publication, use or reliance upon the information herein.



SAFETY DATA SHEET

MELT OFF ICE MELTER

Revision 01/30/2015

1. PRODUCT AND COMPANY IDENTIFICATION

| | |
|-------------------------------|---|
| Product Identifier | MELT-OFF ICE MELTER |
| Recommended use | Ice Melter |
| Distributed by | EcoChem Products, LLC P.O. Box 449 Salt Lake City, UT 84110 (800) 411-1455 |
| Emergency Contact # (24 Hour) | InfoTrac (800) 535-5053 |

2. HAZARDOUS IDENTIFICATION

| | |
|--|------|
| Classification of the substance or mixture | None |
| Hazard Statements | None |
| GHS label elements, including precautionary statements | None |
| Hazards not otherwise classified (HNOC) | None |

3. COMPOSITION / INFORMATION ON INGREDIENTS

| <u>Substance(s) Description</u> | <u>CAS#</u> |
|---------------------------------|-------------|
| Sodium Chloride | 7647-14-5 |
| Proprietary Inhibition Package | N/A |

No ingredients are hazardous according to OSHA criteria.

No ingredients No components need to be disclosed according to applicable regulations.

4. FIRST AID MEASURES

| | |
|---|---|
| Inhalation First Aid | Inhalation is unlikely; however, if it does occur, remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, administer oxygen. Seek medical attention. |
| Skin Contact First Aid | Wash with soap and plenty of water. |
| Eye Contact First Aid | Flush eyes with water. |
| Ingestion First Aid | If swallowed, do not induce vomiting. Give large quantities of water. Never give anything by mouth to an unconscious person. Seek medical attention. |
| Most important symptoms and effects, both acute and delayed | The most important known symptoms and effects are described in the labeling. |



SAFETY DATA SHEET

MELT OFF ICE MELTER

Revision 01/30/2015

Indication of any immediate medical attention and special treatment needed

No data available.

5. FIRE FIGHTING MEASURES

Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special Hazards from mixture

Hydrogen Chloride gas, Sodium Oxides

Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary/available.

Further information

No data available.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Avoid breathing vapors, mist or gas.

Protective equipment and emergency procedures

For personal protection see Section 8.

Environmental precautions

Avoid large concentrations of product in a confined area.

Materials for containment and clean up

Broom and a dustpan or shovel.

Methods for cleanup containment

Sweep up and keep in suitable, closed containers for disposal.

Reference to other sections

See Section 13 for disposal procedures

7. HANDLING AND STORAGE

Precautions for safe handling

Wear protective equipment when handling this product to avoid eye and skin contact. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Storage containers should be stored in a cool, dry and well-ventilated area away from strong oxidizing agents.

Specific end use(s)

Apart from the uses stated in Section 1, no other specific uses are stipulated.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.



SAFETY DATA SHEET

MELT OFF ICE MELTER

Revision 01/30/2015

Personal Protective Equipment (PPE)

Respiratory Protection

Dust mask if dust is excessive.

Skin Protection

Gloves should be worn when excessive skin contact cannot be avoided.

Eye Protection

Eye Protection is recommended in all industrial work places.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---------------------------------------|---|
| Appearance | Form: Granular, Crystal Color: Blue |
| Odor | None or slight vinegar |
| Odor Threshold | No data available |
| pH | 8-9 in 1% water |
| Melting/Freezing point | Melting point/range: 801° C (1,474° F) |
| Initial boiling point | 1,413° C (2,575° F) |
| Flash point | Greater than 212.0 °F (100.0 °C) |
| Evaporation rate | No data available |
| Flammability (solid, gas) | No data available |
| Explosive limits | No data available |
| Vapor pressure | 1.33 hPa (1.00 mmHg) at 865° C (1, 589° F) |
| Vapor density | No data available |
| Relative density | 2.1650 g/cm ³ |
| Water solubility | soluble |
| Partition coefficient n-octanol/water | No data available |
| Auto-ignition temperature | Greater than 312.0 °F (150.0 °C) |
| Decomposition temperature | No data available |
| Viscosity | No data available |
| Explosive properties | No data available |
| Oxidizing properties | No data available |

10. STABILITY AND REACTIVITY

| | |
|------------------------------------|---|
| Reactivity | No data available |
| Chemical stability | No data available |
| Possibility of hazardous reactions | No data available |
| Conditions to avoid | No data available |
| Incompatible materials | Strong oxidizing agents |
| Hazardous decomposition products | Other decomposition products - No data available In the event of fire: see Section 5 |

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Although no specific exposure limit has been established for this product OSHA and ACGIH have established limits for nuisance dust:

OSHA PEL/TWA Total 15 Mg/M3; Respirable 5 Mg/M3;
8-Hour TWA



SAFETY DATA SHEET

MELT OFF ICE MELTER

Revision 01/30/2015

Eye Contact
Inhalation
Skin Contact
Ingestion
Chronic

ACGIH TLV/TWA Total 10 Mg/M3; 8 Hour TWA
Mild irritation.
Nuisance dust can be irritating to nose, throat and lungs
Prolonged continual exposure can be irritating.
Ingestion may cause gastrointestinal irritation.
No evidence of adverse effects from available information.

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish
Toxicity to daphnia and other aquatic invertebrates

LC50 - Lepomis macrochirus (Bluegill) - 5,840 mg/l - 96 h
NOEC - Daphnia - 1,500 mg/l - 7 d
LC50 - Daphnia magna (Water flea) - 1,661 mg/l - 48 h

Bioaccumulative potential
Persistence and degradability
Mobility in soil
Results of PBT and vPvB assessment

No data available
No data available
No data available
PBT/vPvB assessment not available as chemical safety assessment not required

Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods
Product

Offer surplus and non-recyclable solution to a licensed disposal company.

Contaminated packaging

Containers of this material may be hazardous when emptied since emptied containers retain product residues (vapor, liquid, and/or solid). All hazard precautions given in the data sheet must be observed. Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
IMDG
IATA

Not dangerous goods
Not dangerous goods
Not dangerous goods

15. REGULATORY INFORMATION

OSHA Category
SARA 313 Supplier Notification

Not regulated
Not reportable

All Ingredients are Listed on the TSCA Inventory



SAFETY DATA SHEET

MELT OFF ICE MELTER

Revision 01/30/2015

16. OTHER INFORMATION

Special Precautions or Other Comments: The information accumulated herein is believed to be accurate but is not warranted to be regardless of whom it originates with. Recipients are advised to confirm prior to need that the information is current, applicable, and suitable to their circumstances.

Safety Data Sheet

SECTION 1 -- IDENTIFICATION

Product Name: Critical Care
Issue Date: 1/9/2015
Date Revised: NA
Distributed By: EnviroX
1938 E. Fairchild St.
Danville, IL. 61832
800-281-9604



Recommended Uses: Ready To Use Hard Surface Disinfectant.
In Case of Emergency: Have the product container or label with you when calling a poison control center or doctor. You may contact CHEMTREC 1-800-424-9300 for emergency medical treatment information.

SECTION 2 -- HAZARDS IDENTIFICATION

GHS Classification – Not Classified

Unclassified Hazards: May cause slight eye irritation

Precautionary Statements: Avoid direct skin and eye contact. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

HMIS Rating

| | |
|--------------|---|
| Health | 0 |
| Flammability | 0 |
| Reactivity | 0 |

SECTION 3 -- COMPOSITION / INFORMATION ON INGREDIENTS

Components: The specific chemical identities and exact percentages (concentrations) of composition have been withheld as a trade secret.

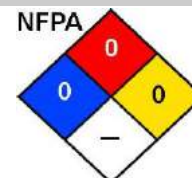
| | |
|---|--------|
| None of the ingredients is considered hazardous according to the criteria of 29CFR1910.1200 and DOT Reg 49 CFR 172. Ingredients are listed for informational purposes to assist emergency medical response personnel. | Wt% |
| Water (CAS No. 7732-18-5) | > 95 |
| Citric Acid (CAS No. 77-92-9) | < 5.0 |
| Silver Ions | 0.0030 |

SECTION 4 -- FIRST-AID MEASURES

Eye Contact: Hold eyelids open and flush thoroughly with a steady, gentle stream of water for at least 15 minutes. If irritation persists consult a physician.
Skin Contact: Rinse with water. If irritation persists consult a physician.
Inhalation: If breathing is affected, remove victim to fresh air and consult a physician.
Ingestion: If irritation or discomfort occurs, call a physician. DO NOT INDUCE VOMITING.

SECTION 5 -- FIRE-FIGHTING MEASURES

Flammability: Not flammable or combustible.
Flammable Limits: Not applicable.
Extinguishing Media: Not applicable.
Fire and Explosion Hazards: None.



SECTION 6 -- ACCIDENTAL RELEASE MEASURES

Response to Spills: SMALL SPILLS: Contain spill, flush to sanitary sewer, and rinse area with water. LARGE SPILLS: Dike or dam spill, pump to containers or soak up with inert absorbent, and prevent runoff to creeks and waterways. Personal Protective Equipment is not normally required. Avoid contact with eyes.

SECTION 7 -- HANDLING AND STORAGE

Handling Precautions: Close container tightly when not in use.
Storage Precautions: Store in a cool, dry place. Do not contaminate food, feed, or drinking water. Keep from freezing. Keep out of direct sunlight.

SECTION 8 -- EXPOSURE CONTROLS / PERSONAL PROTECTION

No special protection or precautions have been identified for using this product under directed consumer use conditions. The following recommendations are given for production facilities and for other conditions and situations where there is increased potential for accidental, large-scale or prolonged exposure.

Hygienic Practices: Avoid direct eye and skin contact. If irritation occurs, flush thoroughly with water. When product is applied to a floor surface, signage should be used to indicate slippery areas until they are dry.
Engineering Controls: Use general ventilation to minimize exposure to mist. Eyewash station is suggested.
Personal Protective Equipment: Not normally required. If contact is likely for prolonged or repeated contact, eye and hand protection is recommended.

SECTION 9 -- PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|--|--------------------------|---|-----------------|
| Appearance | Colorless liquid | Boiling Point | Not established |
| Odor | Practically Odorless | Freezing Point | Not established |
| pH | 2 | Evaporation Rate (Butyl Acetate=1) | Not established |
| Specific Gravity (H₂O=1) | Similar to water | Vapor Density (Air=1) | Not established |
| Solubility | Water soluble | Vapor Pressure (mmHg) | Not established |
| VOC Content (% Wt.) | 0.00% (0.000 lbs/gallon) | | |

SECTION 10 -- STABILITY AND REACTIVITY

| | |
|---------------------------------|-----------------|
| Chemical Stability: | Stable. |
| Incompatibility: | Not applicable. |
| Hazardous Decomposition: | None. |
| Polymerization: | None. |
| Conditions to Avoid: | Not applicable. |

SECTION 11 -- TOXICOLOGICAL INFORMATION

THIS PRODUCT DOES NOT CONTAIN ANY KNOWN OR ANTICIPATED CARCINOGENS ACCORDING TO THE CRITERIA OF THE NTP ANNUAL REPORT ON CARCINOGENS, OSHA 29 CFR 1910.1000, SUBPART Z, OR THE IARC MONOGRAPHS.

| | | | |
|--|------------------------------|-----------------------------------|--|
| Acute Oral, Rat | LD50>5000 mg/Kg | Epidemiology | None Known |
| Acute Dermal, Rat | LD50>5000 mg/Kg | Teratogenicity | None Known |
| Primary Eye Irritation | Rabbit – Category IV | Neurotoxicity | None Known |
| Primary Eye Irritation | Rabbit – Slightly Irritating | Dermal Sensitization | Guinea Pigs – Not a contact sensitizer |
| Subchronic/Chronic Toxicity: Does not contain any recognized carcinogens, mutagens or reproductive toxicants. | | | |

SECTION 12 -- ECOLOGICAL INFORMATION

| | |
|----------------------------|--|
| Ecotoxicity: | None. |
| Environmental Fate: | Readily degraded. Ionic silver is degraded into inert elemental silver or insoluble silver complexes in the environment. |

SECTION 13 -- DISPOSAL CONSIDERATIONS

| | |
|-------------------------------|--|
| Waste Disposal Method: | Dispose of in accordance with local, state, and federal regulations. |
| RCRA Classification: | Non-hazardous. |

SECTION 14 -- TRANSPORT INFORMATION

| | |
|----------------------------|-----------------|
| DOT Classification: | Non-hazardous. |
| Exceptions: | None. |
| Description: | Not applicable. |

SECTION 15 -- REGULATORY INFORMATION

| | |
|--------------|--|
| TSCA: | TSCA Inventory: All components are listed. TSCA Health and Safety Reporting List: None of the components are listed. TSCA Chemical Test Rules: None of the components are listed. TSCA Section 12b: None of the components are listed. TSCA Significant New Use Rule: None of the components has a SNUR. |
|--------------|--|

CERCLA: No RQ was assigned to silver compounds. See 50FR13456 (April 4, 1985).

ARA 302/304: None of the components has a RQ or a TPQ.

SARA 311/312: None of the components are reportable.

Clean Air: None of the components are a Hazardous Air Pollutant, Class 1 Ozone Depletor, or Class 2 Ozone Depletor.

Clean Water Act: None of the components are a Hazardous Substance, Priority Pollutant, or Toxic Pollutant.

OSHA: None of the components are considered hazardous.

California Proposition 65: None of the components are listed.

SECTION 16 -- OTHER INFORMATION

| | |
|--------------------------|-----------------|
| ID: | M5040 |
| Issue Date (Rev): | January 9, 2015 |

Revision Summary: NA

Material Safety Data Sheet

Revision Date 21-Apr-2011

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code DA6401
Product name Bonafide
Recommended Use Cleaner

Supplier Drummond, A Lawson Brand
Lawson Products, Inc.
1666 East Touhy Avenue
Des Plaines, IL 60018
1-866-529-7664

Emergency telephone number (888) 426-4851

2. HAZARDS IDENTIFICATION

Emergency Overview

Vapors extremely irritating to eyes and respiratory tract. Suspect Cancer Hazard. Contents under pressure.

Aggravated Medical Conditions
None Known.

Principal Routes of Exposure
Inhalation. Eyes. Skin contact.

Potential health effects

Eyes Exposure to vapors may cause the following effects: Irritation. Redness. Itching. Burning sensation.

Skin Repeated or prolonged exposure may cause: Skin Irritation. Redness. Itching. Burning sensation.

Inhalation Exposure to vapors may cause the following effects. Irritating to respiratory system. Headaches. Dizziness. Nausea. Extreme overexposure may cause. Liver damage. Urinary system effects. Cardiac abnormalities. Central nervous system effects. Respiratory system damage.

Ingestion Harmful if swallowed. May cause effects similar to inhalation.

3. COMPOSITION / INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | Weight % |
|-------------------|----------|----------|
| Trichloroethylene | 79-01-6 | 60-100 |
| Carbon Dioxide | 124-38-9 | 1-5 |

4. FIRST AID MEASURES

Eye contact Flush with plenty of water for at least 15 minutes. Seek medical attention.

Skin contact Wash off immediately with soap and plenty of water. Remove and wash contaminated clothing before re-use. Seek medical attention immediately.

Ingestion Do not induce vomiting. Seek medical attention immediately.

Inhalation Remove to fresh air. Restore breathing. Keep warm and quiet.

5. FIRE FIGHTING MEASURES

Flash point °C Not Applicable
Flash point °F Not Applicable
Method No information available

Autoignition temperature °C No data available
Autoignition temperature °F No data available

Flammability Limits (% in Air)
Upper No data available
Lower No data available

Suitable extinguishing media
Carbon dioxide (CO2). Dry chemical. Foam.

Special protective equipment for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Fire and Explosion Hazards
Containers exposed to extreme heat may burst. Containers may vent or burst under extreme or prolonged fire conditions. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water should be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat. During emergency conditions, overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

Sensitivity to shock
No information available.

Sensitivity to static discharge
No information available.

6. ACCIDENTAL RELEASE MEASURES

Methods for cleaning up
Eliminate all sources of ignition. Ventilate area to maintain exposure below permissible exposure limits. Soak up with inert absorbent material. Dispose of absorbent in accordance with local, state and federal regulations.

7. HANDLING AND STORAGE**Handling**

Ensure adequate ventilation. Avoid breathing vapors or mists. Contents under pressure. Do not puncture or incinerate. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Keep away from open flames, hot surfaces and sources of ignition. Do not take internally. Keep out of reach of children.

Storage

Containers exposed to extreme heat may burst. Keep away from direct sunlight. Keep away from heat and sources of ignition. Store in temperatures below 120 degrees F.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| Chemical Name | OSHA PEL (TWA) | OSHA PEL (Ceiling) | ACGIH OEL (TWA) | ACGIH OEL (STEL) |
|-------------------|------------------------------------|--------------------|-----------------|------------------|
| Trichloroethylene | 100 ppm | 200 ppm | 10 ppm | 25 ppm |
| Carbon Dioxide | 5000 ppm 9000 mg/m ³ | - | 5000 ppm | 30000 ppm |

Ventilation and Environmental Controls

Adequate ventilation should be provided to keep exposure levels below current acceptable exposure limits. Sufficient ventilation in volume and in pattern, should be provided to keep air contamination below current applicable OSHA PEL or ACGIH OEL limits. Local: recommended.

Hygiene measures

Wash hands before eating or using the washroom. Remove and wash contaminated clothing before re-use. Avoid contact with skin, eyes and clothing.

Respiratory protection

If the exposure limits are exceeded, a NIOSH/MSHA approved respirator is recommended. Wear a NIOSH approved organic vapor/particulate respirator.

Hand Protection

Gloves are not required in normal use. The following gloves are recommended for prolonged or repeated contact: . Chemical resistant gloves.

Eye protection

Wear safety glasses with side shields.

Skin and body protection

None necessary under normal conditions

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|------------------|--------------------------|
| Form | Aerosol |
| Color | Colorless |
| Odor | No information available |
| Odor Threshold | No information available |
| pH | No data available |
| Specific Gravity | 1.45 |
| Vapor pressure | No data available |
| Density | 12.04 lb/gal; 1442 g/l |
| Vapor density | >1 (Air = 1) |
| Evaporation Rate | >1 (Ether =1) |

| | |
|---|-------------------|
| Water solubility | No data available |
| VOC Content | 97.5% |
| Partition Coefficient (n-octanol/water) | No data available |
| Boiling point/range °C | < -18 - 86 |
| Boiling point/range °F | < 0 - 188 |
| Melting point/range °C | No data available |
| Melting point/range °F | No data available |
| Flash point °C | Not Applicable |
| Flash point °F | Not Applicable |

10. STABILITY AND REACTIVITY**Stability**

Stable.

Conditions to avoid

None known.

Incompatibility

None known.

Hazardous Decomposition Products

Carbon dioxide. Carbon monoxide. Hydrogen chloride.

Polymerization

Will not occur.

11. TOXICOLOGICAL INFORMATION**Component Information**

| Chemical Name | LD50 (oral,rat) | LD50 (dermal,rat/rabbit) | LC50 (inhalation,rat) |
|---------------------------|-----------------|--------------------------|-----------------------|
| Trichloroethylene 79-01-6 | 4290 mg/kg | 20 g/kg | 26300 ppm 8000 ppm |
| Carbon Dioxide 124-38-9 | - | - | - |

Synergistic Products

None known

Specific Hazards

Reports have associated repeated and prolonged occupational exposure to solvents with permanent brain damage.

Potential health effects

| | |
|-----------------------|-----------------|
| Sensitization | None known |
| Chronic toxicity | See Section 2 . |
| Mutagenic effects | None known |
| Teratogenic effects | None known |
| Reproductive toxicity | None known |
| Target Organ Effects | See Section 2. |
| Carcinogenic effects | See table below |

| Chemical Name | ACGIH OEL - Carcinogens | IARC | NTP - Known Carcinogens | NTP - Suspected Human Carcinogens | OSHA RTK Carcinogens |
|-------------------|-------------------------|------------|-------------------------|-----------------------------------|----------------------|
| Trichloroethylene | Listed | Group 2A | Not Listed | Listed | Listed |
| Carbon Dioxide | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |

WARNING: This product contains a chemical(s) known to the state of California to cause cancer

International Inventories

| Chemical Name | EINECS | DSL | NDSL | TSCA |
|-------------------|--------|-----|------|------|
| Trichloroethylene | X | X | - | X |
| Carbon Dioxide | X | X | - | X |

12. ECOLOGICAL INFORMATION

Trichloroethylene

Microtox Data

Nitrosomonas EC50=0.81 mg/L (24 h)

Photobacterium phosphoreum EC50=115 mg/L (10 min)

Photobacterium phosphoreum EC50=190 mg/L (15 min)

Bacillus subtilis EC50=235 mg/L (24 h)

Tetrahymena pyriformis EC50=410 mg/L (24 h)

Photobacterium phosphoreum EC50=975 mg/L (5 min)

Water Flea Data

Daphnia magna hEC50 48 (2.2 mg/L)

CPR

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all of the information required by the Controlled Product Regulations

16. OTHER INFORMATION

HMIS

Health - 2 *

Flammability - 0

Physical Hazard - 0

Prepared By

V. Shargorodsky, Regulatory Affairs Engineer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

13. DISPOSAL CONSIDERATIONS

Disposal Information

This product contains tetrachloroethylene, a highly volatile solvent which is a toxic waste as defined by RCRA ,40 CFR 261 (United States) . Do not puncture or incinerate. Depressurize before disposal. Dispose in accordance with federal, state, and local regulations. In normal use this chemical will quickly evaporate. However, grease or other residue removed by this product may contain sufficient tetrachloroethylene to be classified as a toxic waste.

14. TRANSPORTATION INFORMATION

DOT

Consumer commodity, ORM-D

TDG

Consumer commodity, ORM-D

15. REGULATORY INFORMATION

US EPA SARA 313

| Chemical Name | US EPA SARA 313 Emission Reporting |
|-------------------|------------------------------------|
| Trichloroethylene | Listed |

State Regulations

| Chemical Name | New Jersey - RTK | Pennsylvania - RTK | California Prop. 65 |
|-------------------|------------------|--------------------|---------------------|
| Trichloroethylene | Listed | Listed | Carcinogen |
| Carbon Dioxide | Listed | Listed | Not Listed |

Material Safety Data Sheet

Revision Date 25-Jan-2013

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code DA6901
Product name Headway Dry
Recommended Use Lubricant

Supplier Drummond, A Lawson Brand
Lawson Products, Inc.
8770 W.Bryn Mawr Ave.- Suite 900
Chicago, IL 60631
1-866-529-7664

Emergency telephone number (888) 426-4851

2. HAZARDS IDENTIFICATION

Emergency Overview
Extremely flammable.

Aggravated Medical Conditions
None Known.

Principal Routes of Exposure
Eyes. Skin. Inhalation.

Potential health effects

Eyes Contact with eyes may cause irritation.

Skin May cause the following effects: . Skin Irritation.
Defatting.

Inhalation Chronic overexposure can cause: . Dizziness.
Possible unconsciousness.

Ingestion Not likely to occur.

3. COMPOSITION / INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | Weight % |
|----------------------------|------------|----------|
| Acetone | 67-64-1 | 40-50 |
| Propane/Isobutane/N-Butane | 68476-86-8 | 35-45 |
| Heptanes | 142-82-5 | 10-20 |

4. FIRST AID MEASURES

Eye contact Flush with plenty of water for at least 15 minutes.
Seek medical attention if irritation persists.

Skin contact Wash off immediately with soap and plenty of
water. Seek medical attention if irritation persists.

Ingestion No specific treatment is necessary since this
material is not likely to be hazardous by ingestion.

Inhalation Remove to fresh air. Contact physician if breathing
difficulty develops.

5. FIRE FIGHTING MEASURES

Flash point °C -15
Flash point °F 5
Method Tag Closed Cup

Autoignition temperature °C No data available
Autoignition temperature °F No data available

Flammability Limits (% in Air)
Upper 10.2
Lower 1.3

Suitable extinguishing media
Use extinguishing media appropriate to surrounding fire .

Special protective equipment for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand,
MSHA/NIOSH (approved or equivalent) and full protective gear

Fire and Explosion Hazards
Extremely flammable. Aerosol containers may vent, rupture or burst when
heated to temperatures above 120°F. Vapors of this product may develop
a flammable atmosphere in confined areas.

Sensitivity to shock
No information available.

Sensitivity to static discharge
No information available.

6. ACCIDENTAL RELEASE MEASURES

Methods for cleaning up
Soak up excess with absorbent material.

7. HANDLING AND STORAGE

Handling
Wash hands with soap and water before eating, drinking, smoking, or
using toilet facilities. Keep from excessive heat. Keep away from open
flame.

Storage
Store in temperatures below 120 degrees F (50 degrees C) . Do not store
near sources of ignition. Keep out of the reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| Chemical Name | OSHA PEL (TWA) | OSHA PEL (Ceiling) | ACGIH OEL (TWA) | ACGIH OEL (STEL) |
|----------------------------|------------------------------------|--------------------|-----------------|------------------|
| Acetone | 1000 ppm 2400 mg/m ³ | - | 500 ppm | 750 ppm |
| Heptanes | 500 ppm 2000 mg/m ³ | - | 400 ppm | 500 ppm |
| Propane/Isobutane/N-Butane | - | - | - | N/D |

Ventilation and Environmental Controls

Adequate ventilation should be provided to keep exposure levels below current acceptable exposure limits.

Hygiene measures

Wash hands before breaks and immediately after handling the product.

Respiratory protection

None necessary under normal conditions.

Hand Protection

Gloves are not required in normal use.

Eye protection

ANSI approved safety goggles are recommended to prevent accidental eye contact.

Skin and body protection

None necessary under normal conditions

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|--------------------------|
| Form | Aerosol |
| Color | Clear |
| Odor | Slight Solvent |
| Odor Threshold | No information available |
| pH | Not Applicable |
| Specific Gravity | 0.76 |
| Vapor pressure | 36mmHg |
| Vapor density | > 1 (Air=1) |
| Evaporation Rate | >1 (Butyl Acetate = 1) |
| Water solubility | Insoluble |
| VOC Content | 55.5% |
| Partition Coefficient (n-octanol/water) | Not Applicable |
| Boiling point/range °C | < 93.3 |
| Boiling point/range °F | < 200 |
| Melting point/range °C | Not Applicable |
| Melting point/range °F | Not Applicable |
| Flash point °C | -15 |
| Flash point °F | 5 |

10. STABILITY AND REACTIVITY

Stability

Stable.

Conditions to avoid

Do not store in temperatures above 120 degrees F. Do not apply to hot surfaces. Exposure to open flame.

Incompatibility

Strong oxidizing agents.

Hazardous Decomposition Products

Silicone dioxide. Formaldehyde. Carbon oxides.

Polymerization

Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Component Information

| Chemical Name | LD50 (oral, rat) | LD50 (dermal, rat/rabbit) | LC50 (inhalation, rat) |
|--|------------------|---------------------------|------------------------|
| Acetone 67-64-1 | 5800 mg/kg | - | - |
| Heptanes 142-82-5 | - | 3000 mg/kg | 103 g/m ³ |
| Propane/Isobutane/N-Butane 68476-86-8 | - | - | - |

Synergistic Products

None known

Potential health effects

Sensitization

May cause sensitization .

Chronic toxicity

See Section 2 .

Mutagenic effects

None known .

Teratogenic effects

None known .

Reproductive toxicity

None known .

Target Organ Effects

None Known.

Carcinogenic effects

See table below

| Chemical Name | ACGIH OEL - Carcinogens | IARC | NTP - Known Carcinogens | NTP - Suspected Human Carcinogens | OSHA RTK Carcinogens |
|----------------------------|-------------------------|------------|-------------------------|-----------------------------------|----------------------|
| Acetone | A4 | Not Listed | Not Listed | Not Listed | Not Listed |
| Heptanes | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Propane/Isobutane/N-Butane | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |

12. ECOLOGICAL INFORMATION

Acetone

12. ECOLOGICAL INFORMATION**Microtox Data***Photobacterium phosphoreum* EC50=14500 mg/L (15 min)**Water Flea Data***Daphnia magna* EC5010294 - 17704 mg/L (48 h)*Daphnia magna* EC5012600 - 12700 mg/L (48 h)**Heptanes****Water Flea Data***Daphnia magna* EC50>10 mg/L (24 h)**HMIS****Health - 1****Flammability - 3****Physical Hazard - 1****Prepared By**J. Cameron, Regulatory Affairs
Coordinator

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

13. DISPOSAL CONSIDERATIONS**Waste from residues / unused products**

Dispose in accordance with federal, state, and local regulations. Do not puncture or incinerate. Do not reuse container. Wrap container and place in trash collection.

14. TRANSPORTATION INFORMATION**DOT**

UN1950 Aerosols, flammable, 2.1.

Exception: (Compressed Gas not more than 1.0L) Consumer Commodity
ORM-D

TDG

UN1950 AEROSOLS, flammable, 2.1

15. REGULATORY INFORMATION**State Regulations**

| Chemical Name | New Jersey - RTK | Pennsylvania - RTK | California Prop. 65 |
|--------------------------------|---------------------|-----------------------|------------------------|
| Acetone | Not Listed | Listed | Not Listed |
| Heptanes | Listed | Listed | Not Listed |
| Propane/Isobutane/N- Butane | Not Listed | Not Listed | Not Listed |

International Inventories

| Chemical Name | EINECS | DSL | NDSL | TSCA |
|--------------------------------|--------|-----|------|------|
| Acetone | X | X | - | X |
| Heptanes | X | X | - | X |
| Propane/Isobutane/N- Butane | X | X | - | X |

CPR

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all of the information required by the Controlled Product Regulations

16. OTHER INFORMATION

Material Safety Data Sheet

Revision Date 24-Jan-2012

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code DB1010B
Product name Bulldog Grip Epoxy Cups - Hardener
Recommended Use Repair Material

Supplier Drummond American
A Lawson Products Company
600 Corporate Woods Parkway
Vernon Hills, IL 60061
(847) 913-9313

Emergency telephone number (888) 426-4851

2. HAZARDS IDENTIFICATION

Emergency Overview

Vapors extremely irritating to eyes and respiratory tract. May cause allergic respiratory reaction.

Aggravated Medical Conditions

Pre-existing skin, eye, or respiratory conditions may be aggravated by exposure to this product.

Principal Routes of Exposure

Skin. Eyes. Inhalation. Ingestion.

Potential health effects

Eyes Moderately irritating to the eyes. May cause the following effects: Eye damage. Redness.

Skin Allergic reaction. Moderate irritation. Redness. Itching.

Inhalation Exposure to vapors may cause the following effects. Headaches. Nausea. Shortness of breath. May cause irritation of respiratory tract. Irritation of the nose or throat.

Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

3. COMPOSITION / INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | Weight % |
|---|-------------|----------|
| Ethylene glycol | 107-21-1 | 1-5 |
| Benz[a]anthracene | 56-55-3 | 0.1-1 |
| Distillates, petroleum, heavy thermal cracked | 64741-81-7 | 5-10 |
| Styrene | 100-42-5 | 1-5 |
| Fumed Silica | 112945-52-5 | 1-5 |
| 2,4,6-Tri(dimethylaminomethyl)phenol | 90-72-2 | 5-10 |
| Polymercaptan Hardener | N/A | 30-60 |
| Aluminum Hydroxide | 21645-51-2 | 30-60 |

4. FIRST AID MEASURES

Eye contact Flush with plenty of water for at least 15 minutes. Seek medical attention immediately.

Skin contact Wash area thoroughly with soap and water. Remove contaminated clothing and footwear. Seek medical attention if irritation persists.

Ingestion Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Seek medical attention immediately.

Inhalation Remove to fresh air. Get medical attention if cough or respiratory symptoms develop.

5. FIRE FIGHTING MEASURES

Flash point °C >93
Flash point °F >200
Method Tag Closed Cup

Autoignition temperature °C No data available
Autoignition temperature °F No data available

Flammability Limits (% in Air)
Upper No data available
Lower No data available

Suitable extinguishing media

Water spray. Foam. Dry chemical powder. Carbon dioxide (CO2).

Special protective equipment for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

Fire and Explosion Hazards

Water should be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat. Containers may vent or burst under extreme or prolonged fire conditions. Water or foam may cause frothing.

Sensitivity to shock

No information available.

Sensitivity to static discharge

No information available.

6. ACCIDENTAL RELEASE MEASURES

Methods for cleaning up

Eliminate all sources of ignition. Evacuate area of unprotected and unnecessary personnel. Wipe or scrape up and dispose of spill. Clean area with detergent and water after spill removal.

7. HANDLING AND STORAGE

Product code **DB1010B**Product name **Bulldog Grip
Epoxy Cups - Hardener****7. HANDLING AND STORAGE****Handling**

Do not swallow. Avoid contact with skin, eyes and clothing. Thoroughly wash hands and exposed skin after handling.

Storage

Store in original container. Keep containers tightly closed in a cool, well-ventilated place. Keep away from heat and sources of ignition. Keep out of the reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| Chemical Name | OSHA PEL (TWA) | OSHA PEL (Ceiling) | ACGIH OEL (TWA) | ACGIH OEL (STEL) |
|---|----------------|--------------------|-----------------|------------------|
| Aluminum Hydroxide | - | - | - | - |
| Polymercaptan Hardener | - | - | - | - |
| Distillates, petroleum, heavy thermal cracked | - | - | - | - |
| 2,4,6-Tri(dimethylamino methyl)phenol | - | - | - | - |
| Styrene | 100 ppm | 200 ppm | 20 ppm | 40 ppm |
| Ethylene glycol | - | - | - | - |
| Fumed Silica | - | - | - | - |
| Benz[a]anthracene | - | - | - | - |

Ventilation and Environmental Controls

Use enough ventilation, local exhaust at the work area, general, or both, to keep below the TLV's in the worker's breathing zone and the general area.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

Respiratory protection

Use NIOSH approved respirator if TLV limit is exceeded.

Hand Protection

For prolonged or repeated skin contact, use a chemically resistant glove such as nitrile or neoprene. Wash hands with soap and water after removing gloves. Dry hands thoroughly before re-applying gloves.

Eye protection

ANSI approved safety glasses or splash goggles with face shield are recommended.

Skin and body protection

None necessary under normal conditions

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|----------------|----------------|
| Form | Solid |
| Color | Black |
| Odor | Sulphurous |
| Odor Threshold | Not Applicable |
| pH | Not Applicable |

Specific Gravity

1.40

Vapor pressure

Not Applicable

Vapor density

Not Applicable

Evaporation Rate

Not Applicable

Water solubility

Slightly soluble

VOC Content

14.3%; 200 gm/liter

Partition Coefficient

Not Applicable

(n-octanol/water)**Boiling point/range °C**

> 149

Boiling point/range °F

> 300

Melting point/range °C

No data available

Melting point/range °F

No data available

Flash point °C

>93

Flash point °F

>200

10. STABILITY AND REACTIVITY**Stability**

Stable.

Conditions to avoid

Do not store or use near incompatible materials. Avoid extreme heat.

Incompatibility

Strong acids. Strong bases. Strong oxidizers.

Hazardous Decomposition Products

Carbon oxides. Irritating organic fragments.

Polymerization

Will not occur.

11. TOXICOLOGICAL INFORMATION**Component Information**

| Chemical Name | LD50 (oral, rat) | LD50 (dermal, rat/rabbit) | LC50 (inhalation, rat) |
|--|------------------|---------------------------|------------------------|
| Aluminum Hydroxide 21645-51-2 | 5000 mg/kg | - | - |
| Polymercaptan Hardener N/A | - | - | - |
| Distillates, petroleum, heavy thermal cracked 64741-81-7 | 4320 mg/kg | 2000 mg/kg | - |
| 2,4,6-Tri(dimethylamino methyl)phenol 90-72-2 | 1000 mg/kg | 1280 mg/kg | - |
| Styrene 100-42-5 | 1000 mg/kg | - | 11.8 mg/L |
| Ethylene glycol 107-21-1 | 4000 mg/kg | 9530 µL/kg | - |
| Fumed Silica 112945-52-5 | 3160 mg/kg | - | - |

Product code **DB1010B**Product name **Bulldog Grip
Epoxy Cups - Hardener**

| Chemical Name | LD50 (oral, rat) | LD50 (dermal ,rat/rab bit) | LC50 (inhalation, rat) |
|------------------------------|-------------------------|-------------------------------------|------------------------|
| Benz[a]anthracene 56-55-3 | - | - | - |

Synergistic Products None known**Potential health effects**

Sensitization None known

Chronic toxicity None known

Mutagenic effects None known

Teratogenic effects None known

Reproductive toxicity None known

Target Organ Effects See Section 2

Carcinogenic effects See table below

| Chemical Name | ACGIH OEL - Carcinogens | IARC | NTP - Known Carcinogens | NTP - Suspected Human Carcinogens | OSHA RTK Carcinogens |
|---|-------------------------------|------------|-------------------------------|--|----------------------------|
| Aluminum Hydroxide | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Polymercaptan Hardener | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Distillates, petroleum, heavy thermal cracked | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| 2,4,6-Tri(dimethylaminomethyl)phenol | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Styrene | A4 | Group 2B | Not Listed | Not Listed | Listed |
| Ethylene glycol | A4 | Not Listed | Not Listed | Not Listed | Not Listed |
| Fumed Silica | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Benz[a]anthracene | A2 | Group 2B | Not Listed | Suspect | Listed |

12. ECOLOGICAL INFORMATIONStyrene**Microtox Data***Photobacterium phosphoreum* EC50=5.4 mg/L (5 min)**Water Flea Data***Daphnia magna* hEC50 48 (4.7 mg/L)Ethylene glycol**Microtox Data***Pseudomonas putida* EC50=10000 mg/L (16 h)*Photobacterium phosphoreum* EC50=620 mg/L (30 min)*Photobacterium phosphoreum* EC50=620.0 mg/L (30 min)**Water Flea Data***Daphnia magna* EC50=46300 mg/L (48 h)Benz[a]anthracene**Microtox Data***Photobacterium phosphoreum* EC50=0.26 mg/L (15 min)**Water Flea Data***water flea* hEC50 96 (0.01 mg/L)**13. DISPOSAL CONSIDERATIONS****Waste from residues / unused products**

As supplied, this product is classified as non-hazardous waste according to RCRA regulations. Dispose in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION**DOT**

Not Regulated

TDG

Not Regulated

15. REGULATORY INFORMATION**US EPA SARA 313**

| Chemical Name | US EPA SARA 313 Emission Reporting |
|-------------------|------------------------------------|
| Styrene | Listed |
| Ethylene glycol | Listed |
| Benz[a]anthracene | Listed |

State Regulations

| Chemical Name | New Jersey - RTK | Pennsylvania - RTK | California Prop. 65 |
|---|---------------------|-----------------------|------------------------|
| Aluminum Hydroxide | Not Listed | Not Listed | Not Listed |
| Polymercaptan Hardener | Not Listed | Not Listed | Not Listed |
| Distillates, petroleum, heavy thermal cracked | Not Listed | Not Listed | Not Listed |
| 2,4,6-Tri(dimethylaminomethyl)phenol | Not Listed | Not Listed | Not Listed |
| Styrene | Listed | Listed | Not Listed |
| Ethylene glycol | Listed | Listed | Not Listed |
| Fumed Silica | Not Listed | Not Listed | Not Listed |
| Benz[a]anthracene | Listed | Listed | Carcinogen |

International Inventories

Product code **DB1010B**

Product name **Bulldog Grip
Epoxy Cups - Hardener**

| Chemical Name | EINECS | DSL | NDSL | TSCA |
|---|--------|-----|------|------|
| Aluminum Hydroxide | X | X | - | X |
| Polymercaptan Hardener | - | - | - | - |
| Distillates, petroleum, heavy thermal cracked | X | X | - | X |
| 2,4,6-Tri(dimethylaminomethyl)phenol | X | X | - | X |
| Styrene | X | X | - | X |
| Ethylene glycol | X | X | - | X |
| Fumed Silica | - | X | - | - |
| Benz[a]anthracene | X | - | X | X |

CPR

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all of the information required by the Controlled Product Regulations

16. OTHER INFORMATION

HMIS

Health - 2
Flammability - 1
Physical Hazard - 1

Prepared By

V. Shargorodsky, Regulatory Affairs
Engineer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.



SAFETY DATA SHEET

1. Product and Company Identification

| | |
|-----------------------------------|--|
| Product Name | DEFOAM |
| Product Number | 3AE |
| Product Type | Mixture |
| Product Use | Defoamer for use in carpet & upholstery cleaning. |
| Manufacturer | CFR, A Division of Tacony Corporation 3101 Wichita Court Fort Worth, TX 76140-1710 |
| Company Contact | 1-800-533-2557 or website www.cfrcorp.com |
| Emergency Telephone Number | 1-800-270-5201 |

2. Hazards Identification

GHS Classification in accordance with 29CFR 1910 OSHA HCS

Reproductive toxicity (Category 2) H361

Hazardous to the aquatic environment-long term chronic hazard (Category 4) H413

GHS Label elements, including precautionary statements

Pictogram None required

Signal Word Warning

Hazard Statements

H361 Suspected of damaging fertility or the unborn child

H413 May cause long lasting harmful effects to aquatic life.

Precautionary Statements

Prevention

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P273 Avoid release to the environment.

P280 Wear protective gloves, eye protection/face protection

Response

P308+P313 If exposed, or concerned, call a POISON CENTER/doctor

Storage/Disposal

P405 Store locked up.

P501 Dispose of contents/container in accordance with local, regional and federal regulations

3. Composition/Information on Ingredients

The criteria for listing components in this section are: Ingredients that meet the criteria for carcinogenic, toxic to reproduction, or specific target organ toxicity and components otherwise considered hazardous according to OSHA which exceed the cut off limits for SDS specified by the criteria for mixtures are listed. Non hazardous components are not listed. This is not a composition disclosure. Exact percentages are considered proprietary and a trade secret.

| Hazardous Components | CAS# | Classification | % |
|------------------------------|----------|------------------|-------|
| Octamethylcyclotetrasiloxane | 556-67-2 | H226, H361, H413 | <0.5% |



4. First Aid Measures

Description of First Aid Procedures

In case of Eye Contact

Flush with cool running water for 15 minutes. If irritation persists, get medical attention.

In case of Skin Contact

Flush with cool water, Wash with soap and water. If irritation persists, get medical Attention.

If Inhaled

If symptoms develop, move to fresh air. If symptoms persist, get medical attention

If Ingested

Rinse mouth with water. Drink one or two glasses of water. **Do not induce vomiting.** Obtain medical attention. Never give anything by mouth to an unconscious person.

Notes to Physician

Symptoms may be delayed.

General advice

Seek medical attention if feeling unwell. Show the SDS to the physician in attendance.

5. Fire-fighting Measures

Flammable properties

Not flammable

Extinguishing media

Treat for surrounding material.

Protection of firefighters

Firefighters should wear protective clothing including self contained breathing apparatus

Hazardous combustion products

May include and not limited to oxides of carbon, ammonia and hydrogen chloride.

Unusual Fire, Explosion hazards

None known.

6. Accidental Release Measures

Personal precautions

Keep unnecessary personal away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled containers unless wearing protective Clothing. Stay upwind of spills or leaks.

Methods for containment

Stop leak if you can do so without risk. Prevent entry into waterways, sewers.

Methods for cleaning up

Before attempting clean up refer to hazard data given above. Small spills may be absorbed with non reactive absorbent and placed in suitable, covered, labeled containers. Prevent large spills from entering sewers or water ways. Dike spill. Absorb spill with non reactive absorbent and place in a suitable, covered, labeled container for disposal. Never return spill to original container for reuse.

Environmental Precautions

Avoid release to the environment.

7. Handling and Storage

Precautions for Safe Handling

Use good industrial hygiene practices when handling this material

Conditions for Safe Storage

Keep out of reach of children. Keep from freezing, store in a cool dry place away from incompatible materials.

8. Exposure Controls and Personal Protection

Exposure limits

Ingredients:

Octamethylcyclotetrasiloxane

CAS-No

556-67-2

OSHA PEL

Not available

ACGIH TLV

Not available.

**Engineering controls**

General ventilation normally adequate

Personal protective equipment**Eye/Face protection**

Wear safety glasses with side shields if splash conditions exist.

Hand protection

Rubber or nitrile gloves.

Skin and body

As required by employer code.

Respiratory protection

Use a NIOSH approved respirator when exposure guidelines are exceeded.

General hygiene considerations

Handle in accordance with good industrial hygiene practices. Do not eat or drink when using product. Wash hands well before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Information on basic physical and chemical properties**Appearance/form**

Emulsion

Color

Light blue

Odor

Odorless

Odor threshold

Not established

pH

6-8 (Concentrate)

Melting point/freezing point

Not established

Initial Boiling point

> 212° F. (100° C.)

Flash point

> 200° F. (93° C.) Estimated.

Evaporation rate

Not established

Flammability

Not flammable

Upper/lower flammability or

Not established

Explosive limits**Vapor pressure**

Not established

Vapor density

Not established

Specific gravity/density

0.98-1.01

Solubility in water

Dispersible

Partition coefficient:

Not established

Auto ignition temperature

Not established

Decomposition temperature

Not established

Stability and Reactivity

Stable and non reactive under normal use and storage conditions.

VOC

< 1%

% Volatile

Approx. 97%

Other safety Information

10. Stability and Reactivity

Reactivity

Not reactive under normal use and storage.

Chemical Stability

Stable under normal storage conditions.

Hazardous reactions

None known.

Conditions to avoid

Do not mix with other chemicals.

Incompatible materials

Strong acids and caustic materials.

Hazardous decomposition products

May include but not limited to oxides of carbon, nitrogen.

Hazardous polymerization

Will not occur.

11. Toxicological Information

Ingredients**LC50**

Octamethylcyclotetrasiloxane

36,000 mg/m³ rat 4 hours

Ingredients**LD50**

Octmethylcyclotetrasiloxane

>2,000 mg/kg (Oral-rat), > 4,640 mg/kg (Dermal- rabbit)

**Effects of acute exposure**

| | |
|---|---|
| Eye | None expected. |
| Skin | None expected. |
| Inhalation | None expected |
| Ingestion | Suspected of damaging fertility or the unborn child. |
| Sensitization | No data available. |
| Chronic effects of short and long term exposure | Prolonged exposure to skin may cause drying, defatting and irritation. |
| Carcinogenicity | Does not contain ingredients considered carcinogenic by NTP, IARC, or OSHA. |
| Mutagenicity | No data available |
| Reproductive effects | No data available. |
| Teratogenicity | No data available |

12. Ecological Information

| | |
|---------------------------------|---|
| Eco-toxicity | Components of this product have been identified as toxic with long lasting effects to the aquatic environmental. |
| Environmental effects | No data available. |
| Aquatic toxicity | |
| Octamethylcyclotetrasiloxane | LC50 Fish (Leuciscus idus): 200 mg/l 96 hour EC50 Water flea (Daphnia magna): > 0.015 mg/l 48 hour EC50 Green algae: 0.022 mg/l 48 hour |
| Persistence and Degradability | No data available |
| Bioaccumulation/accumulation | No data available. |
| Partition coefficient | No data available. |
| Mobility in environmental media | No data available. |
| Chemical fate information | No data available. |
| Other adverse effects | No data available. |

13. Disposal Considerations

| | |
|-------------------------------------|---|
| Disposal instructions | Dispose in accordance with local, state, and federal regulations |
| Wastes from residues/unused Product | Containerize. Rinse area with water. Keep out of storm sewer/waterways. |
| Contaminated packaging | Dispose in accordance with all applicable regulations. |

14. Transport Information

| | |
|------------------------------|-------------------|
| Basic shipping requirements: | Not DOT regulated |
| Proper shipping name | |
| Hazard class | |
| UN number | |
| Packing group | |
| Special provisions | |



15. Regulatory Information

| | | |
|--|--|-------------------------------|
| U.S federal regulations | This product has been classified in accordance with the Occupational Safety and Health Administration hazard criteria and the SDS contains all of the information required by OSHA HCS 2012. | |
| TSCA | All ingredients are listed on the Toxic Substances Control Act or are exempt from listing. | |
| CERCLA Super Fund 40CFR117.302 | Product contains a material with a Reportable Quantity (RQ): None | |
| SARA Title III Section 311&312 | Immediate (Acute) Health Hazard Octamethylcyclotetrasiloxane (CAS#556-67-2) | |
| SARA Title III Section 313 | Ingredients subject to the reporting requirements of Section 313: None | |
| California Proposition 65 | This product does not contain ingredients known to the State of California to cause cancer, birth defects or reproductive effects. | |
| States Right to Know | Reportable Chemicals: Octamethylcyclotetrasiloxane (CAS#556-67-2) | |
| Inventory Status | | |
| Countries | Inventory Name | On Inventory (Yes/No)* |
| U.S. | Chemical Inventory List | Yes |
| Canada | Domestic substances list | Yes |
| • A Yes indicates that all of the components of this product comply with the inventory requirements administered by the governing country(s) listed. | | |

16. Other Information

HMIS RATING

HMIS LEGEND

| | |
|----------|---|
| Severe | 4 |
| Serious | 3 |
| Moderate | 2 |
| Slight | 1 |
| Minimal | |

| | |
|---------------------|---|
| Health | 1 |
| Flammability | 0 |
| Reactivity | 0 |
| Personal Protection | B |

Disclaimer

To the best of our knowledge, the information included herein is accurate. However, neither the above named supplier nor any of its subsidiaries assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of the suitability of any material is the responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Issue date

May 3, 2015

Supersedes date

Previous issues.

Reason for update

Conform to GHS OSHA HCS 2012.

Expiration date

May 3, 2018



SAFETY DATA SHEET

1. Product and Company Identification

| | |
|-----------------------------------|--|
| Product Name | DEO REO 30 |
| Product Number | 3AR |
| Product Type | Mixture |
| Product Use | Deodorizer and odorant for carpets & upholstery |
| Manufacturer | CFR, A Division of Tacony Corporation 3101 Wichita Court Fort Worth, TX 76140-1710 |
| Company Contact | 1-800-533-2557 or website www.cfrcorp.com |
| Emergency Telephone Number | 1-800-270-5201 |

2. Hazards Identification

GHS Classification in accordance with 29CFR 1910 OSHA HCS

Specific target organ systemic toxicity, single exposure (Category 2) H371

GHS Label elements, including precautionary statements

| | |
|---|--|
| Pictogram | None required |
| Signal Word | Warning |
| Hazard Statements H371 | Inhalation or ingestion may cause respiratory irritation, or central nervous system depression. May also cause liver disorders. |
| Precautionary Statements Prevention P260 P264 P270 Response P308 | Do not breath fumes, vapors, mists or spray from product. Wash and rinse hands and exposed skin after handling concentrated product. Do not eat, drink, or smoke when using this product, If exposed, or concerned, call a POISON CENTER/doctor |
| Storage/Disposal P405 P501 | Store locked up. Dispose of contents/container in accordance with local, regional and federal regulations |

3. Composition/Information on Ingredients

The criteria for listing components in this section are: Ingredients that meet the criteria for carcinogenic, toxic to reproduction, or specific target organ toxicity and components otherwise considered hazardous according to OSHA which exceed the cut off limits for SDS specified by the criteria for mixtures are listed. Non hazardous components are not listed. This is not a composition disclosure. Exact percentages are considered proprietary and a trade secret.

| Hazardous Components | CAS# | Classification | % |
|-----------------------------|-------------|-----------------------|----------|
| Ethanol | 64-17-5 | H225, H371 | <0.3% |

4. First Aid Measures

Description of First Aid Procedures

| | |
|--------------------------------|--|
| In case of Eye Contact | Flush with cool running water for 15 minutes. If irritation persists, get medical attention. |
| In case of Skin Contact | Flush with cool water, Wash with soap and water. If irritation persists, get medical Attention. |
| If Inhaled | If symptoms develop, move to fresh air. If symptoms persist, get medical attention |
| If Ingested | Rinse mouth with water. Drink one or two glasses of water. Do not induce vomiting. Obtain medical attention. Never give anything by mouth to an unconscious person. |
| .Notes to Physician | Symptoms may be delayed. |
| General advice | Seek medical attention if feeling unwell. Show the SDS to the physician in attendance. |

5. Fire-fighting Measures

| | |
|--|---|
| Flammable properties | Not flammable |
| Extinguishing media | Treat for surrounding material. |
| Protection of firefighters | Firefighters should wear protective clothing including self contained breathing apparatus |
| Hazardous combustion products | May include and not limited to oxides of carbon, ammonia and hydrogen chloride. |
| Unusual Fire, Explosion hazards | None known. |

6. Accidental Release Measures

| | |
|----------------------------------|--|
| Personal precautions | Keep unnecessary personal away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled containers unless wearing protective Clothing. Stay upwind of spills or leaks. |
| Methods for containment | Stop leak if you can do so without risk. Prevent entry into waterways, sewers. |
| Methods for cleaning up | Before attempting clean up refer to hazard data given above. Small spills may be absorbed with non reactive absorbent and placed in suitable, covered, labeled containers. Prevent large spills from entering sewers or water ways. Dike spill. Absorb spill with non reactive absorbent and place in a suitable, covered, labeled container for disposal. Never return spill to original container for reuse. |
| Environmental Precautions | Avoid release to the environment. |

7. Handling and Storage

| | |
|--------------------------------------|--|
| Precautions for Safe Handling | Use good industrial hygiene practices when handling this material |
| Conditions for Safe Storage | Keep out of reach of children. Keep from freezing, store in a cool dry place away from incompatible materials. |

8. Exposure Controls and Personal Protection

| | | | |
|------------------------|---------------|-----------------|------------------|
| Exposure limits | | | |
| Ingredients | CAS-No | OSHA PEL | ACGIH TLV |
| Ethanol | 64-17-5 | Not available | TWA: 1000 ppm. |



Engineering controls

Personal protective equipment

Eye/Face protection

Hand protection

Skin and body

Respiratory protection

General hygiene considerations

General ventilation normally adequate

Wear safety glasses with side shields if splash conditions exist.

Rubber or nitrile gloves.

As required by employer code.

Use a NIOSH approved respirator when exposure guidelines are exceeded.

Handle in accordance with good industrial hygiene practices. Do not eat or drink when using product. Wash hands well before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance/form

Clear liquid

Color

Colorless

Odor

Fresh air

Odor threshold

Not established

pH

Not established

Melting point/freezing point

Not established

Initial Boiling point

> 212° F. (100° C.)

Flash point

> 200° F. (93° C.) Estimated.

Evaporation rate

Not established

Flammability

Not flammable

Upper/lower flammability or

Not established

Explosive limits

Vapor pressure

Not established

Vapor density

Not established

Specific gravity/density

0.96-1.01

Solubility in water

Complete

Partition coefficient:

Not established

Auto ignition temperature

Not established

Decomposition temperature

Not established

Stability and Reactivity

Stable and non reactive under normal use and storage conditions.

VOC

< 1%

% Volatile

Approx. 97%

Other safety Information

10. Stability and Reactivity

Reactivity

Not reactive under normal use and storage.

Chemical Stability

Stable under normal storage conditions.

Hazardous reactions

None known.

Conditions to avoid

Do not mix with other chemicals.

Incompatible materials

Strong acids and oxidizers.

Hazardous decomposition products

May include but not limited to oxides of carbon, ammonia, hydrogen chloride.

Hazardous polymerization

Will not occur.

11. Toxicological Information

Ingredients

Ethanol

LC50

31,623 ppm rat

Ingredients

Ethanol

LD50

7060 mg/kg (Oral-rat)

**Effects of acute exposure****Eye**

May cause eye irritation

Skin

May cause mild irritation.

Inhalation or Ingestion

May cause respiratory irritation, or central nervous system depression. May also cause liver disorders.

Sensitization

No data available.

Chronic effects of short and long term exposure

Prolonged exposure to skin may cause drying, defatting and irritation.

Carcinogenicity**Mutagenicity**

Does not contain ingredients considered carcinogenic by NTP, IARC, or OSHA. Mutagenic effects were observed in somatic and reproductive cells of live animals exposed to high doses of ethanol.

Reproductive effects

No data available.

Teratogenicity

Animal studies demonstrate that ingestion of ethanol can cause embryotoxicity, teratogenicity and fetotoxicity in the presence of maternal toxicity.

12. Ecological Information

Eco-toxicity

Components of this product have been identified as toxic with long lasting effects to the aquatic environmental.

Environmental effects

No data available.

Aquatic toxicity**Ethanol**

LC50 Fish (Oncorhynchus mykiss): 12.0-16.0 mg/l 96 hour static

LC50 Water flea (Daphnia magna): 10,800 mg/l 24 hour

LC50 Water flea (Daphnia magna): 9268 mg/l 28 hour

Persistence and Degradability

No data available

Bioaccumulation/accumulation

No data available.

Partition coefficient

No data available.

Mobility in environmental media

No data available.

Chemical fate information

No data available.

Other adverse effects

No data available.

13. Disposal Considerations

Disposal instructions

Dispose in accordance with local, state, and federal regulations

Wastes from residues/unused

Containerize. Rinse area with water. Keep out of storm sewer/waterways.

Product**Contaminated packaging**

Dispose in accordance with all applicable regulations.

14. Transport Information

Basic shipping requirements:

Not DOT regulated

Proper shipping name**Hazard class****UN number****Packing group****Special provisions**



15. Regulatory Information

| | | |
|--|---|-------------------------------|
| U.S federal regulations | This product has been classified in accordance with the Occupational Safety and Health Administration hazard criteria and the SDS contains all of the information required by OSHA HCS 2012. | |
| TSCA | All ingredients are listed on the Toxic Substances Control Act or are exempt from listing. | |
| CERCLA Super Fund 40CFR117.302 | Product contains a material with a Reportable Quantity (RQ): None | |
| SARA Title III Section 311&312 | Immediate (Acute) Health Hazard Ethanol (CAS#64-17-5) | |
| SARA Title III Section 313 | Ingredients subject to the reporting requirements of Section 313: None | |
| California Proposition 65 | This product does contain ingredients known to the State of California to cause cancer, birth defects or reproductive effects: Ethanol (CAS#64-17-5) and trace amounts of methanol (CAS#67-56-1). | |
| States Right to Know | Reportable Chemicals: Ethanol (CAS#64-17-5) | |
| Inventory Status | | |
| Countries | Inventory Name | On Inventory (Yes/No)* |
| U.S. | Chemical Inventory List | Yes |
| Canada | Domestic substances list | Yes |
| • A δYesö indicates that all of the components of this product comply with the inventory requirements administered by the governing country(s) listed. | | |

16. Other Information

HMIS RATING

HMIS LEGEND

| | |
|----------|---|
| Severe | 4 |
| Serious | 3 |
| Moderate | 2 |
| Slight | 1 |
| Minimal | |

| | |
|---------------------|---|
| Health | 1 |
| Flammability | 0 |
| Reactivity | 0 |
| Personal Protection | B |

Disclaimer

To the best of our knowledge, the information included herein is accurate. However, neither the above named supplier nor any of its subsidiaries assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of the suitability of any material is the responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Issue date

May 3, 2015

Supersedes date

Previous issues.

Reason for update

Conform to GHS OSHA HCS 2012.

Expiration date

May 3, 2018



Safety Data Sheet

Date Issued: 12/21/2016

SECTION 1: IDENTIFICATION OF THE PREPARATION AND THE COMPANY

PRODUCT NAME: Deodorant Urinal Screen
MANUFACTURER: Fresh Products, LLC, 30600 Oregon Rd. Perrysburg, Ohio 43551 USA
RECOMMENDED USE: Deodorizer
TELEPHONE: +1-419-531-9741
RESTRICTIONS ON USE: For intended use only
FAX: +1-419-531-8472
ITEM NUMBER: DS
EMERGENCY CONTACT (spill/release): 800-424-9300

Section 2: HAZARDS IDENTIFICATION

General: Contains small amounts of chemicals that are hazardous to health and the environment

but in quantities too small to constitute any practical risks to health or the environment.

Classification: **WARNING**

Acute Toxicity Oral 4

Skin Sensitization 1



Hazard Phrases:

Precautionary Phrases:

P301+310: If swallowed, call physician

H302: Harmful if swallowed.

P102: Keep out of reach of children.

P302+P352: If on skin, wash with plenty of water.

H317: May cause allergic skin reaction.

P264: Wash hands thoroughly after handling.

P332+P313: If rash occurs, seek medical attention.

P280: Wear suitable gloves.

P501: Dispose of contents to an approved waste disposal plant.

SECTION 3: INGREDIENT INFORMATION

Chemical Identification: Solid plastic slow-release deodorizing preparation in the form of a urinal air freshener/deodorizer. It is made from pigmented thermoplastic infused with a fragrance composition and color to represent the fragrance. For institutional use only.

Form/Shape: Urinal Screen weighs approximately 70g.

CAS Number: Not applicable since the product is a preparation.

INECS/ELINCS #: Not applicable since the product is a preparation.

The product is a complex mixture of substances of which the following have been classified as presenting a health or environmental hazard or as having an occupational exposure limit within the meaning of the Directive 67/548/EEC or 1999/45/EC

| Level 9%) | CAS NR | EC NR | Substance |
|-----------|------------|-------|-------------------------------------|
| 60-80% | 24937-78-8 | N/A | ETHYLENE-VINYL ACETATE COPOLYMER |
| 20-40% | N/A | N/A | FRAGRANCE |

SECTION 4: FIRST AID MEASURES

General: No specific acute effects or symptoms are known.

Inhalation: No acute effects expected. If person is feeling unwell, remove to fresh air.

Ingestion: Possibility of ingestion limited due to product form and difficulty to chew and ingest. In the event of ingestion, rinse mouth thoroughly with water.

Skin: Wash off with soap and water.

Eyes: Possibility of eye contact limited. In the event, wash thoroughly with water or approved eyewash.

SECTION 5: FIRE FIGHTING MEASURES

Extinguishing Media: Use extinguishing media appropriate for the surrounding fire. Water spray, fog or mist. Dry chemicals, sand etc.

Exposure Hazards: Thermal decomposition or burning may release a variety of products ranging from simple hydrocarbons to toxic/irritating gases including carbon monoxide and carbon dioxide. Full protective clothing should be worn before a confined fire space is entered. Self-contained breathing apparatus should be worn.

SECTION 6: ACCIDENTAL RELEASE MEASURES

No special requirements for accidental release required. Apply good housekeeping practices.

SECTION 7: HANDLING AND STORAGE

Usage Precautions: Follow normal good-housekeeping practices. Keep away from direct flames.

Storage Precautions: Keep in cool, dry conditions in original containers at no more than 30° C

SECTION 8: EXPOSURE CONTROL AND PERSONAL PROTECTION

Occupational Exposure limit: Not Established

Respiratory Protection: None required under normal usage

Protection: Although unexpected, avoid prolonged skin contact. Use chemically resistant gloves as needed.

Eye Protection: None required

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Thermoplastic infused with fragrance oil.

Flash pt: Not applicable.

Relative Density: Not determined

Odor: Various

Evaporation Rate: Not applicable.

Solubility in water: Insoluble.

Odor Threshold: Not determined

Flammability: Not determined/applicable

Partition Coefficient: Not determined

Color: Various

UEL: Not determined

Autignition Temperature: Not applicable

pH value: Not determined/applicable

LEL: Not determined

Decomposition Temperature:

Melting Pt: Estimated 60° C

Vapor Pressure: Not determined/applicable

Not determined/applicable

Boiling Pt: Not applicable.

Vapor Density: Not determined/applicable

SECTION 10: STABILITY AND REACTIVITY

Stability: Normally stable.

Conditions to avoid: Avoid extreme heat and naked flames.

Materials to avoid: Strong oxidizing agents.

Decomposition Products: None under normal storage conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Effects: Ingredients include a small quantity of volatile fragrance chemicals which

Chronic Effects: None are known.

may contain small amounts of substances that are harmful if swallowed and/or irritating to the eyes and skin.

Health Risks: INHALATION: Prolonged exposure to volatile ingredients is unlikely to cause irritation or other adverse health effects.

INGESTION: No practical risk of adverse health effects.

SKIN CONTACT: No practical risk of adverse health effects.

EYE CONTACT: No practical risk of adverse health effects.

SECTION 12: ECOLOGICAL INFORMATION

No specific information has been established regarding the product. However according to the conventional method of Directive 99/45/EC the product is classified as harmful to aquatic organisms, or causing long-term effects in the aquatic environment.

Ecotoxicity: N/A

Bioaccumulative Potential: N/A

Persistence and Degradability: N/A

Mobility in Soil: N/A

Other Adverse Effects: N/A

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of in accordance with Local Authority requirements e.g., for used product, as household waste

SECTION 14: TRANSPORT INFORMATION

Product is not regulated as hazardous

Transport Hazard Class: N/A

DOT Classifications: Non Hazardous

UN-Number: N/A

Packing group: N/A

UN Proper Shipping Name: N/A

Marine Pollutant: N/A

Special Precautions with Transport: N/A

SECTION 15: REGULATORY INFORMATION

Classification, Packaging and Labeling according to Directive 99/45/EC

Signal word:

Pictograms:

WARNING

Exclamation mark

Hazard Phrases:

Precautionary Phrases:

P301+310: If swallowed, call physician

H302: Harmful if swallowed.

P102: Keep out of reach of children.

P302+P352: If on skin, wash with plenty of water.

H317: May cause allergic skin reaction.

P264: Wash hands thoroughly after handling.

P332+P313: If rash occurs, seek medical attention.

P280: Wear suitable gloves.

P501: Dispose of contents to an approved waste disposal plant.

SECTION 16: OTHER INFORMATION

This Safety Data Sheet was prepared to comply with the current OSHA Hazard Communication Standard (HCS) adoption of the Globally Harmonized System of

Classification and Labeling of Chemicals (GHS)



Revision Number: 002.0

Issue Date: 06/08/2015

1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER**Product identifier used on the label:**

Dial® Antibacterial Liquid Hand Soap – Gold, Aloe, Spring Water, White Tea & Vitamin E, Pomegranate & Tangerine, Lavender & Twilight Jasmine
DMD Dial® Antibacterial Liquid Hand Soap – Gold
DMD Sweetheart Antibacterial Liquid Hand Soap
DMD Dial® for Sensitive Skin Antibacterial Liquid Hand Soap
DMD Dial® with Moisturizers + Vitamin E Antibacterial Liquid Hand Soap

Other means of identification:

1909024 (Gold, DMD Gold); 1909068 (Aloe); 1909466 (Spring Water, DMD Sweetheart); 1909527 (White Tea & Vit E); 1909556 (Pomegranate & Tangerine); 1909568 (Lavender & Twilight); 1911996 (DMD Sensitive Skin); 1912384 (DMD Moisturizers + Vit E)

Recommended use of the chemical and restrictions on use: Soap, liquid; No restrictions on use

Name, address and telephone number of the chemical manufacturer:

The Dial Corporation, a Henkel Company
7201 E. Henkel Way
Scottsdale, AZ 85255-9672 USA

CHEMTREC: 1-800-424-9300 (24 hours daily)
Internet: www.henkelna.com

Emergency telephone number: Medical Emergencies: 1-888-689-9082

2. HAZARD IDENTIFICATION

The hazards described in this OSHA Globally Harmonized System Safety Data Sheet (SDS) are not intended for consumers, and does not address consumer use of the product. For information regarding consumer applications of this product, refer to the product label.

Classification of the substance or mixture in accordance with paragraph (d) of §1910.1200

| HAZARD CLASS | HAZARD CATEGORY |
|----------------|-----------------|
| EYE IRRITATION | 2A |

Signal word, hazard statement(s), symbol(s) and precautionary statement(s) in accordance with paragraph (f) of §1910.1200

Signal word: WARNING

Hazard Statement(s): Causes serious eye irritation.



Symbol(s):

Precautionary Statements:

Prevention: Wash thoroughly after handling.
Wear eye and face protection.

Response: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing.

If eye irritation persists: Get medical attention.

Storage: Not prescribed

Disposal: Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Hazards not otherwise classified: Not available.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

The following chemicals are classified as health hazards in accordance with paragraph (d) of § 1910.1200.

| Chemical Name* | CAS Number (Unique Identifier) | Concentration |
|--|--------------------------------|---------------|
| Alkyltrimethylammonium chloride C16 | 112-02-7 | 1 – 5 % |
| Glycerol | 56-81-5 | 1 - 5 % |
| dodecyltrimethylamine oxide | 1643-20-5 | 1 - 5 % |
| N-[3-(dimethylamino)propyl] dodecanamide N-oxide | 61792-31-2 | 1 - 5 % |
| Benzethonium Chloride | 121-54-0 | 0.10 % |

*The specific chemical identity and/or exact percentage (concentration) of composition has been withheld because a trade secret is claimed in accordance with paragraph (i) of §1910.1200.

4. FIRST AID MEASURES

Description of necessary measures

Inhalation: First aid measures not required.
Skin contact: First aid measures not required. Cosmetic product and therefore not necessary.
Eye contact: Rinse eyes immediately with plenty of water, occasionally lifting upper and lower lids, until no evidence of product remains. Get medical attention if pain or irritation develops.
Ingestion: Dilution by rinsing the mouth and giving water or milk to drink is generally recommended. Contact physician or local poison control center.

Most important symptoms and effects, both acute and delayed

After eye contact: May cause moderate to severe irritation. After skin contact: Repeated or prolonged excessive exposure may cause irritation or dermatitis. After ingestion: Nausea and possible vomiting may occur. After inhalation: Unlikely to occur due to the physical properties of the product. At elevated temperatures, vapors or mists may cause irritation.

Indication of any immediate medical attention and special treatment needed

After eye contact: Rinse eyes with plenty of water until no evidence of product remains. After skin contact: Rinse affected area with large amounts of water until no evidence of product remains. After ingestion: Dilution by rinsing the mouth and giving a glass of water to drink is generally recommended. After inhalation: Remove from exposure area to fresh air.

5. FIRE FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Dry chemical, carbon dioxide, water spray or regular foam.

Unsuitable extinguishing media: None known

Specific hazards arising from the chemical

Irritating smoke, carbon monoxide, and carbon dioxide.

Special protective equipment and precautions for fire-fighters

In case of fire, wear a full-face positive-pressure self-contained breathing apparatus and protective suit. Shut off all ignition sources. Apply cooling water to sides of containers that are exposed to flames until well after fire is out. Isolate area. Keep unnecessary personnel away. Avoid breathing vapors, keep upwind.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Wear skin, eye and respiratory protection as recommended in Section 8. Stop leak if you can do it without risk. Spills present a slipping hazard. Keep unnecessary personnel away. Ventilate spill area if possible. Make sure area is slip-free before re-opening to traffic.

Environmental Precautions

Small or household quantities may be disposed in sewer or other liquid waste system. For larger quantities check with your local water disposal authorities.

Methods and materials for containment and cleaning up

SMALL SPILLS: Contain and absorb with sand or other absorbent material and place into clean, dry containers for later disposal. Wash site of spillage thoroughly with water. LARGE SPILLS: Dike far ahead of spill to prevent further movement. Recover by pumping or by using a suitable absorbent material and place into containers for later disposal. Dispose in suitable waste container.

7. HANDLING AND STORAGE

Precautions for safe handling

Do not get in eyes. Do not take internally. Use with adequate ventilation. Avoid generating aerosols and mists.

Conditions for safe storage, including any incompatibilities

| | |
|---|-------------|
| The Dial Corporation, a Henkel Company; 7201 E. Henkel Way; Scottsdale, AZ 85255-9672 | |
| Antibacterial Liquid Hand Soap | Page 2 of 5 |

Store in original containers in a cool dry area. Storage areas for large quantities (warehouse) should be well ventilated. Keep the containers tightly closed when not in use.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

OSHA permissible exposure limit (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available.

| Hazardous Component(s) | ACGIH | OSHA PEL | AIHA WEEL | OTHER |
|-------------------------------------|-------|--|-----------|-------|
| Alkyltrimethylammonium chloride C16 | None | None | None | None |
| Glycerol | None | 5 mg/m3 PEL Respirable fraction. 15 mg/m3 PEL Total dust. | None | None |
| dodecyldimethylamine oxide | None | None | None | None |

Appropriate engineering controls

Provide local exhaust or general dilution ventilation to keep exposure to airborne contaminants below the permissible exposure limits where mists or vapors may be generated.

Individual protection measures

Respiratory: Air contamination monitoring should be carried out where mists or vapors are likely to be generated, to assure that the employees are not exposed to airborne contaminants above the permissible exposure limits.

Eye: Splash-proof safety glasses are required to prevent eye contact where splashing of product may occur.

Hand/Body: Protective gloves are required where repeated or prolonged skin contact may occur.
Protective clothing is required where repeated or prolonged skin contact may occur.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|-------------------------|
| Appearance: | liquid, colored |
| Odor: | distinct |
| Odor threshold: | Not available |
| pH: | 4.30 – 5.30 (25 °C) |
| Melting point/ range: | Not available. |
| Boiling point/range: | Not available. |
| Flash point: | > 93.3 °C (> 199.94 °F) |
| Evaporation rate: | Not available. |
| Flammable/Explosive limits - lower: | Not available. |
| Flammable/Explosive limits - upper: | Not available. |
| Vapor pressure: | Not available. |
| Vapor density: | Not available. |
| Solubility in water: | Not available. |
| Partition coefficient (n-octanol/water): | Not available. |
| Autoignition temperature: | Not available. |
| Decomposition temperature: | Not available. |
| Viscosity: | 3,000 - 8,000 mPa.s |
| VOC content: | Not available. |
| Specific gravity: | 1.0160 at 20 °C (68°F) |

10. STABILITY AND REACTIVITY

Reactivity: This product may react with strong alkalis.

Chemical stability: Stable under normal ambient temperature (70°F, 21°C) and pressure (1 atm).

Possibility of hazardous reactions: Hazardous polymerization has not been reported to occur under normal temperatures and pressures.

Conditions to avoid: Avoid storing in direct sunlight and avoid extremes of temperature.

Incompatible materials: Strong oxidizers and alkalis.

Hazardous decomposition products: Thermal decomposition may release toxic and/or hazardous gases, including ammonia.

11. TOXICOLOGICAL INFORMATION

Likely routes of exposure including symptoms related to characteristics

Inhalation: Unlikely to occur due to the physical properties of the product. At elevated temperatures, vapors or mists may cause irritation.

Skin contact: Not a hazard under normal use conditions.

| | |
|---|-------------|
| The Dial Corporation, a Henkel Company; 7201 E. Henkel Way; Scottsdale, AZ 85255-9672 | |
| Antibacterial Liquid Hand Soap | Page 3 of 5 |

Eye contact: May cause moderate to severe irritation.
Ingestion: May cause mild gastrointestinal irritation with nausea, vomiting, diarrhea and abdominal pain.
Physical/Chemical: No physical/chemical hazards are anticipated for this product.

Other relevant toxicity information:

This product is a personal care or cosmetic product. The use of this product by consumers is safe under normal and reasonable foreseen use.

Numerical measures of toxicity, including delayed and immediate effect

| Hazardous Component(s) | LD50s and LC50s | Immediate and Delayed Health Effects |
|--|-----------------|--|
| Alkyltrimethylammonium chloride C16 | None | No Data |
| Glycerol | None | Blood, Irritant, Kidney, Nuisance dust |
| dodecyldimethylamine oxide | None | Irritant |
| N-[3-(dimethylamino)propyl] dodecanamide N-oxide | None | No Data |
| Benzethonium Chloride | None | No Data |

Carcinogenicity information

| Hazardous Component(s) | NTP Carcinogen | IARC Carcinogen | OSHA Carcinogen |
|--|----------------|-----------------|-----------------|
| Alkyltrimethylammonium chloride C16 | No | No | No |
| Glycerol | No | No | No |
| dodecyldimethylamine oxide | No | No | No |
| N-[3-(dimethylamino)propyl] dodecanamide N-oxide | No | No | No |
| Benzethonium Chloride | No | No | No |

Carcinogenicity None of the ingredients in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the Occupational Safety and Health Administration (OSHA).
Mutagenicity None of the ingredients in this product are known to cause mutagenicity.
Toxicity to reproduction None of the ingredients in this product are known to have reproductive, fetal, or developmental hazards.

12. ECOLOGICAL INFORMATION

Aquatic Toxicity:

This product is anticipated to be safe for the environment at concentrations predicted in household settings under normal use conditions. The following toxicity information is available for the hazardous ingredient(s) when used as technical grade and is provided as reference for the occupational settings.

Toxicity to fish:

The aquatic toxicity profile of this product has not been determined.

Toxicity to aquatic invertebrates:

The aquatic toxicity profile of this product has not been determined.

Toxicity to algae:

The aquatic toxicity profile of this product has not been determined.

Persistence and Degradability: The persistence and degradability of this product has not been determined. The hazardous ingredients are readily biodegradable.

| Hazardous substances | Result value | Route of application | Species | Method |
|-------------------------------------|-----------------------|----------------------|-----------|---------------------------------|
| Alkyltrimethylammonium chloride C16 | Readily biodegradable | NA | 95 % | OECD 301 B (CO2 evolution) |
| Glycerol | Readily biodegradable | aerobic | 90 – 94 % | EU Method C.4-E (closed bottle) |
| Dodecyldimethylamine oxide | Readily biodegradable | No data | 99 % | OECD 301 B (CO2 evolution) |

Bioaccumulation Potential: The bioaccumulation potential of this product has not been determined.

Mobility: The mobility of this product (in soil and water) has not been determined.

13. DISPOSAL CONSIDERATIONS

Waste Number and Description: Not applicable, not regulated.

Disposal Considerations:

Disposal of products: This product is not a RCRA hazardous waste and can be disposed of in accordance with federal, state and local regulations.
Disposal of packages: Place in trash.

Additional information: Observe all federal, state and local regulations when storing or disposing of this substance

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

| | |
|---|-------------|
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| Antibacterial Liquid Hand Soap | Page 4 of 5 |

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

International Air Transportation (ICAO/IATA)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

Water Transportation (IMO/IMDG)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None
Marine pollutant: None

15. REGULATORY INFORMATION

Occupational Safety and Health Act: Hazard Communication Standard, 29 CFR 1910.1200(g) Appendix D: The Occupational Safety and Health Administration (OSHA) require that the Safety Data Sheets (SDSs) are readily accessible to employees for all hazardous chemicals in the workplace. Since the use pattern and exposure in the workplace are generally not consistent with those experienced by consumers, this SDS may contain health hazard information not relevant to consumer use.

United States Regulatory Information:

| | |
|---|---|
| TSCA 8 (b) Inventory Status: | All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory. |
| TSCA 12 (b) Export Notification: | None above reporting de minimis |
| CERCLA/SARA Section 302: | None above reporting de minimis |
| CERCLA/SARA Section 311/312: | Not available. |
| CERCLA/SARA Section 313: | None above reporting de minimis |
| California Proposition 65: | No California Proposition 65 listed chemicals are known to be present. |

Canada Regulatory Information:

CEPA DSL/NDL Status: One or more components are not listed on, and are not exempt from listing on either the Domestic Substances List or the Non-Domestic Substances List.

16. OTHER INFORMATION

DISCLAIMER: The data contained herein are furnished for information only and are believed to be reliable. However, Henkel Corporation and its affiliates ("Henkel") does not assume responsibility for any results obtained by persons over whose methods Henkel has no control. It is the user's responsibility to determine the suitability of Henkel's products or any production methods mentioned herein for a particular purpose, and to adopt such precautions as may be advisable for the protection of property and persons against any hazards that may be involved in the handling and use of any Henkel's products. In light of the foregoing, Henkel specifically disclaims all warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, arising from sale or use of Henkel's products. Henkel further disclaims any liability for consequential or incidental damages of any kind, including lost profits.

This safety data sheet contains changes from the previous version in sections: 3, 11

Prepared by: R&D Support Services

Issue date: 06/08/2015

Supersedes: Rev. 1, 04/20/2015

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: # 2 Diesel ULS

Synonyms: #2 Diesel ULS, #2 Diesel ULS with Biodiesel, #2 Diesel Dyed ULS, #2 Diesel Dyed ULS with Biodiesel

1.2. Intended Use of the Product No additional information available.

1.3. Name, Address, and Telephone of the Responsible Party

Company

Countrymark Refining and Logistics, LLC

1200 Refinery Road

Mt. Vernon, Indiana 47620

(812) 838-8165

CountryMark.com

1.4. Emergency Telephone Number

Emergency Number : Countrymark: (812) 838-8165 (CHEMTREC) (800) 424-9300

*This product is purchased/distributed by Countrymark. Countrymark does not manufacture this product.

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Flam. Liq. 3 H226

Acute Tox. 4 (Inhalation:dust,mist) H332

Skin Irrit. 2 H315

Carc. 2* H351

STOT RE 2 H373

Asp. Tox. 1 H304

Aquatic Acute 3 H402

Aquatic Chronic 2 H411

Full text of H-phrases: see section 16

* No. 2 diesel fuels are a confirmed animal carcinogen via dermal exposure, however there is unknown relevance in humans.

Diesel particulate matter (DPM) is an IARC class 1 known human carcinogen.

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



Signal Word (GHS-US)

: Danger

Hazard Statements (GHS-US)

: H226 - Flammable liquid and vapor.
H304 - May be fatal if swallowed and enters airways.
H315 - Causes skin irritation.
H332 - Harmful if inhaled.
H351 - Suspected of causing cancer.
H373 - May cause damage to organs through prolonged or repeated exposure.
H402 - Harmful to aquatic life.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary Statements (GHS-US)

: P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from extremely high or low temperatures, ignition sources, and incompatible materials. - No smoking.
P233 - Keep container tightly closed.
P240 - Ground/bond container and receiving equipment.
P241 - Use explosion-proof electrical, ventilating, and lighting equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P260 - Do not breathe vapors, mist, or spray.

2 Diesel ULS

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

P261 - Avoid breathing vapors, mist, or spray.
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, and eye protection.
P301+P310 - If swallowed: Immediately call a poison center or doctor.
P302+P352 - If on skin: Wash with plenty of water.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - If inhaled: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P312 - Call a poison center or doctor if you feel unwell.
P314 - Get medical advice/attention if you feel unwell.
P321 - Specific treatment (see section 4 on this SDS).
P331 - Do NOT induce vomiting.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P362 - Take off contaminated clothing and wash it before reuse.
P370+P378 - In case of fire: Use appropriate media (see section 5) to extinguish.
P391 - Collect spillage.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

Exposure may aggravate individuals with pre-existing eye, skin, respiratory, kidney, liver, and pulmonary disorders. Flammable vapors can accumulate in head space of closed systems. Diesel Particulate Matter (DPM) is a component of diesel exhaust both of which can cause headache, dizziness, and irritation to the eyes, nose, and throat. Prolonged exposure to DPM and diesel exhaust can also increase the risk of respiratory, cardiopulmonary, and lung cancer. Contains a trace amount of sulfur (< .0015%), may release small amounts of hydrogen sulfide. Hydrogen sulfide is a highly flammable, explosive gas under certain conditions, is a toxic gas, and may be fatal. Gas can accumulate in the headspace of closed containers, use caution when opening sealed containers. Heating the product or containers can cause thermal decomposition of the product and release hydrogen sulfide. #2 DIESEL ULS is a petroleum distillate designed to meet specifications set up in the United States by the American Society for Testing and Materials (ASTM D 396 & D 975). This material contains some hydrocarbons produced by the distillation of products from a catalytic cracking unit and is predominantly a complex mixture of hydrocarbons that includes normal and branched alkanes, cycloalkanes, alkenes, and aromatics type hydrocarbons.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

| Name | Product Identifier | % | Classification (GHS-US) |
|---------------------------|---------------------|----------|--|
| Fuels, diesel, no. 2 | (CAS No) 68476-34-6 | 80 - 100 | Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315 Carc. 2, H351* STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 3, H402 Aquatic Chronic 2, H411 |
| Soybean oil, methyl ester | (CAS No) 67784-80-9 | 0 - 20 | Not classified |

Full text of H-phrases: see section 16

* No. 2 diesel fuels are a confirmed animal carcinogen via dermal exposure, however there is unknown relevance in humans. Diesel particulate matter (DPM) is an IARC class 1 known human carcinogen.

2 Diesel ULS

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

First-aid Measures After Inhalation: Remove individual to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped, give artificial respiration. Keep person warm, quiet, and get medical attention.

First-aid Measures After Skin Contact: Thoroughly wash exposed area with soap and water. Remove contaminated clothing. Launder contaminated clothing before wearing. If skin irritation occurs: Get medical advice/attention.

First-aid Measures After Eye Contact: Flush with large amounts of water, lifting upper and lower lids occasionally. Remove contact lenses, if present and easy to do. Get medical attention.

First-aid Measures After Ingestion: DO NOT INDUCE VOMITING. Do not give liquids. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Keep person warm, quiet and get medical attention. Aspiration of material into the lungs due to vomiting can cause chemical pneumonia which can be fatal.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/Injuries: Harmful if inhaled. Causes skin irritation. Suspected of causing cancer*. Causes damage to organs through prolonged or repeated exposure. May cause drowsiness and dizziness. May be fatal if swallowed and enters airways.

Symptoms/Injuries After Inhalation: Harmful if inhaled. May cause drowsiness or dizziness. May cause respiratory irritation.

WARNING: The burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

Symptoms/Injuries After Skin Contact: Causes skin irritation.

Symptoms/Injuries After Eye Contact: May cause eye irritation.

Symptoms/Injuries After Ingestion: May be fatal if swallowed and enters airways. Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: Suspected of causing cancer*. Causes damage to organs through prolonged or repeated exposure. Prolonged exposure may cause effects in specific organs such as the liver, kidneys, blood, and nervous system.

* No. 2 diesel fuels are a confirmed animal carcinogen via dermal exposure, however there is unknown relevance in humans. Diesel particulate matter (DPM) is an IARC class 1 known human carcinogen.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Water spray, dry chemical, foam, carbon dioxide (CO₂)

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Flammable liquid and vapor.

Explosion Hazard: May form flammable/explosive vapor-air mixture.

Reactivity: Reacts with strong oxidants causing fire and explosion hazard.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. Extinguish/cool from behind cover/unmanned monitors. Do not breathe fumes from fires or vapors from decomposition. Do not allow run-off from firefighting to enter drains or water courses.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Other Information: Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Use special care to avoid static electric charges. Keep away from heat, sparks, open flames, hot surfaces. No smoking. Use only outdoors or in a well-ventilated area. Do NOT breathe (dust, vapor, mist, gas). Do not allow product to spread into the environment. Have written confined space and tank entry procedures. Never allow tank entry without checking OXYGEN AND VAPOR levels. Use safety harness and safety line on person entering a tank. Stand-by person required with protective equipment available.

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

2 Diesel ULS

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

6.1.2. For Emergency Responders

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Ventilate area. Eliminate ignition sources. Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Use only non-sparking tools. Ventilate area. Absorb and/or contain spill with inert material, then place in suitable container. Do not take up in combustible material such as: saw dust or cellulosic material. If spilled directly onto the ground, remove sufficient soil to ensure material is fully recovered. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection. Concerning disposal elimination after cleaning, see item 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Handle empty containers with care because residual vapors are flammable. When heated to decomposition, emits toxic fumes. Diesel Particulate Matter (DPM) is a component of diesel exhaust both of which can cause headache, dizziness, and irritation to the eyes, nose, and throat. Prolonged exposure to DPM and diesel exhaust can also increase the risk of respiratory, cardiopulmonary, and lung cancer. Flammable vapors may accumulate in the head space of closed systems. Container may remain hazardous when empty. Have written confined space and tank entry procedures. Never allow tank entry without checking OXYGEN AND VAPOR levels. Use safety harness and safety line on person entering a tank. Stand-by person required with protective equipment available.

Precautions for Safe Handling: Use only outdoors or in a well-ventilated area. Do not handle until all safety precautions have been read and understood. Take precautionary measures against static discharge. Motors, fans, switches, and etc. in area of use or dispensing should be explosion proof. Ground containers when filling. Prevent all static and electric sparks. Use only non-sparking tools. Keep away from heat, sparks, open flames, hot surfaces. No smoking. Do not breathe vapors, mist, spray. Use appropriate personal protection equipment (PPE).

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Wash hands and forearms thoroughly after handling. Do not eat, drink or smoke when using this product.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical, ventilating, and lighting equipment.

Storage Conditions: Keep containers in upright position. Store in a dry, cool and well-ventilated place. Keep cool. Keep/Store away from extremely high or low temperatures, ignition sources, direct sunlight, and incompatible materials. Keep in fireproof place. Store locked up.

Incompatible Products: Strong acids. Strong bases. Strong oxidizers. Chlorine. Permanganates. Dichromates.

Special Rules on Packaging: Gas can accumulate in the headspace of closed containers, use caution when opening sealed containers. Heating the product or containers can cause thermal decomposition of the product and release hydrogen sulfide.

7.3. Specific End Use(s) No additional information available

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), or OSHA (PEL).

| Fuels, diesel, no. 2 (68476-34-6) | | |
|-----------------------------------|--------------------------------|--|
| USA ACGIH | ACGIH TWA (mg/m ³) | 100 mg/m ³ (inhalable fraction and vapor) |
| USA ACGIH | ACGIH chemical category | Skin - potential significant contribution to overall exposure by the cutaneous route, Confirmed Animal Carcinogen with Unknown Relevance to Humans |

2 Diesel ULS

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

8.2. Exposure Controls

Appropriate Engineering Controls

: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof equipment. Ensure adequate ventilation, especially in confined areas. Gas detectors should be used when flammable gases/vapors may be released. Gas detectors should be used when toxic gases may be released. Ensure all national/local regulations are observed.

Personal Protective Equipment

: Protective goggles. Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing

: Chemically and fire/flame resistant/retardant materials and fabrics.

Hand Protection

: Wear chemically resistant protective gloves such as neoprene or nitrile.

Eye Protection

: No special eye protection is normally required. Where splashing is possible, wear safety glasses with sideshields.

Skin and Body Protection

: Wear suitable protective clothing.

Respiratory Protection

: Use NIOSH-approved air-purifying or supplied-air respirator where airborne concentrations of vapor or mist are expected to exceed exposure limits.

Thermal Hazard Protection

: When working with hot material, use suitable thermally protective clothing.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State

: Liquid

Appearance

: Clear to light yellow colored mobile liquid. #2 Diesel Dyed ULS is a dyed product. It's appearance is clear and red colored mobile liquid (Red dye added containing Solvent Red 164 at a concentration spectrally equivalent to a minimum of 3.9 PTB of solid dye standard solvent Red 26).

Odor

: Characteristic petroleum odor.

Odor Threshold

: No data available

pH

: No data available

Evaporation Rate

: Slower than Ether

Melting Point

: No data available

Freezing Point

: No data available

Boiling Point

: 325 - 700 °F (162.78 - 371.11 °C)

Flash Point

: > 125 °F (> 51.67 °C)

Auto-ignition Temperature

: No data available

Decomposition Temperature

: No data available

Flammability (solid, gas)

: No data available

Vapor Pressure @ 60°F

: < 10 mm Hg

Relative Vapor Density

: 4 - 6 (AIR = 1)

Relative Density

: No data available

Specific Gravity

: 0.78 - 0.88 (water=1)

Solubility

: Insoluble in water.

Partition Coefficient: N-Octanol/Water

: No data available

Viscosity

: No data available

Lower Flammable Limit

: 0.6 %

Upper Flammable Limit

: 8 %

Explosive Limits

: Lower to 1.0%

9.2. Other Information

VOC content

: 80 - 100 %

2 Diesel ULS

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Reacts with strong oxidants causing fire and explosion hazard.
- 10.2. Chemical Stability:** Flammable liquid and vapor. May form flammable/explosive vapor-air mixture.
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid:** Direct sunlight. Extremely high or low temperatures. Heat. Sparks. Open flame. Incompatible materials.
- 10.5. Incompatible Materials:** Strong acids, strong bases, strong oxidizers. Chlorine. Permanganates. Chromates.
- 10.6. Hazardous Decomposition Products:** May form toxic materials of carbon dioxide, carbon monoxide, and various hydrocarbons as combustion by-products.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity: Inhalation:dust,mist: Harmful if inhaled.

| | |
|-----------------------------------|-------------------|
| # 2 Diesel ULS | |
| ATE (Dust/Mist) | 3.60 mg/l/4h |
| Fuels, diesel, no. 2 (68476-34-6) | |
| LD50 Oral Rat | 18.7 - 24.9 ml/kg |
| LD50 Dermal Rabbit | > 4300 mg/kg |
| ATE (Dust/Mist) | 3.60 mg/l/4h |

Skin Corrosion/Irritation: Causes skin irritation.

Serious Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Suspected of causing cancer.*

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Specific Target Organ Toxicity (Repeated Exposure): May cause damage to organs through prolonged or repeated exposure.

Aspiration Hazard: May be fatal if swallowed and enters airways.

Symptoms/Injuries After Inhalation: Harmful if inhaled. May cause drowsiness or dizziness. May cause respiratory irritation.

WARNING: The burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

Symptoms/Injuries After Skin Contact: Causes skin irritation.

Symptoms/Injuries After Eye Contact: May cause eye irritation.

Symptoms/Injuries After Ingestion: May be fatal if swallowed and enters airways. Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: Suspected of causing cancer*. Causes damage to organs through prolonged or repeated exposure. Prolonged exposure may cause effects in specific organs such as the liver, kidneys, blood, and nervous system.

* No. 2 diesel fuels are a confirmed animal carcinogen via dermal exposure, however there is unknown relevance in humans.

Diesel particulate matter (DPM) is an IARC class 1 known human carcinogen.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General : Harmful to aquatic life. Toxic to aquatic life with long lasting effects.

| | |
|-----------------------------------|---|
| Fuels, diesel, no. 2 (68476-34-6) | |
| LC50 Fish 1 | 57 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |

12.2. Persistence and Degradability

| | |
|-------------------------------|---|
| # 2 Diesel ULS | |
| Persistence and Degradability | May cause long-term adverse effects in the environment. |

12.3. Bioaccumulative Potential

| | |
|---------------------------|------------------|
| # 2 Diesel ULS | |
| Bioaccumulative Potential | Not established. |

12.4. Mobility in Soil No additional information available

2 Diesel ULS

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

12.5. Other Adverse Effects

Other Information

: Avoid release to the environment. Middle distillates are potentially toxic to freshwater and saltwater ecosystems. Distillate fuels will normally float on water. In stagnant or slow-flowing waterways, a hydrocarbon layer can cover a large surface area. As a result, this oil layer can limit or eliminate natural atmospheric oxygen transport into the water. With time, if not removed, oxygen depletion in the waterway can cause a fish kill or create an anaerobic environment. Also, this coating action can also kill plankton, algae, and water birds.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.

Additional Information: Handle empty containers with care because residual vapors are flammable. Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

Ecology – Waste Materials: This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT

Proper Shipping Name : DIESEL FUEL
Hazard Class : 3
Identification Number : UN1202
Label Codes : 3
Packing Group : III
Marine Pollutant : Marine pollutant
ERG Number : 128



14.2. In Accordance with IMDG

Proper Shipping Name : DIESEL FUEL
Hazard Class : 3
Identification Number : UN1202
Packing Group : III
Label Codes : 3
EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-E
Marine Pollutant : Marine pollutant



14.3. In Accordance with IATA

Proper Shipping Name : DIESEL FUEL
Packing Group : III
Identification Number : UN1202
Hazard Class : 3
Label Codes : 3
ERG Code (IATA) : 3L



SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

| | |
|---|---|
| # 2 Diesel ULS | |
| SARA Section 311/312 Hazard Classes | Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard |
| Soybean oil, methyl ester (67784-80-9) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Fuels, diesel, no. 2 (68476-34-6) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |

2 Diesel ULS

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

15.2 US State Regulations Neither this product nor its chemical components appear on any US state lists.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 07/06/2015
Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200. This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

| | |
|-------------------------------------|---|
| Acute Tox. 4 (Inhalation:dust,mist) | Acute toxicity (inhalation:dust,mist) Category 4 |
| Aquatic Acute 3 | Hazardous to the aquatic environment - Acute Hazard Category 3 |
| Aquatic Chronic 2 | Hazardous to the aquatic environment - Chronic Hazard Category 2 |
| Asp. Tox. 1 | Aspiration hazard Category 1 |
| Carc. 2 | Carcinogenicity Category 2 |
| Flam. Liq. 3 | Flammable liquids Category 3 |
| Skin Irrit. 2 | Skin corrosion/irritation Category 2 |
| STOT RE 2 | Specific target organ toxicity (repeated exposure) Category 2 |
| H226 | Flammable liquid and vapor |
| H304 | May be fatal if swallowed and enters airways |
| H315 | Causes skin irritation |
| H332 | Harmful if inhaled |
| H351 | Suspected of causing cancer |
| H373 | May cause damage to organs through prolonged or repeated exposure |
| H402 | Harmful to aquatic life |
| H411 | Toxic to aquatic life with long lasting effects |

NFPA Health Hazard

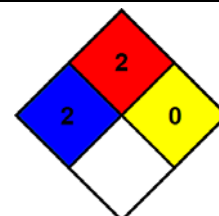
: 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA Fire Hazard

: 2 - Must be moderately heated or exposed to relatively high temperature before ignition can occur.

NFPA Reactivity

: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health

: 2 Moderate Hazard - Temporary or minor injury may occur

Flammability

: 2 Moderate Hazard

Physical

: 0 Minimal Hazard

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)



SAFETY DATA SHEET

1. Identification

Product number 1000007011
Product identifier **DISINFECTANT SPRAY FOR HEALTH CARE USE**
Company information Claire Manufacturing Co.
1005 S. Westgate Drive
Addison, IL 60101 United States
Company phone General Assistance 1-630-543-7600
Emergency telephone US 1-866-836-8855
Emergency telephone outside US 1-952-852-4646
Version # 01
Recommended use Not available.
Recommended restrictions None known.

2. Hazard(s) identification

Physical hazards Flammable aerosols Category 1
Health hazards Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2
Environmental hazards Hazardous to the aquatic environment, acute hazard Category 3
Hazardous to the aquatic environment, long-term hazard Category 3
OSHA defined hazards Not classified.

Label elements



Signal word Danger
Hazard statement Extremely flammable aerosol. Causes serious eye irritation.

Precautionary statement

Prevention

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Wash thoroughly after handling. Avoid release to the environment. Wear eye/face protection.

Response

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Storage

Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

| Chemical name | Common name and synonyms | CAS number | % |
|---------------|--------------------------|------------|----------|
| Ethyl Alcohol | | 64-17-5 | 40 - 60 |
| Butane | | 106-97-8 | 10 - 20 |
| Propane | | 74-98-6 | 2.5 - 10 |

| Chemical name | Common name and synonyms | CAS number | % |
|--|--------------------------|------------|---------|
| o-Phenylphenol | | 90-43-7 | 0.1 - 1 |
| Other components below reportable levels | | | 20 - 40 |

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

| | |
|---|--|
| Inhalation | Move to fresh air. Call a physician if symptoms develop or persist. |
| Skin contact | Wash with plenty of soap and water. Get medical attention if irritation develops and persists. |
| Eye contact | Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. |
| Ingestion | In the unlikely event of swallowing contact a physician or poison control center. Rinse mouth thoroughly. |
| Most important symptoms/effects, acute and delayed | Headache. Irritation of nose and throat. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Coughing. Skin irritation. |
| Indication of immediate medical attention and special treatment needed | Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed. |
| General information | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |

5. Fire-fighting measures

| | |
|--|---|
| Suitable extinguishing media | Alcohol resistant foam. Water spray. Water fog. Dry chemical powder. Dry chemicals. Carbon dioxide (CO2). |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | Contents under pressure. Pressurized container may explode when exposed to heat or flame. During fire, gases hazardous to health may be formed. |
| Special protective equipment and precautions for firefighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| Fire-fighting equipment/instructions | Move containers from fire area if you can do so without risk. Cool containers exposed to heat with water spray and remove container, if no risk is involved. Containers should be cooled with water to prevent vapor pressure build up. |
| General fire hazards | Extremely flammable aerosol. |

6. Accidental release measures

| | |
|--|--|
| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. |
| Methods and materials for containment and cleaning up | Refer to attached safety data sheets and/or instructions for use. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Scoop up used absorbent into drums or other appropriate container. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. |
| Environmental precautions | Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Avoid discharge into drains, water courses or onto the ground. |

7. Handling and storage

Precautions for safe handling

Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Do not re-use empty containers. Do not handle or store near an open flame, heat or other sources of ignition. Avoid contact with eyes. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Level 2 Aerosol.

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. This material can accumulate static charge which may cause spark and become an ignition source. Do not handle or store near an open flame, heat or other sources of ignition. Store in original tightly closed container. Refrigeration recommended. Store away from incompatible materials (see Section 10 of the SDS). Level 2 Aerosol.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| Components | Type | Value |
|-----------------------------|------|------------------------|
| Ethyl Alcohol (CAS 64-17-5) | PEL | 1900 mg/m3 1000 ppm |
| Propane (CAS 74-98-6) | PEL | 1800 mg/m3 1000 ppm |

US. ACGIH Threshold Limit Values

| Components | Type | Value |
|-----------------------------|------|----------|
| Butane (CAS 106-97-8) | STEL | 1000 ppm |
| Ethyl Alcohol (CAS 64-17-5) | STEL | 1000 ppm |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value |
|-----------------------------|------|------------------------|
| Butane (CAS 106-97-8) | TWA | 1900 mg/m3 800 ppm |
| Ethyl Alcohol (CAS 64-17-5) | TWA | 1900 mg/m3 1000 ppm |
| Propane (CAS 74-98-6) | TWA | 1800 mg/m3 1000 ppm |

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Individual protection measures, such as personal protective equipment

| | |
|-------------------------------|---|
| Eye/face protection | Wear safety glasses with side shields (or goggles). |
| Hand protection | Wear appropriate chemical resistant gloves. |
| Skin protection | |
| Other | Wear suitable protective clothing. |
| Respiratory protection | If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator. |
| Thermal hazards | Wear appropriate thermal protective clothing, when necessary. |

General hygiene considerations

When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

| | |
|---|--|
| Physical state | Gas. |
| Form | Aerosol. |
| Color | Not available. |
| Odor | Not available. |
| Odor threshold | Not available. |
| pH | Not available. |
| Melting point/freezing point | Not available. |
| Initial boiling point and boiling range | 140.71 °F (60.39 °C) estimated |
| Flash point | -156.0 °F (-104.4 °C) Propellant estimated |
| Evaporation rate | Not available. |
| Flammability (solid, gas) | Not available. |

Upper/lower flammability or explosive limits

| | |
|---|-----------------------------|
| Flammability limit - lower (%) | 2.6 % estimated |
| Flammability limit - upper (%) | 12.8 % estimated |
| Explosive limit - lower (%) | Not available. |
| Explosive limit - upper (%) | Not available. |
| Vapor pressure | 75 - 85 psig @70F estimated |
| Vapor density | Not available. |
| Relative density | Not available. |
| Solubility(ies) | |
| Solubility (water) | Not available. |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | 856.4 °F (458 °C) estimated |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |
| Other information | |
| Specific gravity | 0.79 estimated |

10. Stability and reactivity

| | |
|------------------------------------|---|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | Hazardous polymerization does not occur. |
| Conditions to avoid | Avoid temperatures exceeding the flash point. Contact with incompatible materials. |
| Incompatible materials | Strong oxidizing agents. Nitrates. Fluorine. Chlorine. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information

Information on likely routes of exposure

| | |
|--------------|--|
| Ingestion | Expected to be a low ingestion hazard. |
| Inhalation | No adverse effects due to inhalation are expected. |
| Skin contact | No adverse effects due to skin contact are expected. |
| Eye contact | Causes serious eye irritation. |

Symptoms related to the physical, chemical and toxicological characteristics

Headache. Irritation of nose and throat. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Coughing. Skin irritation.

Information on toxicological effects

Acute toxicity

Expected to be a low hazard for usual industrial or commercial handling by trained personnel.

| Components | Species | Test Results |
|------------------------------|---------|--|
| Butane (CAS 106-97-8) | | |
| Acute | | |
| Inhalation | | |
| LC50 | Mouse | 1237 mg/l, 120 Minutes |
| | | 52 %, 120 Minutes |
| | Rat | 1355 mg/l |
| Ethyl Alcohol (CAS 64-17-5) | | |
| Acute | | |
| Inhalation | | |
| LC50 | Cat | 85.41 mg/l, 4.5 Hours |
| | | 43.68 mg/l, 6 Hours |
| | Mouse | > 60000 ppm |
| | | 79.43 mg/l, 134 Minutes |
| | Rat | > 115.9 mg/l, 4 Hours |
| | | 51.3 mg/l, 6 Hours |
| Oral | | |
| LD50 | Monkey | 6000 mg/kg |
| | Mouse | 10500 ml/kg |
| | Rat | 1187 - 2769 mg/kg |
| | | 7800 ml/kg |
| o-Phenylphenol (CAS 90-43-7) | | |
| Acute | | |
| Dermal | | |
| LD50 | Rabbit | > 5000 mg/kg, 24 Hours |
| | Rat | > 2000 mg/kg, 24 Hours |
| Inhalation | | |
| LC50 | Rat | > 949 mg/m3, If <1L: Consumer Commodity Hours |
| | | > 36 mg/m3, 4 Hours |
| Oral | | |
| LD50 | Rat | > 2500 mg/kg |
| Propane (CAS 74-98-6) | | |
| Acute | | |
| Inhalation | | |
| LC50 | Mouse | 1237 mg/l, 120 Minutes |
| | | 52 %, 120 Minutes |
| | Rat | 1355 mg/l |
| | | 658 mg/l/4h |

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation

Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization

Not available.

| | |
|---|--|
| Skin sensitization | This product is not expected to cause skin sensitization. |
| Germ cell mutagenicity | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
| Carcinogenicity | This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. |
| IARC Monographs. Overall Evaluation of Carcinogenicity | |
| o-Phenylphenol (CAS 90-43-7) | 3 Not classifiable as to carcinogenicity to humans. |
| OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) | |
| Not listed. | |
| Reproductive toxicity | This product is not expected to cause reproductive or developmental effects. |
| Specific target organ toxicity - single exposure | Not classified. |
| Specific target organ toxicity - repeated exposure | Not classified. |
| Aspiration hazard | Not available. |
| Chronic effects | Prolonged or repeated contact may cause drying, cracking, or irritation. |

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

| Components | | Species | Test Results |
|------------------------------|------|--------------------------------------|-----------------------------|
| Ethyl Alcohol (CAS 64-17-5) | | | |
| Aquatic | | | |
| Crustacea | EC50 | Water flea (Daphnia magna) | 7700 - 11200 mg/l, 48 hours |
| Fish | LC50 | Fathead minnow (Pimephales promelas) | > 100.1 mg/l, 96 hours |
| o-Phenylphenol (CAS 90-43-7) | | | |
| Aquatic | | | |
| Algae | IC50 | Algae | 0.85 mg/L, 72 Hours |
| Crustacea | EC50 | Daphnia | 1.75 mg/L, 48 Hours |
| | | Water flea (Daphnia magna) | 1 - 2.4 mg/l, 48 hours |
| Fish | LC50 | Fathead minnow (Pimephales promelas) | 3.4 mg/l, 96 hours |

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

| | |
|----------------|-------|
| Butane | 2.89 |
| Ethyl Alcohol | -0.31 |
| o-Phenylphenol | 3.09 |
| Propane | 2.36 |

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers.

14. Transport information**DOT**

| | |
|-------------------------------------|---|
| UN number | UN1950 |
| UN proper shipping name | Aerosols, flammable |
| Transport hazard class(es) | |
| Class | 2.1 |
| Subsidiary risk | - |
| Label(s) | 2.1 |
| Packing group | Not applicable. |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling. |
| Special provisions | N82 |
| Packaging exceptions | 306 |
| Packaging non bulk | None |
| Packaging bulk | None |

This product meets the exception requirements of section 173.306 as a limited quantity and may be shipped as a limited quantity. Until 12/31/2020, the "Consumer Commodity - ORM-D" marking may still be used in place of the new limited quantity diamond mark for packages of UN 1950 Aerosols. Limited quantities require the limited quantity diamond mark on cartons after 12/31/20 and may be used now in place of the "Consumer Commodity ORM-D" marking and both may be displayed concurrently.

IATA

| | |
|-------------------------------------|---|
| UN number | UN1950 |
| UN proper shipping name | Aerosols, flammable |
| Transport hazard class(es) | |
| Class | 2.1 |
| Subsidiary risk | - |
| Label(s) | 2.1 |
| Packing group | Not applicable. |
| Environmental hazards | No. |
| ERG Code | 10L |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling. |
| Other information | |
| Passenger and cargo aircraft | Allowed. |
| Cargo aircraft only | Allowed. |
| Packaging Exceptions | LTD QTY |

IMDG

| | |
|---|---|
| UN number | UN1950 |
| UN proper shipping name | AEROSOLS |
| Transport hazard class(es) | |
| Class | 2.1 |
| Subsidiary risk | - |
| Label(s) | 2.1 |
| Packing group | Not applicable. |
| Environmental hazards | |
| Marine pollutant | No. |
| EmS | F-D, S-U |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling. |
| Packaging Exceptions | LTD QTY |
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | Not applicable. |

DOT



IATA; IMDG



15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

| Chemical name | CAS number | Reportable quantity | Threshold planning quantity | Threshold planning quantity, lower value | Threshold planning quantity, upper value |
|-------------------|------------|---------------------|-----------------------------|--|--|
| Anhydrous Ammonia | 7664-41-7 | 100 | 500 lbs | | |

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

| Chemical name | CAS number | % by wt. |
|-----------------|------------|----------|
| o-Phenylphenol | 90-43-7 | 0.1 - 1 |
| t-Butyl Alcohol | 75-65-0 | 0.1 - 1 |

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Butane (CAS 106-97-8)
Propane (CAS 74-98-6)

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Butane (CAS 106-97-8)
Ethyl Alcohol (CAS 64-17-5)
o-Phenylphenol (CAS 90-43-7)
Propane (CAS 74-98-6)

US. New Jersey Worker and Community Right-to-Know Act

Butane (CAS 106-97-8)
Ethyl Alcohol (CAS 64-17-5)
o-Phenylphenol (CAS 90-43-7)
Propane (CAS 74-98-6)

US. Pennsylvania Worker and Community Right-to-Know Law

Butane (CAS 106-97-8)
Ethyl Alcohol (CAS 64-17-5)
o-Phenylphenol (CAS 90-43-7)
Propane (CAS 74-98-6)

US. Rhode Island RTK

Butane (CAS 106-97-8)
o-Phenylphenol (CAS 90-43-7)
Propane (CAS 74-98-6)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

o-Phenylphenol (CAS 90-43-7)

Listed: August 4, 2000

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|--|------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | Yes |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | Yes |
| Korea | Existing Chemicals List (ECL) | No |
| New Zealand | New Zealand Inventory | No |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 03-16-2015

Version # 01

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. We cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

Material Safety Data Sheet

Revision Date 19-Jul-2012

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code DN5410
Product name Bayonet Permanent Marker - Black Marker
Recommended Use
Supplier Drummond, A Lawson Brand
Lawson Products, Inc.
8770 W.Bryn Mawr Ave.- Suite 900
Chicago, IL 60631
1-866-529-7664
Emergency telephone number (888) 426-4851

2. HAZARDS IDENTIFICATION

Emergency Overview

Flammable. Vapors may be irritating to eyes, nose, throat, and lungs.
May be harmful if swallowed.

Aggravated Medical Conditions

None Known

Principal Routes of Exposure

Eyes. Skin. Ingestion. Inhalation.

Potential health effects

Eyes Moderately irritating to the eyes.

Skin Mild irritation. Repeated or prolonged exposure may cause:. Sensitization. Dermatitis.

Inhalation May cause irritation of respiratory tract. Headaches. Dizziness. Nausea. Repeated and prolonged exposure to solvents may cause brain and nervous system damage. Misuse by deliberately concentrating vapors and inhaling contents can be harmful or fatal.

Ingestion Swallowing substance will cause the following effects:. Vomiting.

3. COMPOSITION / INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | Weight % |
|-------------------------|------------|----------|
| Xylene (mix) | 1330-20-7 | 40-70 |
| Hydrocarbon Resin | 68131-77-1 | 10-30 |
| Butadiene-Styrene Resin | 9003-55-8 | 3-7 |
| Black Pigment | 1333-86-4 | 3-7 |
| Ethyl benzene | 100-41-4 | 3-7 |

4. FIRST AID MEASURES

Eye contact Flush with plenty of water for at least 15 minutes. Seek medical attention IMMEDIATELY.

Skin contact Wash off immediately with plenty of water. Remove contaminated clothing and footwear.

Ingestion If a large quantity is swallowed, consult a physician. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention immediately.

Inhalation Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Immediate medical attention is required.

5. FIRE FIGHTING MEASURES

Flash point °C 26
Flash point °F 79
Method No information available

Autoignition temperature °C Not Applicable
Autoignition temperature °F Not Applicable

Flammability Limits (% in Air)

Upper 12.3
Lower 1.9

Suitable extinguishing media

Water fog. Dry chemical powder. Carbon dioxide (CO2). Water spray.

Special protective equipment for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

Fire and Explosion Hazards

Do not release run-off from fire control methods to sewers or waterways. Do not enter any enclosed or confined fire space without proper protective equipment. Keep containers cool. Use shielding to protect against bursting or venting containers. Vapors are heavier than air and may travel along the ground to an ignition source distant from material handling area. Possible ignition sources include pilot lights, flames, lighted cigarettes, heating elements, electric motors, sparks from electrical switches. Vapors may form explosive mixture in air between upper and lower explosive limits which can be ignited by many sources, such as pilot lights, open flames, electrical motors and switches.

Sensitivity to shock

No information available.

Sensitivity to static discharge

No information available.

6. ACCIDENTAL RELEASE MEASURES

Clean-up methods - small spill

Soak up excess with absorbent material. Place in non-leaking, tightly sealed container for proper disposal. Dispose of absorbent in accordance with local, state and federal regulations.

Clean-up methods - large spill

Evacuate area of unprotected and unnecessary personnel. Eliminate all sources of ignition. Collect run-off water and dispose. Do not allow product to reach sewage system, soil, surface or ground water, or any water course. Notify proper authorities if entry occurs. Remove with vacuum trucks or pump to storage vessel. Pick up and transfer to properly labelled containers. Dispose of absorbent in accordance with local, state and federal regulations.

7. HANDLING AND STORAGE**Handling**

Use only according to label directions. Containers can contain explosive vapors or residues. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such contents to heat, flames, and other sources of ignition. Spent product mixed with oil may be combustible in air. . Keep container closed when not in use.

Storage

Keep away from open flames, hot surfaces and sources of ignition. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from flammable and combustible materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| Chemical Name | OSHA PEL (TWA) | OSHA PEL (Ceiling) | ACGIH OEL (TWA) | ACGIH OEL (STEL) |
|-------------------------|----------------------------------|--------------------|---------------------|------------------|
| Hydrocarbon Resin | - | - | - | - |
| Butadiene-Styrene Resin | - | - | - | - |
| Black Pigment | 3.5 mg/m ³ | - | 3 mg/m ³ | - |
| Ethyl benzene | 100 ppm 435 mg/m ³ | - | 20 ppm | - |
| Xylene (mix) | 100 ppm 435 mg/m ³ | - | 100 ppm | 150 ppm |

Ventilation and Environmental Controls

Adequate ventilation should be provided to keep exposure levels below current acceptable exposure limits. Mechanical: as necessary.

Hygiene measures

Wash hands before eating or using the washroom.

Respiratory protection

None necessary under normal conditions. Use NIOSH approved respirator if TLV limit is exceeded.

Hand Protection

For prolonged or repeated skin contact, use a chemically resistant glove such as nitrile or neoprene. Wash hands with soap and water after removing gloves. Dry hands thoroughly before re-applying gloves. .

Eye protection

Use safety eyewear designed to protect against splash of liquids. ANSI approved safety glasses or splash goggles with face shield are recommended.

Skin and body protection

None necessary under normal conditions

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|------------------------|
| Form | Liquid |
| Color | Black Opaque |
| Odor | Aromatic |
| Odor Threshold | Not Applicable |
| pH | Not Applicable |
| Specific Gravity | > 1 @ 70F |
| Vapor pressure | No data available |
| Vapor density | > 1 (Air=1) |
| Evaporation Rate | <1 (Butyl Acetate = 1) |
| Water solubility | Negligible |
| VOC Content | 5.39 lbs/gal |
| Partition Coefficient (n-octanol/water) | Not Applicable |
| Boiling point/range °C | 138-141 |
| Boiling point/range °F | 282-286 |
| Melting point/range °C | Not Applicable |
| Melting point/range °F | Not Applicable |
| Flash point °C | 26 |
| Flash point °F | 79 |

10. STABILITY AND REACTIVITY**Stability**

Stable.

Conditions to avoid

None known.

Incompatibility

Strong oxidizers. Reducing agents. Alkalies. Strong acids.

Hazardous Decomposition Products

Carbon dioxide. Carbon monoxide. smoke. Soot. Various organic oxidation by-products.

Product code **DN5410**

Product name **Bayonet
Permanent Marker - Black**

Polymerization

Hazardous polymerization does not occur.

Water Flea Data

Gammarus lacustris LC50=0.6 mg/L (48 h)
water flea EC50=3.82 mg/L (48 h)

11. TOXICOLOGICAL INFORMATION

Component Information

| Chemical Name | LD50 (oral, rat) | LD50 (dermal ,rat/rab bit) | LC50 (inhalation,rat) |
|--|-------------------------|-------------------------------------|------------------------|
| Hydrocarbon Resin 68131-77-1 | - | - | - |
| Butadiene- Styrene Resin 9003-55-8 | - | - | - |
| Black Pigment 1333-86-4 | 15400 mg/kg | 3 g/kg | - |
| Ethyl benzene 100-41-4 | 3500 mg/kg | 15354 mg/kg | 17.2 mg/L |
| Xylene (mix) 1330-20-7 | 4300 mg/kg | 1700 mg/kg | 47635 mg/L 5000 ppm |

Synergistic Products None known

Potential health effects

Sensitization None known

Chronic toxicity None known

Mutagenic effects None known

Teratogenic effects None known

Reproductive toxicity None known

Target Organ Effects See Section 2

Carcinogenic effects See table below

| Chemical Name | ACGIH OEL - Carcinoge ns | IARC | NTP - Known Carcinoge ns | NTP - Suspected Human Carcinoge ns | OSHA RTK Carcinoge ns |
|-----------------------------|-----------------------------------|------------|-----------------------------------|--|--------------------------------|
| Hydrocarbon Resin | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Butadiene- Styrene Resin | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Black Pigment | A3 | Group 2B | Not Listed | Not Listed | Listed |
| Ethyl benzene | A3 | Group 2B | Not Listed | Not Listed | Listed |
| Xylene (mix) | A4 | Not Listed | Not Listed | Not Listed | Not Listed |

12. ECOLOGICAL INFORMATION

Xylene (mix)

Microtox Data

Photobacterium phosphoreum EC50=0.0084 mg/L (24 h)

Product code **DN5410**Product name **Bayonet
Permanent Marker - Black****12. ECOLOGICAL INFORMATION**Black Pigment**Water Flea Data***Daphnia magna* EC50>5600 mg/L (24 h)Ethyl benzene**Microtox Data***Photobacterium phosphoreum* EC50=9.68 mg/L (30 min)*Nitrosomonas* EC50=96 mg/L (24 h)**Water Flea Data***Daphnia magna* EC501.8 - 2.4 mg/L (48 h)**13. DISPOSAL CONSIDERATIONS****Waste from residues / unused products**

Discard in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION**DOT**

UN1263 Paint, Class 3, PG III

Exception: (Flammable Liquids PG III not more than 5.0L) Consumer
Commodity ORM-D**TDG**

Not Regulated

15. REGULATORY INFORMATION

| Chemical Name | US EPA SARA 313 Emission Reporting |
|---------------|------------------------------------|
| Ethyl benzene | Listed |
| Xylene (mix) | Listed |

State Regulations

| Chemical Name | New Jersey - RTK | Pennsylvania - RTK | California Prop. 65 |
|-------------------------|---------------------|-----------------------|------------------------|
| Hydrocarbon Resin | Not Listed | Not Listed | Not Listed |
| Butadiene-Styrene Resin | Not Listed | Not Listed | Not Listed |
| Black Pigment | Not Listed | Listed | Carcinogen |
| Ethyl benzene | Listed | Listed | Carcinogen |
| Xylene (mix) | Not Listed | Listed | Not Listed |

International Inventories

| Chemical Name | EINECS | DSL | NDSL | TSCA |
|-------------------------|--------|-----|------|------|
| Hydrocarbon Resin | - | X | - | X |
| Butadiene-Styrene Resin | - | X | - | X |
| Black Pigment | X | X | - | X |
| Ethyl benzene | X | X | - | X |
| Xylene (mix) | X | X | - | X |

CPR

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all of the information required by the Controlled Product Regulations

16. OTHER INFORMATION**HMIS****Health - 2****Flammability - 3****Physical Hazard - 0****Prepared By**V. Shargorodsky, Regulatory Affairs
Engineer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

Material Safety Data Sheet

Revision Date 19-Jul-2012

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code DN5420
Product name Bayonet Permanent Marker - Blue Marker
Recommended Use

Supplier Drummond, A Lawson Brand
Lawson Products, Inc.
8770 W.Bryn Mawr Ave.- Suite 900
Chicago, IL 60631
1-866-529-7664

Emergency telephone number (888) 426-4851

2. HAZARDS IDENTIFICATION

Emergency Overview

Flammable. Vapors may be irritating to eyes, nose, throat, and lungs.
May be harmful if swallowed.

Aggravated Medical Conditions
None Known

Principal Routes of Exposure
Eyes. Skin. Ingestion. Inhalation.

Potential health effects

Eyes Moderately irritating to the eyes.

Skin Mild irritation. Repeated or prolonged exposure may cause:. Sensitization. Dermatitis.

Inhalation May cause irritation of respiratory tract. Headaches. Dizziness. Nausea. Repeated and prolonged exposure to solvents may cause brain and nervous system damage. Misuse by deliberately concentrating vapors and inhaling contents can be harmful or fatal.

Ingestion Swallowing substance will cause the following effects:. Vomiting.

3. COMPOSITION / INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | Weight % |
|-----------------------------------|--------------|----------|
| Xylene (mix) | 1330-20-7 | 40-70 |
| Titanium dioxide | 13463-67-7 | 10-30 |
| Hydrocarbon Resin | 68131-77-1 | 10-30 |
| Stoddard solvent | 8052-41-3 | 3-7 |
| Resin | Trade Secret | 3-7 |
| Ethyl benzene | 100-41-4 | 3-7 |
| PCN Blue Pigment | 147-14-8 | 3-7 |
| Petroleum naphtha, light aromatic | 64742-95-6 | 3-7 |

4. FIRST AID MEASURES

Eye contact Flush with plenty of water for at least 15 minutes. Seek medical attention IMMEDIATELY.

Skin contact Wash off immediately with plenty of water. Remove contaminated clothing and footwear.

Ingestion If a large quantity is swallowed, consult a physician. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention immediately.

Inhalation Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Immediate medical attention is required.

5. FIRE FIGHTING MEASURES

Flash point °C 26
Flash point °F 79
Method No information available

Autoignition temperature °C Not Applicable
Autoignition temperature °F Not Applicable

Flammability Limits (% in Air)
Upper 12.3
Lower 0.9

Suitable extinguishing media
Water fog. Dry chemical powder. Carbon dioxide (CO2). Water spray.

Special protective equipment for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

Fire and Explosion Hazards
Do not release run-off from fire control methods to sewers or waterways. Do not enter any enclosed or confined fire space without proper protective equipment. Keep containers cool. Use shielding to protect against bursting or venting containers. Vapors are heavier than air and may travel along the ground to an ignition source distant from material handling area. Possible ignition sources include pilot lights, flames, lighted cigarettes, heating elements, electric motors, sparks from electrical switches. Vapors may form explosive mixture in air between upper and lower explosive limits which can be ignited by many sources, such as pilot lights, open flames, electrical motors and switches.

Sensitivity to shock
No information available.

Sensitivity to static discharge
No information available.

6. ACCIDENTAL RELEASE MEASURES

6. ACCIDENTAL RELEASE MEASURES**Clean-up methods - small spill**

Soak up excess with absorbent material. Place in non-leaking, tightly sealed container for proper disposal. Dispose of absorbent in accordance with local, state and federal regulations.

Clean-up methods - large spill

Evacuate area of unprotected and unnecessary personnel. Eliminate all sources of ignition. Collect run-off water and dispose. Do not allow product to reach sewage system, soil, surface or ground water, or any water course. Notify proper authorities if entry occurs. Remove with vacuum trucks or pump to storage vessel. Pick up and transfer to properly labelled containers. Dispose of absorbent in accordance with local, state and federal regulations.

7. HANDLING AND STORAGE**Handling**

Use only according to label directions. Containers can contain explosive vapors or residues. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such contents to heat, flames, and other sources of ignition. Spent product mixed with oil may be combustible in air. Keep container closed when not in use.

Storage

Keep away from open flames, hot surfaces and sources of ignition. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from flammable and combustible materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| Chemical Name | OSHA PEL (TWA) | OSHA PEL (Ceiling) | ACGIH OEL (TWA) | ACGIH OEL (STEL) |
|-----------------------------------|-----------------------------------|--------------------|----------------------|------------------|
| Hydrocarbon Resin | - | - | - | - |
| Ethyl benzene | 100 ppm 435 mg/m ³ | - | 20 ppm | - |
| Xylene (mix) | 100 ppm 435 mg/m ³ | - | 100 ppm | 150 ppm |
| Titanium dioxide | 15 mg/m ³ | - | 10 mg/m ³ | - |
| Resin | - | - | - | - |
| PCN Blue Pigment | - | - | - | - |
| Petroleum naphtha, light aromatic | - | - | - | - |
| Stoddard solvent | 500 ppm 2900 mg/m ³ | - | 100 ppm | - |

Ventilation and Environmental Controls

Adequate ventilation should be provided to keep exposure levels below current acceptable exposure limits. Mechanical: as necessary.

Hygiene measures

Wash hands before eating or using the washroom.

Respiratory protection

None necessary under normal conditions. Use NIOSH approved respirator if TLV limit is exceeded.

Hand Protection

For prolonged or repeated skin contact, use a chemically resistant glove such as nitrile or neoprene. Wash hands with soap and water after removing gloves. Dry hands thoroughly before re-applying gloves.

Eye protection

Use safety eyewear designed to protect against splash of liquids. ANSI approved safety glasses or splash goggles with face shield are recommended.

Skin and body protection

None necessary under normal conditions

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|------------------------|
| Form | Liquid |
| Color | Blue Opaque |
| Odor | Aromatic |
| Odor Threshold | Not Applicable |
| pH | Not Applicable |
| Specific Gravity | > 1 @ 70F |
| Vapor pressure | No data available |
| Vapor density | > 1 (Air=1) |
| Evaporation Rate | <1 (Butyl Acetate = 1) |
| Water solubility | Negligible |
| VOC Content | 4.1 lbs/gal |
| Partition Coefficient (n-octanol/water) | Not Applicable |
| Boiling point/range °C | 138 |
| Boiling point/range °F | 282 |
| Melting point/range °C | Not Applicable |
| Melting point/range °F | Not Applicable |
| Flash point °C | 26 |
| Flash point °F | 79 |

10. STABILITY AND REACTIVITY**Stability**

Stable.

Conditions to avoid

None known.

Incompatibility

Strong oxidizers. Reducing agents. Alkalies. Strong acids.

Hazardous Decomposition Products

Carbon dioxide. Carbon monoxide. smoke. Soot. Various organic oxidation by-products.

Product code **DN5420**Product name **Bayonet
Permanent Marker - Blue****Polymerization**

Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION**Component Information**

| Chemical Name | LD50 (oral, rat) | LD50 (dermal, rat/rab bit) | LC50 (inhalation, rat) |
|---|-------------------------|-------------------------------------|------------------------|
| Hydrocarbon Resin 68131-77-1 | - | - | - |
| Ethyl benzene 100-41-4 | 3500 mg/kg | 15354 mg/kg | 17.2 mg/L |
| Xylene (mix) 1330-20-7 | 4300 mg/kg | 1700 mg/kg | 47635 mg/L 5000 ppm |
| Titanium dioxide 13463-67-7 | 10000 mg/kg | - | - |
| Resin Trade Secret | - | - | - |
| PCN Blue Pigment 147-14-8 | - | - | - |
| Petroleum naphtha, light aromatic 64742-95-6 | 8400 mg/kg | 2000 mg/kg | 3400 ppm 5.2 mg/L |
| Stoddard solvent 8052-41-3 | - | - | - |

Synergistic Products None known**Potential health effects**

| | |
|------------------------------|-----------------|
| Sensitization | None known |
| Chronic toxicity | None known |
| Mutagenic effects | None known |
| Teratogenic effects | None known |
| Reproductive toxicity | None known |
| Target Organ Effects | See Section 2 |
| Carcinogenic effects | See table below |

| Chemical Name | ACGIH OEL - Carcinogens | IARC | NTP - Known Carcinogens | NTP - Suspected Human Carcinogens | OSHA RTK Carcinogens |
|-------------------|-------------------------------|------------|-------------------------------|--|----------------------------|
| Hydrocarbon Resin | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Ethyl benzene | A3 | Group 2B | Not Listed | Not Listed | Listed |
| Xylene (mix) | A4 | Not Listed | Not Listed | Not Listed | Not Listed |
| Titanium dioxide | A4 | Group 2B | Not Listed | Not Listed | Listed |
| Resin | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |

| | | | | | |
|-----------------------------------|------------|------------|------------|------------|------------|
| PCN Blue Pigment | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Petroleum naphtha, light aromatic | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Stoddard solvent | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |

12. ECOLOGICAL INFORMATIONXylene (mix)**Microtox Data***Photobacterium phosphoreum* EC50=0.0084 mg/L (24 h)**Water Flea Data***Gammarus lacustris* LC50=0.6 mg/L (48 h)*water flea* EC50=3.82 mg/L (48 h)Ethyl benzene**Microtox Data***Photobacterium phosphoreum* EC50=9.68 mg/L (30 min)*Nitrosomonas* EC50=96 mg/L (24 h)**Water Flea Data***Daphnia magna* EC501.8 - 2.4 mg/L (48 h)Petroleum naphtha, light aromatic**Water Flea Data***Daphnia magna* EC50=6.14 mg/L (48 h)**13. DISPOSAL CONSIDERATIONS****Waste from residues / unused products**

Discard in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION**DOT**

UN1263 Paint, Class 3, PG III

Exception: (Flammable Liquids PG III not more than 5.0L) Consumer Commodity ORM-D**TDG**

Not Regulated

15. REGULATORY INFORMATION

| Chemical Name | US EPA SARA 313 Emission Reporting |
|------------------|------------------------------------|
| Ethyl benzene | Listed |
| Xylene (mix) | Listed |
| PCN Blue Pigment | Listed |

State Regulations

| Chemical Name | New Jersey - RTK | Pennsylvania - RTK | California Prop. 65 |
|-------------------|---------------------|-----------------------|------------------------|
| Hydrocarbon Resin | Not Listed | Not Listed | Not Listed |
| Ethyl benzene | Listed | Listed | Carcinogen |

Product code **DN5420**

Product name **Bayonet
Permanent Marker - Blue**

| Chemical Name | New Jersey - RTK | Pennsylvania - RTK | California Prop. 65 |
|--------------------------------------|---------------------|-----------------------|------------------------|
| Xylene (mix) | Not Listed | Listed | Not Listed |
| Titanium dioxide | Not Listed | Listed | Carcinogen |
| Resin | Not Listed | Not Listed | Not Listed |
| PCN Blue Pigment | Not Listed | Not Listed | Not Listed |
| Petroleum naphtha, light aromatic | Not Listed | Not Listed | Not Listed |
| Stoddard solvent | Listed | Listed | Not Listed |

International Inventories

| Chemical Name | EINECS | DSL | NDSL | TSCA |
|--------------------------------------|--------|-----|------|------|
| Hydrocarbon Resin | - | X | - | X |
| Ethyl benzene | X | X | - | X |
| Xylene (mix) | X | X | - | X |
| Titanium dioxide | X | X | - | X |
| Resin | - | - | - | - |
| PCN Blue Pigment | X | X | - | X |
| Petroleum naphtha, light aromatic | X | X | - | X |
| Stoddard solvent | X | X | - | X |

CPR

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all of the information required by the Controlled Product Regulations

16. OTHER INFORMATION

HMIS

Health - 2

Flammability - 3

Physical Hazard - 0

Prepared By

V. Shargorodsky, Regulatory Affairs
Engineer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

Material Safety Data Sheet

Revision Date 19-Jul-2012

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code DN5430
Product name Bayonet Permanent Marker - Green Marker
Recommended Use

Supplier Drummond, A Lawson Brand
Lawson Products, Inc.
8770 W.Bryn Mawr Ave.- Suite 900
Chicago, IL 60631
1-866-529-7664

Emergency telephone number (888) 426-4851

2. HAZARDS IDENTIFICATION

Emergency Overview

Flammable. Vapors may be irritating to eyes, nose, throat, and lungs.
May be harmful if swallowed.

Aggravated Medical Conditions

None Known

Principal Routes of Exposure

Eyes. Skin. Ingestion. Inhalation.

Potential health effects

Eyes Moderately irritating to the eyes.

Skin Mild irritation. Repeated or prolonged exposure may cause:. Sensitization. Dermatitis.

Inhalation May cause irritation of respiratory tract. Headaches. Dizziness. Nausea. Repeated and prolonged exposure to solvents may cause brain and nervous system damage. Misuse by deliberately concentrating vapors and inhaling contents can be harmful or fatal.

Ingestion Swallowing substance will cause the following effects:. Vomiting.

3. COMPOSITION / INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | Weight % |
|-----------------------------------|--------------|----------|
| Xylene (mix) | 1330-20-7 | 40-50 |
| Titanium dioxide | 13463-67-7 | 10-30 |
| Hydrocarbon Resin | 68131-77-1 | 10-30 |
| Stoddard solvent | 8052-41-3 | 3-7 |
| Butadiene-Styrene Resin | 9003-55-8 | 3-7 |
| Resin | Trade Secret | 3-7 |
| Petroleum naphtha, light aromatic | 64742-95-6 | 3-7 |
| Ethyl benzene | 100-41-4 | 3-7 |

| | | |
|-------------------|-----------|-----|
| PCN Green Pigment | 1328-53-6 | 3-7 |
|-------------------|-----------|-----|

4. FIRST AID MEASURES

Eye contact Flush with plenty of water for at least 15 minutes. Seek medical attention IMMEDIATELY.

Skin contact Wash off immediately with plenty of water. Remove contaminated clothing and footwear.

Ingestion If a large quantity is swallowed, consult a physician. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention immediately.

Inhalation Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Immediate medical attention is required.

5. FIRE FIGHTING MEASURES

Flash point °C 26
Flash point °F 79
Method No information available

Autoignition temperature °C Not Applicable
Autoignition temperature °F Not Applicable

Flammability Limits (% in Air)
Upper 12.3
Lower 0.9

Suitable extinguishing media

Water fog. Dry chemical powder. Carbon dioxide (CO2). Water spray.

Special protective equipment for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

Fire and Explosion Hazards

Do not release run-off from fire control methods to sewers or waterways. Do not enter any enclosed or confined fire space without proper protective equipment. Keep containers cool. Use shielding to protect against bursting or venting containers. Vapors are heavier than air and may travel along the ground to an ignition source distant from material handling area. Possible ignition sources include pilot lights, flames, lighted cigarettes, heating elements, electric motors, sparks from electrical switches. Vapors may form explosive mixture in air between upper and lower explosive limits which can be ignited by many sources, such as pilot lights, open flames, electrical motors and switches.

Sensitivity to shock

No information available.

Sensitivity to static discharge

No information available.

6. ACCIDENTAL RELEASE MEASURES**Clean-up methods - small spill**

Soak up excess with absorbent material. Place in non-leaking, tightly sealed container for proper disposal. Dispose of absorbent in accordance with local, state and federal regulations.

Clean-up methods - large spill

Evacuate area of unprotected and unnecessary personnel. Eliminate all sources of ignition. Collect run-off water and dispose. Do not allow product to reach sewage system, soil, surface or ground water, or any water course. Notify proper authorities if entry occurs. Remove with vacuum trucks or pump to storage vessel. Pick up and transfer to properly labelled containers. Dispose of absorbent in accordance with local, state and federal regulations.

7. HANDLING AND STORAGE**Handling**

Use only according to label directions. Containers can contain explosive vapors or residues. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such contents to heat, flames, and other sources of ignition. Spent product mixed with oil may be combustible in air. . Keep container closed when not in use.

Storage

Keep away from open flames, hot surfaces and sources of ignition. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from flammable and combustible materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| Chemical Name | OSHA PEL (TWA) | OSHA PEL (Ceiling) | ACGIH OEL (TWA) | ACGIH OEL (STEL) |
|-----------------------------------|-----------------------------------|--------------------|----------------------|------------------|
| Butadiene-Styrene Resin | - | - | - | - |
| Ethyl benzene | 100 ppm 435 mg/m ³ | - | 20 ppm | - |
| Stoddard solvent | 500 ppm 2900 mg/m ³ | - | 100 ppm | - |
| Petroleum naphtha, light aromatic | - | - | - | - |
| PCN Green Pigment | - | - | - | - |
| Resin | - | - | - | - |
| Hydrocarbon Resin | - | - | - | - |
| Titanium dioxide | 15 mg/m ³ | - | 10 mg/m ³ | - |
| Xylene (mix) | 100 ppm 435 mg/m ³ | - | 100 ppm | 150 ppm |

Ventilation and Environmental Controls

Adequate ventilation should be provided to keep exposure levels below current acceptable exposure limits. Mechanical: as necessary.

Hygiene measures

Wash hands before eating or using the washroom.

Respiratory protection

None necessary under normal conditions. Use NIOSH approved respirator if TLV limit is exceeded.

Hand Protection

For prolonged or repeated skin contact, use a chemically resistant glove such as nitrile or neoprene. Wash hands with soap and water after removing gloves. Dry hands thoroughly before re-applying gloves. .

Eye protection

Use safety eyewear designed to protect against splash of liquids. ANSI approved safety glasses or splash goggles with face shield are recommended.

Skin and body protection

None necessary under normal conditions

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|------------------------|
| Form | Liquid |
| Color | Green Opaque |
| Odor | Aromatic |
| Odor Threshold | Not Applicable |
| pH | Not Applicable |
| Specific Gravity | > 1 @ 70F |
| Vapor pressure | No data available |
| Vapor density | > 1 (Air=1) |
| Evaporation Rate | <1 (Butyl Acetate = 1) |
| Water solubility | Negligible |
| VOC Content | 4.62 |
| Partition Coefficient (n-octanol/water) | Not Applicable |
| Boiling point/range °C | 138-141 |
| Boiling point/range °F | 282-286 |
| Melting point/range °C | Not Applicable |
| Melting point/range °F | Not Applicable |
| Flash point °C | 26 |
| Flash point °F | 79 |

10. STABILITY AND REACTIVITY**Stability**

Stable.

Conditions to avoid

None known.

Incompatibility

Strong oxidizers. Reducing agents. Alkalies. Strong acids.

Hazardous Decomposition Products

Carbon dioxide. Carbon monoxide. smoke. Soot. Various organic oxidation by-products.

Product code **DN5430**Product name **Bayonet
Permanent Marker - Green****Polymerization**

Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION**Component Information**

| Chemical Name | LD50 (oral, rat) | LD50 (dermal, rat/rabbit) | LC50 (inhalation, rat) |
|---|---------------------|------------------------------|------------------------|
| Butadiene-Styrene Resin 9003-55-8 | - | - | - |
| Ethyl benzene 100-41-4 | 3500 mg/kg | 15354 mg/kg | 17.2 mg/L |
| Stoddard solvent 8052-41-3 | - | - | - |
| Petroleum naphtha, light aromatic 64742-95-6 | 8400 mg/kg | 2000 mg/kg | 3400 ppm 5.2 mg/L |
| PCN Green Pigment 1328-53-6 | 3000 mg/kg | - | - |
| Resin Trade Secret | - | - | - |
| Hydrocarbon Resin 68131-77-1 | - | - | - |
| Titanium dioxide 13463-67-7 | 10000 mg/kg | - | - |
| Xylene (mix) 1330-20-7 | 4300 mg/kg | 1700 mg/kg | 47635 mg/L 5000 ppm |

Synergistic Products None known**Potential health effects**

Sensitization None known

Chronic toxicity None known

Mutagenic effects None known

Teratogenic effects None known

Reproductive toxicity None known

Target Organ Effects See Section 2

Carcinogenic effects See table below

| Chemical Name | ACGIH OEL - Carcinogens | IARC | NTP - Known Carcinogens | NTP - Suspected Human Carcinogens | OSHA RTK Carcinogens |
|-------------------------|-------------------------------|------------|-------------------------------|--|----------------------------|
| Butadiene-Styrene Resin | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Ethyl benzene | A3 | Group 2B | Not Listed | Not Listed | Listed |
| Stoddard solvent | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |

| | | | | | |
|-----------------------------------|------------|------------|------------|------------|------------|
| Petroleum naphtha, light aromatic | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| PCN Green Pigment | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Resin | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Hydrocarbon Resin | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Titanium dioxide | A4 | Group 2B | Not Listed | Not Listed | Listed |
| Xylene (mix) | A4 | Not Listed | Not Listed | Not Listed | Not Listed |

12. ECOLOGICAL INFORMATIONXylene (mix)**Microtox Data***Photobacterium phosphoreum* EC50=0.0084 mg/L (24 h)**Water Flea Data***Gammarus lacustris* LC50=0.6 mg/L (48 h)*water flea* EC50=3.82 mg/L (48 h)Petroleum naphtha, light aromatic**Water Flea Data***Daphnia magna* EC50=6.14 mg/L (48 h)Ethyl benzene**Microtox Data***Photobacterium phosphoreum* EC50=9.68 mg/L (30 min)*Nitrosomonas* EC50=96 mg/L (24 h)**Water Flea Data***Daphnia magna* EC501.8 - 2.4 mg/L (48 h)PCN Green Pigment**Microtox Data***Pseudomonas putida* EC50>10000 mg/L (30 min)**Water Flea Data***Daphnia magna* Straus EC50>500 mg/L (24 h)**13. DISPOSAL CONSIDERATIONS****Waste from residues / unused products**

Discard in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION**DOT**

UN1263 Paint, Class 3, PG III

Exception: (Flammable Liquids PG III not more than 5.0L) Consumer Commodity ORM-D**TDG**

Not Allowed

15. REGULATORY INFORMATION

| Chemical Name | US EPA SARA 313 Emission Reporting |
|-------------------|------------------------------------|
| Ethyl benzene | Listed |
| PCN Green Pigment | Listed |
| Xylene (mix) | Listed |

Product code **DN5430**

Product name **Bayonet
Permanent Marker - Green**

State Regulations

| Chemical Name | New Jersey - RTK | Pennsylvania - RTK | California Prop. 65 |
|--------------------------------------|---------------------|-----------------------|------------------------|
| Butadiene-Styrene Resin | Not Listed | Not Listed | Not Listed |
| Ethyl benzene | Listed | Listed | Carcinogen |
| Stoddard solvent | Listed | Listed | Not Listed |
| Petroleum naphtha, light aromatic | Not Listed | Not Listed | Not Listed |
| PCN Green Pigment | Not Listed | Not Listed | Not Listed |
| Resin | Not Listed | Not Listed | Not Listed |
| Hydrocarbon Resin | Not Listed | Not Listed | Not Listed |
| Titanium dioxide | Not Listed | Listed | Carcinogen |
| Xylene (mix) | Not Listed | Listed | Not Listed |

International Inventories

| Chemical Name | EINECS | DSL | NDSL | TSCA |
|--------------------------------------|--------|-----|------|------|
| Butadiene-Styrene Resin | - | X | - | X |
| Ethyl benzene | X | X | - | X |
| Stoddard solvent | X | X | - | X |
| Petroleum naphtha, light aromatic | X | X | - | X |
| PCN Green Pigment | X | X | - | X |
| Resin | - | - | - | - |
| Hydrocarbon Resin | - | X | - | X |
| Titanium dioxide | X | X | - | X |
| Xylene (mix) | X | X | - | X |

CPR

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all of the information required by the Controlled Product Regulations

16. OTHER INFORMATION

HMIS

Health - 2
Flammability - 3
Physical Hazard - 0

Prepared By

V. Shargorodsky, Regulatory Affairs
Engineer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

Material Safety Data Sheet

Revision Date 24-Jan-2012

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code DN5440
Product name Bayonet Permanent Marker - Red Marker
Recommended Use

Supplier Drummond American
A Lawson Products Company
600 Corporate Woods Parkway
Vernon Hills, IL 60061
(847) 913-9313

Emergency telephone number (888) 426-4851

2. HAZARDS IDENTIFICATION

Emergency Overview

Flammable. Vapors may be irritating to eyes, nose, throat, and lungs. May be harmful if swallowed.

Aggravated Medical Conditions

None Known

Principal Routes of Exposure

Eyes. Skin. Ingestion. Inhalation.

Potential health effects

Eyes Moderately irritating to the eyes.

Skin Mild irritation. Repeated or prolonged exposure may cause:. Sensitization. Dermatitis.

Inhalation May cause irritation of respiratory tract. Headaches. Dizziness. Nausea. Repeated and prolonged exposure to solvents may cause brain and nervous system damage. Misuse by deliberately concentrating vapors and inhaling contents can be harmful or fatal.

Ingestion Swallowing substance will cause the following effects:. Vomiting.

3. COMPOSITION / INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | Weight % |
|------------------------------|------------|----------|
| Hydrocarbon Resin | 68131-77-1 | 10-30 |
| Butadiene-Styrene Resin | 9003-55-8 | 3-7 |
| Ethyl benzene | 100-41-4 | 3-7 |
| Pigment Red | 2786-76-7 | 3-7 |
| Xylenes (o-, m-, p- isomers) | 1330-20-7 | 40-70 |

4. FIRST AID MEASURES

Eye contact Flush with plenty of water for at least 15 minutes. Seek medical attention immediately.

Skin contact Wash off immediately with plenty of water. Remove contaminated clothing and footwear.

Ingestion If a large quantity is swallowed, consult a physician. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention immediately.

Inhalation Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Immediate medical attention is required.

5. FIRE FIGHTING MEASURES

Flash point °C 26
Flash point °F 79
Method No information available

Autoignition temperature °C Not Applicable
Autoignition temperature °F Not Applicable

Flammability Limits (% in Air)
Upper 12.3
Lower 1.9

Suitable extinguishing media

Water fog. Dry chemical powder. Carbon dioxide (CO2). Water spray.

Special protective equipment for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

Fire and Explosion Hazards

Do not release run-off from fire control methods to sewers or waterways. Do not enter any enclosed or confined fire space without proper protective equipment. Keep containers cool. Use shielding to protect against bursting or venting containers. Vapors are heavier than air and may travel along the ground to an ignition source distant from material handling area. Possible ignition sources include pilot lights, flames, lighted cigarettes, heating elements, electric motors, sparks from electrical switches. Vapors may form explosive mixture in air between upper and lower explosive limits which can be ignited by many sources, such as pilot lights, open flames, electrical motors and switches.

Sensitivity to shock

No information available.

Sensitivity to static discharge

No information available.

6. ACCIDENTAL RELEASE MEASURES

Clean-up methods - small spill

Soak up excess with absorbent material. Place in non-leaking, tightly sealed container for proper disposal. Dispose of absorbent in accordance with local, state and federal regulations.

Product code **DN5440**

Product name **Bayonet
Permanent Marker - Red**

Clean-up methods - large spill

Evacuate area of unprotected and unnecessary personnel. Eliminate all sources of ignition. Collect run-off water and dispose. Do not allow product to reach sewage system, soil, surface or ground water, or any water course. Notify proper authorities if entry occurs. Remove with vacuum trucks or pump to storage vessel. Pick up and transfer to properly labelled containers. Dispose of absorbent in accordance with local, state and federal regulations.

7. HANDLING AND STORAGE

Handling

Use only according to label directions. Containers can contain explosive vapors or residues. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such contents to heat, flames, and other sources of ignition. Spent product mixed with oil may be combustible in air. . Keep container closed when not in use.

Storage

Keep away from open flames, hot surfaces and sources of ignition. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from flammable and combustible materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| Chemical Name | OSHA PEL (TWA) | OSHA PEL (Ceiling) | ACGIH OEL (TWA) | ACGIH OEL (STEL) |
|-----------------------------|----------------------------------|--------------------|-----------------|------------------|
| Xylenes (o-, m-, p-isomers) | 100 ppm 435 mg/m ³ | - | 100 ppm | 150 ppm |
| Hydrocarbon Resin | - | - | - | - |
| Butadiene-Styrene Resin | - | - | - | - |
| Pigment Red | - | - | - | - |
| Ethyl benzene | 100 ppm 435 mg/m ³ | - | 20 ppm | - |

Ventilation and Environmental Controls

Adequate ventilation should be provided to keep exposure levels below current acceptable exposure limits. Mechanical: as necessary.

Hygiene measures

Wash hands before eating or using the washroom.

Respiratory protection

None necessary under normal conditions. Use NIOSH approved respirator if TLV limit is exceeded.

Hand Protection

For prolonged or repeated skin contact, use a chemically resistant glove such as nitrile or neoprene. Wash hands with soap and water after removing gloves. Dry hands thoroughly before re-applying gloves. .

Eye protection

Use safety eyewear designed to protect against splash of liquids. ANSI approved safety glasses or splash goggles with face shield are recommended.

Skin and body protection

None necessary under normal conditions

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|------------------------|
| Form | Liquid |
| Color | Red Opaque |
| Odor | Aromatic |
| Odor Threshold | Not Applicable |
| pH | Not Applicable |
| Specific Gravity | > 1 @ 70F |
| Vapor pressure | No data available |
| Vapor density | > 1 (Air=1) |
| Evaporation Rate | <1 (Butyl Acetate = 1) |
| Water solubility | Negligible |
| VOC Content | 5.39 |
| Partition Coefficient (n-octanol/water) | Not Applicable |
| Boiling point/range °C | 138-141 |
| Boiling point/range °F | 282-286 |
| Melting point/range °C | Not Applicable |
| Melting point/range °F | Not Applicable |
| Flash point °C | 26 |
| Flash point °F | 79 |

10. STABILITY AND REACTIVITY

Stability

Stable.

Conditions to avoid

None known.

Incompatibility

Strong oxidizers. Reducing agents. Alkalis. Strong acids.

Hazardous Decomposition Products

Carbon dioxide. Carbon monoxide. smoke. Soot. Various organic oxidation by-products.

Polymerization

Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Component Information

| Chemical Name | LD50 (oral,rat) | LD50 (dermal,rat/rabbit) | LC50 (inhalation,rat) |
|---------------------------------------|-----------------|--------------------------|------------------------|
| Xylenes (o-, m-, p-isomers) 1330-20-7 | 4300 mg/kg | 1700 mg/kg | 47635 mg/L 5000 ppm |
| Hydrocarbon Resin 68131-77-1 | - | - | - |
| Butadiene-Styrene Resin 9003-55-8 | - | - | - |
| Pigment Red 2786-76-7 | - | - | - |
| Ethyl benzene 100-41-4 | 3500 mg/kg | 15354 mg/kg | 17.2 mg/L |

Product code **DN5440**Product name **Bayonet
Permanent Marker - Red****Synergistic Products** None known**Potential health effects****Sensitization** None known**Chronic toxicity** None known**Mutagenic effects** None known**Teratogenic effects** None known**Reproductive toxicity** None known**Target Organ Effects** See Section 2**Carcinogenic effects** See table below

| Chemical Name | ACGIH OEL - Carcinogens | IARC | NTP - Known Carcinogens | NTP - Suspected Human Carcinogens | OSHA RTK Carcinogens |
|------------------------------|-------------------------------|------------|-------------------------------|--|----------------------------|
| Xylenes (o-, m-, p- isomers) | A4 | Not Listed | Not Listed | Not Listed | Not Listed |
| Hydrocarbon Resin | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Butadiene-Styrene Resin | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Pigment Red | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Ethyl benzene | A3 | Group 2B | Not Listed | Not Listed | Listed |

12. ECOLOGICAL INFORMATIONXylenes (o-, m-, p- isomers)**Microtox Data***Photobacterium phosphoreum* EC50=0.0084 mg/L (24 h)**Water Flea Data**water flea hEC50 48 (3.82 mg/L)Gammarus lacustris hLC50 48 (0.6 mg/L)water flea hEC50 48 (3.82 mg/L)Ethyl benzene**Microtox Data***Photobacterium phosphoreum* EC50=9.68 mg/L (30 min)*Nitrosomonas* EC50=96 mg/L (24 h)**Water Flea Data**Daphnia magna hEC50 48 (1.8 - 2.4 mg/L)**13. DISPOSAL CONSIDERATIONS****Waste from residues / unused products**

Discard in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION**DOT**

UN1263 Paint, Class 3, PG III

Exception: (Flammable Liquids PG III not more than 5.0L) Consumer Commodity ORM-D**TDG**

Not Allowed

15. REGULATORY INFORMATION**US EPA SARA 313**

| Chemical Name | US EPA SARA 313 Emission Reporting |
|------------------------------|------------------------------------|
| Xylenes (o-, m-, p- isomers) | Listed |
| Ethyl benzene | Listed |

State Regulations

| Chemical Name | New Jersey - RTK | Pennsylvania - RTK | California Prop. 65 |
|------------------------------|---------------------|-----------------------|------------------------|
| Xylenes (o-, m-, p- isomers) | Listed | Listed | Not Listed |
| Hydrocarbon Resin | Not Listed | Not Listed | Not Listed |
| Butadiene-Styrene Resin | Not Listed | Not Listed | Not Listed |
| Pigment Red | Not Listed | Not Listed | Not Listed |
| Ethyl benzene | Listed | Listed | Carcinogen |

International Inventories

| Chemical Name | EINECS | DSL | NDSL | TSCA |
|------------------------------|--------|-----|------|------|
| Xylenes (o-, m-, p- isomers) | X | X | - | X |
| Hydrocarbon Resin | - | X | - | X |
| Butadiene-Styrene Resin | - | X | - | X |
| Pigment Red | X | X | - | X |
| Ethyl benzene | X | X | - | X |

CPR

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all of the information required by the Controlled Product Regulations

16. OTHER INFORMATION**HMIS****Health - 2****Flammability - 3****Physical Hazard - 0****Prepared By**V. Shargorodsky, Regulatory Affairs
Engineer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

Product code **DN5440**

Product name **Bayonet
Permanent Marker - Red**

Material Safety Data Sheet

Revision Date 24-Jan-2012

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code DN5450
Product name Bayonet Permanent Marker - White Marker
Recommended Use

Supplier Drummond American
A Lawson Products Company
600 Corporate Woods Parkway
Vernon Hills, IL 60061
(847) 913-9313

Emergency telephone number (888) 426-4851

2. HAZARDS IDENTIFICATION

Emergency Overview

Flammable. Vapors may be irritating to eyes, nose, throat, and lungs. May be harmful if swallowed.

Aggravated Medical Conditions

None Known

Principal Routes of Exposure

Eyes. Skin. Ingestion. Inhalation.

Potential health effects

Eyes Moderately irritating to the eyes.

Skin Mild irritation. Repeated or prolonged exposure may cause:. Sensitization. Dermatitis.

Inhalation May cause irritation of respiratory tract. Headaches. Dizziness. Nausea. Repeated and prolonged exposure to solvents may cause brain and nervous system damage. Misuse by deliberately concentrating vapors and inhaling contents can be harmful or fatal.

Ingestion Swallowing substance will cause the following effects:. Vomiting.

3. COMPOSITION / INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | Weight % |
|-------------------------|------------|----------|
| Hydrocarbon Resin | 68131-77-1 | 10-30 |
| Butadiene-Styrene Resin | 9003-55-8 | 3-7 |
| Ethyl benzene | 100-41-4 | 3-7 |
| Xylene (mix) | 1330-20-7 | 30-60 |
| Titanium dioxide | 13463-67-7 | 20-30 |

4. FIRST AID MEASURES

Eye contact Flush with plenty of water for at least 15 minutes. Seek medical attention immediately.

Skin contact Wash off immediately with plenty of water. Remove contaminated clothing and footwear.

Ingestion If a large quantity is swallowed, consult a physician. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention immediately.

Inhalation Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Immediate medical attention is required.

5. FIRE FIGHTING MEASURES

Flash point °C 26
Flash point °F 79
Method No information available

Autoignition temperature °C Not Applicable
Autoignition temperature °F Not Applicable

Flammability Limits (% in Air)
Upper 12.3
Lower 1.9

Suitable extinguishing media

Water fog. Dry chemical powder. Carbon dioxide (CO2). Water spray.

Special protective equipment for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

Fire and Explosion Hazards

Do not release run-off from fire control methods to sewers or waterways. Do not enter any enclosed or confined fire space without proper protective equipment. Keep containers cool. Use shielding to protect against bursting or venting containers. Vapors are heavier than air and may travel along the ground to an ignition source distant from material handling area. Possible ignition sources include pilot lights, flames, lighted cigarettes, heating elements, electric motors, sparks from electrical switches. Vapors may form explosive mixture in air between upper and lower explosive limits which can be ignited by many sources, such as pilot lights, open flames, electrical motors and switches.

Sensitivity to shock

No information available.

Sensitivity to static discharge

No information available.

6. ACCIDENTAL RELEASE MEASURES

Clean-up methods - small spill

Soak up excess with absorbent material. Place in non-leaking, tightly sealed container for proper disposal. Dispose of absorbent in accordance with local, state and federal regulations.

Product code **DN5450**

Product name **Bayonet
Permanent Marker - White**

Clean-up methods - large spill

Evacuate area of unprotected and unnecessary personnel. Eliminate all sources of ignition. Collect run-off water and dispose. Do not allow product to reach sewage system, soil, surface or ground water, or any water course. Notify proper authorities if entry occurs. Remove with vacuum trucks or pump to storage vessel. Pick up and transfer to properly labelled containers. Dispose of absorbent in accordance with local, state and federal regulations.

7. HANDLING AND STORAGE

Handling

Use only according to label directions. Containers can contain explosive vapors or residues. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such contents to heat, flames, and other sources of ignition. Spent product mixed with oil may be combustible in air. . Keep container closed when not in use.

Storage

Keep away from open flames, hot surfaces and sources of ignition. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from flammable and combustible materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| Chemical Name | OSHA PEL (TWA) | OSHA PEL (Ceiling) | ACGIH OEL (TWA) | ACGIH OEL (STEL) |
|-------------------------|----------------------------------|--------------------|----------------------|------------------|
| Xylene (mix) | 100 ppm 435 mg/m ³ | - | 100 ppm | 150 ppm |
| Titanium dioxide | 15 mg/m ³ total | - | 10 mg/m ³ | - |
| Hydrocarbon Resin | - | - | - | - |
| Butadiene-Styrene Resin | - | - | - | - |
| Ethyl benzene | 100 ppm 435 mg/m ³ | - | 20 ppm | - |

Ventilation and Environmental Controls

Adequate ventilation should be provided to keep exposure levels below current acceptable exposure limits. Mechanical: as necessary.

Hygiene measures

Wash hands before eating or using the washroom.

Respiratory protection

None necessary under normal conditions. Use NIOSH approved respirator if TLV limit is exceeded.

Hand Protection

For prolonged or repeated skin contact, use a chemically resistant glove such as nitrile or neoprene. Wash hands with soap and water after removing gloves. Dry hands thoroughly before re-applying gloves. .

Eye protection

Use safety eyewear designed to protect against splash of liquids.

Skin and body protection

None necessary under normal conditions

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|------------------------|
| Form | Liquid |
| Color | White Opaque |
| Odor | Aromatic |
| Odor Threshold | Not Applicable |
| pH | Not Applicable |
| Specific Gravity | > 1 @ 70F |
| Vapor pressure | No data available |
| Vapor density | > 1 (Air=1) |
| Evaporation Rate | <1 (Butyl Acetate = 1) |
| Water solubility | Negligible |
| VOC Content | 5.76 |
| Partition Coefficient (n-octanol/water) | Not Applicable |
| Boiling point/range °C | 138-141 |
| Boiling point/range °F | 282-286 |
| Melting point/range °C | Not Applicable |
| Melting point/range °F | Not Applicable |
| Flash point °C | 26 |
| Flash point °F | 79 |

10. STABILITY AND REACTIVITY

Stability

Stable.

Conditions to avoid

None known.

Incompatibility

Strong oxidizers. Reducing agents. Alkalis. Strong acids.

Hazardous Decomposition Products

Carbon dioxide. Carbon monoxide. smoke. Soot. Various organic oxidation by-products.

Polymerization

Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Component Information

| Chemical Name | LD50 (oral,rat) | LD50 (dermal ,rat/rab bit) | LC50 (inhalation,rat) |
|-----------------------------------|------------------|----------------------------|------------------------|
| Xylene (mix) 1330-20-7 | 4300 mg/kg | 1700 mg/kg | 47635 mg/L 5000 ppm |
| Titanium dioxide 13463-67-7 | 10000 mg/kg | - | - |
| Hydrocarbon Resin 68131-77-1 | - | - | - |
| Butadiene-Styrene Resin 9003-55-8 | - | - | - |
| Ethyl benzene 100-41-4 | 3500 mg/kg | 15354 mg/kg | 17.2 mg/L |

Product code **DN5450**Product name **Bayonet
Permanent Marker - White****Synergistic Products** None known**Potential health effects****Sensitization** None known**Chronic toxicity** None known**Mutagenic effects** None known**Teratogenic effects** None known**Reproductive toxicity** None known**Target Organ Effects** See Section 2**Carcinogenic effects** See table below

| Chemical Name | ACGIH OEL - Carcinogens | IARC | NTP - Known Carcinogens | NTP - Suspected Human Carcinogens | OSHA RTK Carcinogens |
|-------------------------|-------------------------|------------|-------------------------|-----------------------------------|----------------------|
| Xylene (mix) | A4 | Not Listed | Not Listed | Not Listed | Not Listed |
| Titanium dioxide | A4 | Group 2B | Not Listed | Not Listed | Listed |
| Hydrocarbon Resin | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Butadiene-Styrene Resin | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Ethyl benzene | A3 | Group 2B | Not Listed | Not Listed | Listed |

12. ECOLOGICAL INFORMATION**Xylene (mix)****Microtox Data***Photobacterium phosphoreum* EC50=0.0084 mg/L (24 h)**Water Flea Data***water flea hEC50 48 (3.82 mg/L)**Gammarus lacustris hLC50 48 (0.6 mg/L)**water flea hEC50 48 (3.82 mg/L)***Ethyl benzene****Microtox Data***Photobacterium phosphoreum* EC50=9.68 mg/L (30 min)*Nitrosomonas* EC50=96 mg/L (24 h)**Water Flea Data***Daphnia magna hEC50 48 (1.8 - 2.4 mg/L)***13. DISPOSAL CONSIDERATIONS****Waste from residues / unused products**

Discard in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION**DOT**

UN1263 Paint, Class 3, PG III

Exception: (Flammable Liquids PG III not more than 5.0L) Consumer Commodity ORM-D**TDG**

Not Allowed

15. REGULATORY INFORMATION**US EPA SARA 313**

| Chemical Name | US EPA SARA 313 Emission Reporting |
|---------------|------------------------------------|
| Xylene (mix) | Listed |
| Ethyl benzene | Listed |

State Regulations

| Chemical Name | New Jersey - RTK | Pennsylvania - RTK | California Prop. 65 |
|-------------------------|------------------|--------------------|---------------------|
| Xylene (mix) | Not Listed | Listed | Not Listed |
| Titanium dioxide | Not Listed | Listed | Carcinogen |
| Hydrocarbon Resin | Not Listed | Not Listed | Not Listed |
| Butadiene-Styrene Resin | Not Listed | Not Listed | Not Listed |
| Ethyl benzene | Listed | Listed | Carcinogen |

International Inventories

| Chemical Name | EINECS | DSL | NDSL | TSCA |
|-------------------------|--------|-----|------|------|
| Xylene (mix) | X | X | - | X |
| Titanium dioxide | X | X | - | X |
| Hydrocarbon Resin | - | X | - | X |
| Butadiene-Styrene Resin | - | X | - | X |
| Ethyl benzene | X | X | - | X |

CPR

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all of the information required by the Controlled Product Regulations

16. OTHER INFORMATION**HMIS****Health - 2****Flammability - 3****Physical Hazard - 0****Prepared By**

V. Shargorodsky, Regulatory Affairs Engineer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

Material Safety Data Sheet

Revision Date 31-Jan-2012

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code DN5460
Product name Bayonet Permanent Marker - Yellow Marker
Recommended Use
Supplier Drummond American
A Lawson Products Company
600 Corporate Woods Parkway
Vernon Hills, IL 60061
(847) 913-9313
Emergency telephone number (888) 426-4851

2. HAZARDS IDENTIFICATION

Emergency Overview

Flammable. Vapors may be irritating to eyes, nose, throat, and lungs. May be harmful if swallowed.

Aggravated Medical Conditions

None Known

Principal Routes of Exposure

Eyes. Skin. Ingestion. Inhalation.

Potential health effects

Eyes Moderately irritating to the eyes.

Skin Mild irritation. Repeated or prolonged exposure may cause: Sensitization. Dermatitis.

Inhalation May cause irritation of respiratory tract. Headaches. Dizziness. Nausea. Repeated and prolonged exposure to solvents may cause brain and nervous system damage. Misuse by deliberately concentrating vapors and inhaling contents can be harmful or fatal.

Ingestion Swallowing substance will cause the following effects: Vomiting.

3. COMPOSITION / INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | Weight % |
|-------------------------|------------|----------|
| Hydrocarbon Resin | 68131-77-1 | 10-30 |
| Butadiene-Styrene Resin | 9003-55-8 | 3-7 |
| Ethyl benzene | 100-41-4 | 3-7 |
| C.I. Solvent Yellow 56 | 2481-94-9 | 3-7 |
| Pigment Yellow | 13515-40-7 | 3-7 |
| Titanium dioxide | 13463-67-7 | 10-30 |
| Xylene (mix) | 1330-20-7 | 40-70 |

4. FIRST AID MEASURES

Eye contact Flush with plenty of water for at least 15 minutes. Seek medical attention immediately.

Skin contact Wash off immediately with plenty of water. Remove contaminated clothing and footwear.

Ingestion If a large quantity is swallowed, consult a physician. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention immediately.

Inhalation Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Immediate medical attention is required.

5. FIRE FIGHTING MEASURES

Flash point °C 26
Flash point °F 79
Method No information available

Autoignition temperature °C Not Applicable
Autoignition temperature °F Not Applicable

Flammability Limits (% in Air)
Upper 12.3
Lower 1.9

Suitable extinguishing media

Water fog. Dry chemical powder. Carbon dioxide (CO2). Water spray.

Special protective equipment for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

Fire and Explosion Hazards

Do not release run-off from fire control methods to sewers or waterways. Do not enter any enclosed or confined fire space without proper protective equipment. Keep containers cool. Use shielding to protect against bursting or venting containers. Vapors are heavier than air and may travel along the ground to an ignition source distant from material handling area. Possible ignition sources include pilot lights, flames, lighted cigarettes, heating elements, electric motors, sparks from electrical switches. Vapors may form explosive mixture in air between upper and lower explosive limits which can be ignited by many sources, such as pilot lights, open flames, electrical motors and switches.

Sensitivity to shock

No information available.

Sensitivity to static discharge

No information available.

6. ACCIDENTAL RELEASE MEASURES

6. ACCIDENTAL RELEASE MEASURES**Clean-up methods - small spill**

Soak up excess with absorbent material. Place in non-leaking, tightly sealed container for proper disposal. Dispose of absorbent in accordance with local, state and federal regulations.

Clean-up methods - large spill

Evacuate area of unprotected and unnecessary personnel. Eliminate all sources of ignition. Collect run-off water and dispose. Do not allow product to reach sewage system, soil, surface or ground water, or any water course. Notify proper authorities if entry occurs. Remove with vacuum trucks or pump to storage vessel. Pick up and transfer to properly labelled containers. Dispose of absorbent in accordance with local, state and federal regulations.

7. HANDLING AND STORAGE**Handling**

Use only according to label directions. Containers can contain explosive vapors or residues. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such contents to heat, flames, and other sources of ignition. Spent product mixed with oil may be combustible in air. . Keep container closed when not in use.

Storage

Keep away from open flames, hot surfaces and sources of ignition. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from flammable and combustible materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| Chemical Name | OSHA PEL (TWA) | OSHA PEL (Ceiling) | ACGIH OEL (TWA) | ACGIH OEL (STEL) |
|-------------------------|----------------------------------|--------------------|----------------------|------------------|
| Xylene (mix) | 100 ppm 435 mg/m ³ | - | 100 ppm | 150 ppm |
| Titanium dioxide | 15 mg/m ³ total | - | 10 mg/m ³ | - |
| Hydrocarbon Resin | - | - | - | - |
| Butadiene-Styrene Resin | - | - | - | - |
| Ethyl benzene | 100 ppm 435 mg/m ³ | - | 20 ppm | - |
| Pigment Yellow | - | - | - | - |
| C.I. Solvent Yellow 56 | - | - | - | - |

Ventilation and Environmental Controls

Adequate ventilation should be provided to keep exposure levels below current acceptable exposure limits. Mechanical: as necessary.

Hygiene measures

Wash hands before eating or using the washroom.

Respiratory protection

None necessary under normal conditions. Use NIOSH approved respirator if TLV limit is exceeded.

Hand Protection

For prolonged or repeated skin contact, use a chemically resistant glove such as nitrile or neoprene. Wash hands with soap and water after removing gloves. Dry hands thoroughly before re-applying gloves. .

Eye protection

ANSI approved safety glasses or splash goggles with face shield are recommended.

Skin and body protection

None necessary under normal conditions

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|------------------------|
| Form | Liquid |
| Color | Yellow Opaque |
| Odor | Aromatic |
| Odor Threshold | Not Applicable |
| pH | Not Applicable |
| Specific Gravity | > 1 @ 70F |
| Vapor pressure | No data available |
| Vapor density | > 1 (Air=1) |
| Evaporation Rate | <1 (Butyl Acetate = 1) |
| Water solubility | Negligible |
| VOC Content | 5.26 |
| Partition Coefficient (n-octanol/water) | Not Applicable |
| Boiling point/range °C | 138-141 |
| Boiling point/range °F | 282-286 |
| Melting point/range °C | Not Applicable |
| Melting point/range °F | Not Applicable |
| Flash point °C | 26 |
| Flash point °F | 79 |

10. STABILITY AND REACTIVITY**Stability**

Stable.

Conditions to avoid

None known.

Incompatibility

Strong oxidizers. Reducing agents. Alkalis. Strong acids.

Hazardous Decomposition Products

Carbon dioxide. Carbon monoxide. smoke. Soot. Various organic oxidation by-products.

Product code **DN5460**Product name **Bayonet
Permanent Marker - Yellow****Polymerization**

Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION**Component Information**

| Chemical Name | LD50 (oral, rat) () | LD50 (dermal ,rat/rab bit) | LC50 (inhalation,rat) |
|--|----------------------------|-------------------------------------|------------------------|
| Xylene (mix) 1330-20-7 | 4300 mg/kg | 1700 mg/kg | 47635 mg/L 5000 ppm |
| Titanium dioxide 13463-67-7 | 10000 mg/kg | - | - |
| Hydrocarbon Resin 68131-77-1 | - | - | - |
| Butadiene- Styrene Resin 9003-55-8 | - | - | - |
| Ethyl benzene 100-41-4 | 3500 mg/kg | 15354 mg/kg | 17.2 mg/L |
| Pigment Yellow 13515-40-7 | - | - | - |
| C.I. Solvent Yellow 56 2481-94-9 | - | - | - |

Synergistic Products None known**Potential health effects****Sensitization** None known**Chronic toxicity** None known**Mutagenic effects** None known**Teratogenic effects** None known**Reproductive toxicity** None known**Target Organ Effects** See Section 2**Carcinogenic effects** See table below

| Chemical Name | ACGIH OEL - Carcinoge ns | IARC | NTP - Known Carcinoge ns | NTP - Suspected Human Carcinoge ns | OSHA RTK Carcinoge ns |
|-------------------------|-----------------------------------|------------|-----------------------------------|--|--------------------------------|
| Xylene (mix) | A4 | Not Listed | Not Listed | Not Listed | Not Listed |
| Titanium dioxide | A4 | Group 2B | Not Listed | Not Listed | Listed |
| Hydrocarbon Resin | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Butadiene-Styrene Resin | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Ethyl benzene | A3 | Group 2B | Not Listed | Not Listed | Listed |
| Pigment Yellow | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |

12. ECOLOGICAL INFORMATIONXylene (mix)**Microtox Data***Photobacterium phosphoreum* EC50=0.0084 mg/L (24 h)**Water Flea Data***water flea* hEC50 48 (3.82 mg/L)*Gammarus lacustris* hLC50 48 (0.6 mg/L)*water flea* hEC50 48 (3.82 mg/L)Ethyl benzene**Microtox Data***Photobacterium phosphoreum* EC50=9.68 mg/L (30 min)*Nitrosomonas* EC50=96 mg/L (24 h)**Water Flea Data***Daphnia magna* hEC50 48 (1.8 - 2.4 mg/L)**13. DISPOSAL CONSIDERATIONS****Waste from residues / unused products**

Discard in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION**DOT**

UN1263 Paint, Class 3, PG III

Exception: (Flammable Liquids PG III not more than 5.0L) Consumer Commodity ORM-D**TDG**

Not Allowed

15. REGULATORY INFORMATION**US EPA SARA 313**

| Chemical Name | US EPA SARA 313 Emission Reporting |
|---------------|------------------------------------|
| Xylene (mix) | Listed |
| Ethyl benzene | Listed |

State Regulations

| Chemical Name | New Jersey - RTK | Pennsylvania - RTK | California Prop. 65 |
|-------------------------|---------------------|-----------------------|------------------------|
| Xylene (mix) | Not Listed | Listed | Not Listed |
| Titanium dioxide | Not Listed | Listed | Carcinogen |
| Hydrocarbon Resin | Not Listed | Not Listed | Not Listed |
| Butadiene-Styrene Resin | Not Listed | Not Listed | Not Listed |
| Ethyl benzene | Listed | Listed | Carcinogen |
| Pigment Yellow | Not Listed | Not Listed | Not Listed |
| C.I. Solvent Yellow 56 | Not Listed | Not Listed | Not Listed |

Product code **DN5460**

Product name **Bayonet
Permanent Marker - Yellow**

International Inventories

| Chemical Name | EINECS | DSL | NDSL | TSCA |
|-------------------------|--------|-----|------|------|
| Xylene (mix) | X | X | - | X |
| Titanium dioxide | X | X | - | X |
| Hydrocarbon Resin | - | X | - | X |
| Butadiene-Styrene Resin | - | X | - | X |
| Ethyl benzene | X | X | - | X |
| Pigment Yellow | X | X | - | X |
| C.I. Solvent Yellow 56 | X | X | - | X |

CPR

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all of the information required by the Controlled Product Regulations

16. OTHER INFORMATION

HMIS

Health - 2
Flammability - 3
Physical Hazard - 0

Prepared By

V. Shargorodsky, Regulatory Affairs
Engineer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.



Safety Data Sheet:
**Material Name: Elmer's No-
Wrinkle Rubber Cement**
SDS ID: SDS-34
Issue Date: 2015-06-12
Revision: 1.2

Other Sections

[01](#) [02](#) [03](#) [04](#) [05](#) [06](#) [07](#) [08](#) [09](#) [10](#) [11](#) [12](#) [13](#) [14](#) [15](#) [16](#)

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

Elmer's No-Wrinkle Rubber Cement

Synonyms

E141; E904; 231, 232, 233, 234, 61518; E63231T; E425; E1539, 60818

Chemical Family

Adhesive

Product Use

Adhesive

Details of the supplier of the safety data sheet

Elmer's Products, Inc
460 Polaris Parkway, Suite 500
Westerville, OH 43082
USA
Phone: 1-888-435-6377
Fax: 1-800-741-6046
Email: comments@elmers.com

Emergency Phone Number:
Poison Control Center
1-888-516-2502

For additional product information, access our website at www.elmers.com. To place an order, call 1-800-848-9400.

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.

Flammable Liquids - Category 2
Aspiration Hazard - Category 1
Skin Corrosion/Irritation - Category 2
Serious Eye Damage/Eye Irritation - Category 2A
Specific Target Organ Toxicity - Single Exposure - Category 3
Specific Target Organ Toxicity - Repeated Exposure - Category 2
Hazardous to the Aquatic Environment - Acute - Category 1
Hazardous to the Aquatic Environment - Chronic - Category 1

GHS Label Elements

Symbol(s)



Signal Word

Danger

Hazard Statement(s)

Highly flammable liquid and vapor
May be fatal if swallowed and enters airways
Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation. May cause drowsiness or dizziness
May cause damage to organs through prolonged or repeated exposure
Very toxic to aquatic life with long lasting effects

Precautionary Statement(s)

Prevention

Keep container tightly closed
Keep away from heat/sparks/open flame/hot surfaces - No smoking
Ground/Bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting equipment
Take precautionary measures against static discharge
Use only non-sparking tools
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection
Do not breathe dust/fume/gas/mist/vapours/spray
Wash thoroughly after handling
Avoid release to the environment

Response

In case of fire: Use appropriate media to extinguish

Collect spillage

IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing

Call a POISON CENTER or doctor if you feel unwell

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

If eye irritation persists: Get medical advice/attention

IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower

If skin irritation occurs: Get medical advice/attention

Take off contaminated clothing and wash before reuse

IF SWALLOWED: Immediately call a POISON CENTER/doctor

Do NOT induce vomiting

Specific treatment (see label)

Storage

Store in a well-ventilated place. Keep container tightly closed

Keep cool

Store locked up

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

| CAS | Component Name | Percent |
|----------|----------------|---------|
| 142-82-5 | n-Heptane | > 85 |

Section 4 - FIRST AID MEASURES**Inhalation**

Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.

Skin

Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eyes

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion

Immediately call a POISON CENTER or doctor/physician. DO NOT induce vomiting. Aspiration hazard. If vomiting occurs, keep head lower than hips to help prevent aspiration. Aspiration into the lungs may result in pulmonary edema and pneumonitis.

Most Important Symptoms/Effects**Acute**

May be fatal if swallowed and enters airways. May cause respiratory irritation, skin irritation, eye irritation.

Delayed

May cause damage to organs through prolonged or repeated exposure.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media**Suitable Extinguishing Media**

Dry chemical, foam or carbon dioxide, water.

Unsuitable Extinguishing Media

None known.

Special Hazards Arising from the Chemical

Highly flammable liquid and vapor. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back. Vapor/air mixtures are explosive.

Advice for firefighters

Wear self-contained breathing apparatus with a full facepiece and protective clothing.

Fire Fighting Measures

Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Do not scatter spilled material with high-pressure water streams. In case of fire and/or explosion do not breathe fumes. Stay upwind and keep out of low areas.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Keep unnecessary people away, isolate hazard area and deny entry. Do not breathe gas/vapor/spray. Avoid contact with skin and eyes. Vapors may cause drowsiness and dizziness. Wear personal protective clothing and equipment, see Section 8.

Methods and Materials for Containment and Cleaning Up

Eliminate all ignition sources if safe to do so. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas. Ventilate closed spaces before entering. Stop leak if possible without personal risk. Reduce vapors with water spray. Ground any equipment used in handling. Do not touch or walk through spilled material. Absorb with earth, sand or other non-combustible material and transfer to container. Use only non-sparking tools. Large spills: Dike for later disposal.

Environmental Precautions

Prevent entry into waterways, sewers, basements, or confined areas. Avoid release to the environment. Collect spillage.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapors/spray. Use only with adequate ventilation. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid heat, flames, sparks and other sources of ignition. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge. Use only non-sparking tools. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

Conditions for Safe Storage, Including any Incompatibilities

Store in a well-ventilated place. Keep container tightly closed

Keep cool

Store locked up

Incompatible Materials

acids, bases, amines, oxidizing materials.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

| | |
|-----------|---|
| n-Heptane | 142-82-5 |
| ACGIH: | 400 ppm TWA |
| | 500 ppm STEL |
| NIOSH: | 85 ppm TWA; 350 mg/m ³ TWA |
| | 440 ppm Ceiling 15 min; 1800 mg/m ³ Ceiling 15 min |
| | 750 ppm IDLH |
| Europe: | 500 ppm TWA; 2085 mg/m ³ TWA |

| | |
|------------|---|
| OSHA (US): | 500 ppm TWA; 2000 mg/m ³ TWA |
| Mexico: | 400 ppm TWA LMPE-PPT; 1600 mg/m ³ TWA LMPE-PPT |
| | 500 ppm STEL [LMPE-CT]; 2000 mg/m ³ STEL [LMPE-CT] |
| | Skin - potential for cutaneous absorption |

Biological limit value

There are no biological limit values for any of this product's components.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|------------------------------|------------------------|---|---------------|
| Appearance | opaque liquid | Physical State | liquid |
| Odor | mild odor,solvent odor | Color | Not available |
| Odor Threshold | Not available | pH | Not available |
| Melting Point | Not available | Boiling Point | 90 °C |
| Freezing point | Not available | Evaporation Rate | <1 (ether =1) |
| Boiling Point Range | Not available | Flammability (solid, gas) | Not available |
| Autoignition | Not available | Flash Point | -4 °C TCC |
| Lower Explosive Limit | Not available | Decomposition | Not available |
| Upper Explosive Limit | Not available | Vapor Pressure | Not available |
| Vapor Density (air=1) | >1 | Specific Gravity (water=1) | 0.71 |
| Water Solubility | almost insoluble | Partition coefficient: n-octanol/water | Not available |
| Viscosity | Not available | Solubility (Other) | Not available |
| Density | Not available | Volatility | 90 % |

Section 10 - STABILITY AND REACTIVITY

Reactivity

No hazard expected.

Chemical Stability

Stable under normal conditions of use.

Possibility of Hazardous Reactions

Hazardous polymerization will not occur.

Conditions to Avoid

Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat.

Incompatible Materials

acids, bases, amines, oxidizing materials.

Hazardous decomposition products

oxides of carbon.

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation

May cause respiratory irritation.

Skin Contact

Causes skin irritation.

Eye Contact

Causes serious eye irritation.

Ingestion

Aspiration hazard. May be fatal if swallowed.

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

n-Heptane (142-82-5)

Oral LD50 Mouse 5000 mg/kg

Dermal LD50 Rabbit 3000 mg/kg

Inhalation LC50 Rat 103 g/m³ 4 h

Immediate Effects

May cause respiratory irritation, skin irritation, eye irritation. May be fatal if swallowed.

Delayed Effects

May cause damage to organs through prolonged or repeated exposure.

Irritation/Corrosivity Data

Causes skin irritation. May cause eye irritation. May cause respiratory irritation.

Respiratory Sensitization

No information available for the product.

Dermal Sensitization

No information available for the product.

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA

Germ Cell Mutagenicity

No information available for the product.

Tumorigenic Data

No data available

Reproductive Toxicity

No information available for the product.

Specific Target Organ Toxicity - Single Exposure

Respiratory system

Specific Target Organ Toxicity - Repeated Exposure

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard

May be fatal if swallowed.

Medical Conditions Aggravated by Exposure

No data available.

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

| | |
|-----------|---------------------------------|
| n-Heptane | 142-82-5 |
| Fish: | LC50 96 h Cichlid fish 375 mg/L |

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose in accordance with all applicable regulations.

Component Waste Numbers

| | |
|-----------|-------------------|
| n-Heptane | 142-82-5 |
| RCRA: | waste number D001 |
| | waste number D001 |
| | D001 |

Section 14 - TRANSPORT INFORMATION

Component Marine Pollutants

This material contains one or more of the following chemicals required by US DOT to be identified as marine pollutants

| Component | CAS # | Minimum Concentration |
|-----------|----------|--|
| n-Heptane | 142-82-5 | DOT regulated (related to Heptane isomers) |

US DOT Information:

Shipping Name:ADHESIVES

Hazard Class: 3

UN/NA #: UN1133

Packing Group: II

Required Label(s): 3

IATA Information:

Shipping Name:ADHESIVES

Hazard Class: 3

UN#: UN1133

Packing Group: I

Required Label(s): 3

IMDG Information:

Shipping Name:ADHESIVES

Hazard Class: 3

UN#: UN1133

Packing Group: II

TDG Information:

Shipping Name:ADHESIVES**Hazard Class:** 3**UN#:** UN1133**Packing Group:** I

Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

| | |
|-----------|---|
| n-Heptane | 142-82-5 |
| TSCA 12b: | Section 4 , 1 % de minimus concentration (related to Hydrocarbons, C>4) |

SARA Section 311/312 (40 CFR 370 Subparts B and C)

Acute Health: Yes **Chronic Health:** Yes **Fire:** Yes **Pressure:** No **Reactivity:** No

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

| Component | CAS | CA | MA | MN | NJ | PA |
|-----------|----------|-----|-----|-----|-----|-----|
| n-Heptane | 142-82-5 | Yes | Yes | Yes | Yes | Yes |

Not listed under California Proposition 65

Canadian WHMIS Ingredient Disclosure List (IDL)

Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which meet WHMIS criteria specified in the Controlled Products Regulations and are present above the threshold limits listed on the IDL

| | |
|-----------|----------|
| n-Heptane | 142-82-5 |
| | 1 % |

Component Analysis - Inventory

n-Heptane (142-82-5)

| US | CA | EU | AU | PH | JP - ENCS | JP - ISHL | KR - KECI/KECL | KR - TCCA | CN | NZ | MX | TW |
|-----|-----|-----|-----|-----|-----------|-----------|----------------|-----------|-----|-----|-----|-----|
| Yes | DSL | EIN | Yes | Yes | Yes | No | Yes | No | Yes | Yes | Yes | Yes |

Section 16 - OTHER INFORMATION

HMIS Rating

Health: 2 Fire: 3 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

Summary of Changes

Updated SDS: 6/11/2015

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States.

Other Information

Disclaimer:

Supplier gives no warranty whatsoever, including the warranties of merchantability or of fitness for a particular purpose. Any product purchased is sold on the assumption the purchaser shall determine the quality and suitability of the product. Supplier expressly disclaims any and all liability for incidental, consequential or any other damages arising out of the use or misuse of this product. No information provided shall be deemed to be a recommendation to use any product in conflict with any existing patent rights.

1. Identification

Product identifier ENDEAVOUR

Other means of identification

SDS number 556N42D

Product code HIL00525

Recommended use Floor Finish

Recommended restrictions For Labeled Use Only

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name HILLYARD INDUSTRIES

Address 302 North Fourth St.
St. Joseph, MO 64501

Contact person Regulatory Affairs

Telephone number (816) 233-1321 (Ext. 8285)

Fax (816) 383-8485

E-mail regulatoryaffairs@hillyard.com

Emergency telephone # (800) 424-9300
(Only in the event of chemical emergency involving a spill, leak, fire, exposure or accident involving chemicals)

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law in compliance with applicable federal, state and local requirements. CONTAINER DISPOSAL: Triple rinse (or equivalent), then offer clean, dry container for recycling or reconditioning.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

| Chemical name | Common name and synonyms | CAS number | % |
|---------------------------|--------------------------|------------|---------|
| 2-(2-ethoxyethoxy)ethanol | | 111-90-0 | 3 - < 5 |

| Chemical name | Common name and synonyms | CAS number | % |
|--|--------------------------|------------|----------|
| Tributoxyethyl Phosphate | | 78-51-3 | 1 - < 3 |
| Other components below reportable levels | | | 90 - 100 |

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

| | |
|---|---|
| Inhalation | Move to fresh air. Call a physician if symptoms develop or persist. |
| Skin contact | Wash off with soap and water. Get medical attention if irritation develops and persists. |
| Eye contact | Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Continue rinsing. |
| Ingestion | Rinse mouth thoroughly. Drink water as a precaution. |
| Most important symptoms/effects, acute and delayed | Direct contact with eyes may cause temporary irritation. |
| General information | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |

5. Fire-fighting measures

| | |
|--|---|
| Suitable extinguishing media | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2). |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | During fire, gases hazardous to health may be formed. |
| Special protective equipment and precautions for firefighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| Fire fighting equipment/instructions | Move containers from fire area if you can do so without risk. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. |
| General fire hazards | No unusual fire or explosion hazards noted. |

6. Accidental release measures

| | |
|--|---|
| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Material can be slippery when wet. Follow precautions for safe handling described in this safety data sheet. For personal protection, see section 8 of the SDS. |
| Methods and materials for containment and cleaning up | <p>This product is miscible in water.</p> <p>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.</p> |
| Environmental precautions | Avoid discharge into drains, water courses or onto the ground. |

7. Handling and storage

| | |
|---|---|
| Precautions for safe handling | Avoid prolonged exposure. |
| Conditions for safe storage, including any incompatibilities | Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). |

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. AIHA Workplace Environmental Exposure Level (WEEL) Guides

| Components | Type | Value |
|---|------|-----------|
| 2-(2-ethoxyethoxy)ethanol (CAS 111-90-0) | TWA | 140 mg/m3 |
| | | 25 ppm |

| | |
|--|---|
| Biological limit values | No biological exposure limits noted for the ingredient(s). |
| Appropriate engineering controls | Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. |
| Individual protection measures, such as personal protective equipment | |
| Eye/face protection | Avoid contact with eyes. |
| Skin protection | |
| Hand protection | Not normally needed. |
| Other | Not normally needed. |
| Respiratory protection | No personal respiratory protective equipment normally required. In case of insufficient ventilation, wear suitable respiratory equipment. |
| Thermal hazards | None known. |
| General hygiene considerations | Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. |

9. Physical and chemical properties

| | |
|---|---------------------------------------|
| Appearance | Milky emulsion |
| Physical state | Liquid. |
| Form | Liquid. |
| Color | Milky white |
| Odor | Non-objectional odor |
| Odor threshold | Not applicable |
| pH | 8 - 9 Concentrate |
| Melting point/freezing point | Not applicable / Not available |
| Initial boiling point and boiling range | > 200 °F (> 93.33 °C) |
| Flash point | > 200.0 °F (> 93.3 °C) Tag Closed Cup |
| Evaporation rate | < 1 ethyl ether=1 |
| Flammability (solid, gas) | Not applicable. |
| Upper/lower flammability or explosive limits | |
| Explosive limit - lower (%) | Not available. |
| Explosive limit - upper (%) | Not available. |
| Vapor pressure | 17.6 mm Hg |
| Vapor density | 1.27 AIR=1 |
| Relative density | 1.03 at 77°F |
| Solubility(ies) | |
| Solubility (water) | 100 % |
| Partition coefficient (n-octanol/water) | Not available |
| Auto-ignition temperature | Not available |
| Decomposition temperature | Not available |
| Viscosity | Not available |
| Other information | |
| Density | 8.55 lb/gal |
| Explosive properties | Not explosive. |
| Oxidizing properties | Not oxidizing. |
| Percent volatile | 81.5 - 82.5 % |
| VOC | CARB Compliant |

10. Stability and reactivity

| | |
|-------------------|---|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
|-------------------|---|

| | |
|---|--|
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. |
| Conditions to avoid | Avoid temperatures exceeding the flash point. Contact with incompatible materials. |
| Incompatible materials | Strong oxidizing agents. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information

Information on likely routes of exposure

| | |
|---------------------|--|
| Inhalation | Prolonged inhalation may be harmful. |
| Skin contact | May be irritating to the skin. |
| Eye contact | Direct contact with eyes may cause temporary irritation. |
| Ingestion | Expected to be a low ingestion hazard. |

Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity Not known.

| Components | Species | Test Results |
|------------|---------|--------------|
|------------|---------|--------------|

Tributoxyethyl Phosphate (CAS 78-51-3)

Acute

Oral

| | | |
|------|-----|------------|
| LD50 | Rat | 3000 mg/kg |
|------|-----|------------|

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

| Product | Species | | Test Results |
|--|---------|--------------------------------------|-----------------------------------|
| ENDEAVOUR | | | |
| Aquatic | | | |
| Fish | LC50 | Fish | 348.6765 mg/l, 96 hours estimated |
| Components | | Species | Test Results |
| 2-(2-ethoxyethoxy)ethanol (CAS 111-90-0) | | | |
| Aquatic | | | |
| Fish | LC50 | Bluegill (Lepomis macrochirus) | > 10000 mg/l, 96 hours |
| Tributoxyethyl Phosphate (CAS 78-51-3) | | | |
| Aquatic | | | |
| Fish | LC50 | Fathead minnow (Pimephales promelas) | 10.4 - 12 mg/l, 96 hours |

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

| | |
|---------------------------|-------|
| 2-(2-ethoxyethoxy)ethanol | -0.54 |
| Tributoxyethyl Phosphate | 3.75 |

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|---|------------------------|
| Canada | Domestic Substances List (DSL) | Yes |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 11-17-2014

Revision date 06-08-2017

Version # 02

HMIS® ratings Health: 1
Flammability: 0
Physical hazard: 0

Disclaimer

No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose, or of any nature are made with respect to the product(s) or information contained in this material safety data sheet. The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate. The buyer or user assumes all risks associated with the use, misuse or disposal of this product. The buyer or user is responsible to comply with all federal, state or local regulations concerning the use, misuse or disposal of these products.

Revision information This document has undergone significant changes and should be reviewed in its entirety.

1. Identification

Product number 1412525
Product identifier Engage Lube
Revision date 04-21-2014
Company information Lawson Products, INC.
 8770 W. Bryn Mawr Ave., Suite 900
 Chicago, IL 60631
Company phone 773-304-54050
Emergency telephone US 888-426-4851
Version # 03
Supersedes date 04-18-2014
Recommended use Lubricant
Recommended restrictions None known.

2. Hazard(s) identification

Physical hazards Flammable aerosols Category 1
Health hazards Not classified.
OSHA defined hazards Not classified.
Label elements



Signal word Danger
Hazard statement Extremely flammable aerosol.
Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use.
Response If exposed or concerned: Get medical advice/attention.
Storage Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Disposal Dispose of waste and residues in accordance with local authority requirements.
Hazard(s) not otherwise classified (HNOC) Not classified.
Supplemental information Not applicable.

3. Composition/information on ingredients

Mixtures

| Hazardous components | | | |
|--|--------------------------|------------|----------|
| Chemical name | Common name and synonyms | CAS number | % |
| Distillates (petroleum), hydrotreated heavy naphthenic | | 64742-52-5 | 40 - 60 |
| 2-Ethylhexyl Acetate | | 103-09-3 | 2.5 - 10 |
| Butane | | 106-97-8 | 2.5 - 10 |
| Heavy Paraffinic Petroleum Distillates | | 64741-88-4 | 2.5 - 10 |
| Isobutyl Acetate | | 110-19-0 | 2.5 - 10 |
| Light Paraffinic Petroleum Distillates | | 64741-89-5 | 2.5 - 10 |
| n-Butyl Acetate | | 123-86-4 | 2.5 - 10 |

| Hazardous components Chemical name | Common name and synonyms | CAS number | % |
|--|--------------------------|------------|----------|
| Propane | | 74-98-6 | 2.5 - 10 |
| Propyl Acetate | | 109-60-4 | 2.5 - 10 |
| Other components below reportable levels | | | 10 - 20 |

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

| | |
|---|---|
| Inhalation | Move to fresh air. Call a physician if symptoms develop or persist. |
| Skin contact | Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical attention if irritation develops and persists. |
| Eye contact | Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists. |
| Ingestion | Rinse mouth. Get medical attention if symptoms occur. |
| Most important symptoms/effects, acute and delayed | Direct contact with eyes may cause temporary irritation. |
| Indication of immediate medical attention and special treatment needed | Treat symptomatically. |
| General information | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |

5. Fire-fighting measures

| | |
|--|---|
| Suitable extinguishing media | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2). |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | Contents under pressure. Pressurized container may explode when exposed to heat or flame. During fire, gases hazardous to health may be formed. |
| Special protective equipment and precautions for firefighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| Fire-fighting equipment/instructions | Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. |

6. Accidental release measures

| | |
|--|--|
| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. |
| Methods and materials for containment and cleaning up | Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the MSDS. |
| Environmental precautions | Avoid discharge into drains, water courses or onto the ground. |

7. Handling and storage

| | |
|---|---|
| Precautions for safe handling | Do not handle or store near an open flame, heat or other sources of ignition. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not spray on a naked flame or any other incandescent material. Use only in well-ventilated areas. Provide adequate ventilation. Avoid breathing dust/fume/gas/mist/vapors/spray. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not re-use empty containers. Observe good industrial hygiene practices. |
| Conditions for safe storage, including any incompatibilities | Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Keep away from heat, sparks and open flame. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the MSDS). |

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| Components | Type | Value |
|---------------------------------|------|------------------------|
| Isobutyl Acetate (CAS 110-19-0) | PEL | 700 mg/m3 150 ppm |
| n-Butyl Acetate (CAS 123-86-4) | PEL | 710 mg/m3 150 ppm |
| Propane (CAS 74-98-6) | PEL | 1800 mg/m3 1000 ppm |
| Propyl Acetate (CAS 109-60-4) | PEL | 840 mg/m3 200 ppm |

US. ACGIH Threshold Limit Values

| Components | Type | Value |
|---------------------------------|-------------|--------------------|
| Isobutyl Acetate (CAS 110-19-0) | TWA | 150 ppm |
| n-Butyl Acetate (CAS 123-86-4) | STEL | 200 ppm |
| Propyl Acetate (CAS 109-60-4) | TWA STEL | 150 ppm 250 ppm |
| | TWA | 200 ppm |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value |
|---------------------------------|------|---------------------------------|
| Butane (CAS 106-97-8) | TWA | 1900 mg/m3 800 ppm |
| Isobutyl Acetate (CAS 110-19-0) | TWA | 700 mg/m3 150 ppm |
| n-Butyl Acetate (CAS 123-86-4) | STEL | 950 mg/m3 |
| | TWA | 200 ppm 710 mg/m3 150 ppm |
| Propane (CAS 74-98-6) | TWA | 1800 mg/m3 1000 ppm |
| Propyl Acetate (CAS 109-60-4) | STEL | 1050 mg/m3 |
| | TWA | 250 ppm 840 mg/m3 200 ppm |

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Explosion-proof general and local exhaust ventilation.

Individual protection measures, such as personal protective equipment

Eye/face protection If contact is likely, safety glasses with side shields are recommended.

Hand protection Wear protective gloves.

Other Wear suitable protective clothing.

Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Color Not available.

| | |
|-------------------------------------|--|
| Form | Aerosol. |
| Physical state | Gas. |
| Flash point | -156.00 °F (-104.44 °C) Propellant estimated |
| Melting point/freezing point | Not available. |
| Odor | Not available. |
| pH | Not available. |
| Solubility(ies) | Not available. |
| Vapor density | Not available. |
| Vapor pressure | 54 psig @70F estimated |
| Viscosity | Not available. |
| Other information | |
| Specific gravity | 0.826 estimated |

10. Stability and reactivity

| | |
|---|--|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. Hazardous polymerization does not occur. |
| Conditions to avoid | Avoid heat, sparks, open flames and other ignition sources. Contact with incompatible materials. Fire or intense heat may cause violent rupture of packages. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information

Information on likely routes of exposure

| | |
|---------------------|--|
| Ingestion | Expected to be a low ingestion hazard. |
| Inhalation | No adverse effects due to inhalation are expected. |
| Skin contact | No adverse effects due to skin contact are expected. |
| Eye contact | Direct contact with eyes may cause temporary irritation. |

| | |
|---|--|
| Symptoms related to the physical, chemical and toxicological characteristics | Direct contact with eyes may cause temporary irritation. |
|---|--|

Information on toxicological effects

| | |
|-----------------------|---|
| Acute toxicity | Expected to be a low hazard for usual industrial or commercial handling by trained personnel. |
|-----------------------|---|

| Product | Species | Test Results |
|--|----------------|--|
| Engage Lube (CAS Mixture) | | |
| Acute | | |
| <i>Dermal</i> | | |
| LD50 | Rat | 3370.0671 mg/kg, estimated |
| <i>Inhalation</i> | | |
| LC50 | Mouse | 16553.873 mg/l, 2 Hours, estimated |
| | Rat | 31148.2012 mg/l, 15 Minutes, estimated |
| | | 16018.3066 mg/l, 4 Hours, estimated |
| | | 3.4425 mg/l/4h, estimated |
| | Wistar rat | 5015.6738 mg/l, 4 Hours, estimated |
| <i>Oral</i> | | |
| LD50 | Mouse | 52078.4297 mg/kg, estimated |
| | Rabbit | 77.9084 g/kg, estimated |
| | Rat | 31700.834 mg/kg, estimated |
| Components | Species | Test Results |
| 2-Ethylhexyl Acetate (CAS 103-09-3) | | |
| Acute | | |
| <i>Dermal</i> | | |
| LD50 | Guinea pig | > 17460 mg/kg |

| Components | Species | Test Results |
|---|---|-----------------------------|
| | Rabbit | > 5000 mg/kg |
| <i>Oral</i> | | |
| LD50 | Mouse | > 3200 mg/kg |
| | Rat | 3 g/kg |
| Butane (CAS 106-97-8) | | |
| Acute | | |
| <i>Inhalation</i> | | |
| LC50 | Mouse | 680 mg/l, 2 Hours |
| | Rat | 658 mg/l, 4 Hours |
| Heavy Paraffinic Petroleum Distillates (CAS 64741-88-4) | | |
| Acute | | |
| <i>Dermal</i> | | |
| LD50 | Rat | 2000 mg/kg |
| <i>Inhalation</i> | | |
| LC50 | Rat | 2 mg/l/4h |
| <i>Oral</i> | | |
| LD50 | Rat | |
| Isobutyl Acetate (CAS 110-19-0) | | 5000 mg/kg |
| Acute | | |
| <i>Dermal</i> | | |
| LD50 | Rat | 5000 mg/kg |
| <i>Oral</i> | | |
| LD50 | Rabbit | 4.8 g/kg |
| Light Paraffinic Petroleum Distillates (CAS 64741-89-5) | | |
| Acute | | |
| <i>Dermal</i> | | |
| LD50 | Rat | 2000 mg/kg |
| <i>Inhalation</i> | | |
| LC50 | Rat | 2 mg/l/4h |
| <i>Oral</i> | | |
| LD50 | Rat | |
| n-Butyl Acetate (CAS 123-86-4) | | 5000 mg/kg |
| Acute | | |
| <i>Inhalation</i> | | |
| LC50 | Wistar rat | 160 mg/l, 4 Hours |
| <i>Oral</i> | | |
| LD50 | Rat | 14000 mg/kg |
| Propane (CAS 74-98-6) | | |
| Acute | | |
| <i>Inhalation</i> | | |
| LC50 | Rat | > 1442.847 mg/l, 15 Minutes |
| | | 658 mg/l/4h |
| Propyl Acetate (CAS 109-60-4) | | |
| Acute | | |
| <i>Oral</i> | | |
| LD50 | Mouse | 8300 mg/kg |
| | Rabbit | 6.64 g/kg |
| | Rat | 9370 mg/kg |
| Skin corrosion/irritation | Prolonged skin contact may cause temporary irritation. | |
| Serious eye damage/eye irritation | Direct contact with eyes may cause temporary irritation. | |
| Respiratory sensitization | Not a respiratory sensitizer. | |
| Skin sensitization | This product is not expected to cause skin sensitization. | |

| | |
|---|--|
| Germ cell mutagenicity | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
| Carcinogenicity | This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. |
| Reproductive toxicity | This product is not expected to cause reproductive or developmental effects. |
| Specific target organ toxicity - single exposure | Not classified. |
| Specific target organ toxicity - repeated exposure | Not classified. |
| Aspiration hazard | Not an aspiration hazard. |

12. Ecological information

| | |
|--------------------|--|
| Ecotoxicity | The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. |
|--------------------|--|

| Product | Species | | Test Results |
|---|---|--------------------------------------|-------------------------------------|
| Engage Lube (CAS Mixture) | | | |
| Algae | IC50 | Algae | 21159.875 mg/L, 72 Hours, estimated |
| Crustacea | EC50 | Daphnia | 1722.0596 mg/L, 48 Hours, estimated |
| Fish | LC50 | Fish | 832.9078 mg/l, 96 hours, estimated |
| Components | Species | | Test Results |
| Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5) | | | |
| Crustacea | EC50 | Daphnia | 1000.0001 mg/L, 48 Hours |
| Heavy Paraffinic Petroleum Distillates (CAS 64741-88-4) | | | |
| Crustacea | EC50 | Daphnia | 1000.0001 mg/L, 48 Hours |
| Fish | LC50 | Fish | 5001, 96 Hours |
| Isobutyl Acetate (CAS 110-19-0) | | | |
| Fish | LC50 | Fish | 100, 96 Hours |
| Light Paraffinic Petroleum Distillates (CAS 64741-89-5) | | | |
| Crustacea | EC50 | Daphnia | 1000.0001 mg/L, 48 Hours |
| Fish | LC50 | Fish | 5001, 96 Hours |
| n-Butyl Acetate (CAS 123-86-4) | | | |
| Algae | IC50 | Algae | 675 mg/L, 72 Hours |
| Aquatic | | | |
| Fish | LC50 | Fathead minnow (Pimephales promelas) | 17 - 19 mg/l, 96 hours |
| Propyl Acetate (CAS 109-60-4) | | | |
| Aquatic | | | |
| Fish | LC50 | Fathead minnow (Pimephales promelas) | 56 - 64 mg/l, 96 hours |
| Persistence and degradability | No data is available on the degradability of this product. | | |
| Bioaccumulative potential | No data available. | | |
| Partition coefficient n-octanol / water (log Kow) | | | |
| Propyl Acetate | | | 1.23 |
| Isobutyl Acetate | | | 1.78 |
| n-Butyl Acetate | | | 1.78 |
| Propane | | | 2.36 |
| Butane | | | 2.89 |
| Mobility in soil | No data available. | | |
| Other adverse effects | No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component. | | |

13. Disposal considerations

| | |
|--|--|
| Disposal instructions | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. |
| Hazardous waste code | The waste code should be assigned in discussion between the user, the producer and the waste disposal company. |
| Waste from residues / unused products | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). |
| Contaminated packaging | Since emptied containers may retain product residue, follow label warnings even after container is emptied. |

14. Transport information

DOT

| | |
|--------------------------------|---|
| UN number | UN1950 |
| UN proper shipping name | Aerosols, flammable |
| Transport hazard class(es) 2.1 | |
| Subsidiary class(es) | Not available. |
| Packing group | Not available. |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |
| Labels required | None |
| Special provisions | N82 |
| Packaging exceptions | 306 |
| Packaging non bulk | None |
| Packaging bulk | None |

This product meets the exception requirements of section 173.306 as a limited quantity and may be shipped as a limited quantity. Until 12/31/2020, the "Consumer Commodity - ORM-D" marking may still be used in place of the new limited quantity diamond mark for packages of UN 1950 Aerosols. Limited quantities require the limited quantity diamond mark on cartons after 12/31/20 and may be used now in place of the "Consumer Commodity ORM-D" marking and both may be displayed concurrently.

IATA

| | |
|--------------------------------|---|
| UN number | UN1950 |
| UN proper shipping name | Aerosols, flammable |
| Transport hazard class(es) 2.1 | |
| Subsidiary class(es) | - |
| Packaging group | Not available. |
| Environmental hazards | No |
| Labels required | 2.1 |
| ERG Code | 10L |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |
| Packaging Exceptions | LTD QTY |

IMDG

| | |
|--------------------------------|---|
| UN number | UN1950 |
| UN proper shipping name | AEROSOLS |
| Transport hazard class(es) 2.1 | |
| Subsidiary class(es) | - |
| Packaging group | Not available. |
| Environmental hazards | |
| Marine pollutant | No |
| Labels required | None |
| EmS | F-D, S-U |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |
| Packaging Exceptions | LTD QTY |

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

DOT



IATA: IMDG



15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

| | |
|---------------------------------|--------|
| Isobutyl Acetate (CAS 110-19-0) | LISTED |
| n-Butyl Acetate (CAS 123-86-4) | LISTED |

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

SARA 304 Emergency release notification

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

| | |
|--------------------------|------------------------|
| Hazard categories | Immediate Hazard - Yes |
| | Delayed Hazard - Yes |
| | Fire Hazard - Yes |
| | Pressure Hazard - Yes |
| | Reactivity Hazard - No |

| | |
|---|----|
| SARA 302 Extremely hazardous substance | No |
|---|----|

SARA 311/312 Hazardous chemical No

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Butane (CAS 106-97-8)
Propane (CAS 74-98-6)

| | |
|---------------------------------------|----------------|
| Safe Drinking Water Act (SDWA) | Not regulated. |
|---------------------------------------|----------------|

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number
Not listed.

| | |
|---|----------------|
| Food and Drug Administration (FDA) | Not regulated. |
|---|----------------|

US state regulations

US. New Jersey Worker and Community Right-to-Know Act

| | |
|-----------------------|---------|
| Butane (CAS 106-97-8) | 500 lbs |
| Propane (CAS 74-98-6) | 500 lbs |

US. Pennsylvania RTK - Hazardous Substances

2-Ethylhexyl Acetate (CAS 103-09-3)
Butane (CAS 106-97-8)
Isobutyl Acetate (CAS 110-19-0)
n-Butyl Acetate (CAS 123-86-4)
Propane (CAS 74-98-6)
Propyl Acetate (CAS 109-60-4)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|----------------------|--|------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | No |
| Canada | Domestic Substances List (DSL) | No |
| Canada | Non-Domestic Substances List (NDSL) | Yes |
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | No |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | No |

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|---|------------------------|
| New Zealand | New Zealand Inventory | Yes |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

| | |
|-----------------------------|---|
| Issue date | 03-28-2014 |
| Revision date | 04-21-2014 |
| Version # | 03 |
| Further information | Not available. |
| Prepared By: | Maureen Ruggeberg, Regulatory Affairs Specialist |
| Disclaimer | The information in the sheet was written based on the best knowledge and experience currently available. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. |
| Revision Information | Fire-fighting measures: Specific methods Toxicological information: Further information Disposal considerations: Local disposal regulations Regulatory Information: United States GHS: Classification |



SAFETY DATA SHEET

1. Product and Company Identification

| | |
|-----------------------------------|--|
| Product Name | ENZ-OUT |
| Product Number | 3AD |
| Product Type | Mixture |
| Product Use | Enzyme based Spot Remover for carpets & upholstery |
| Manufacturer | CFR, A Division of Tacony Corporation 3101 Wichita Court Fort Worth, TX 76140-1710 |
| Company Contact | 1-800-533-2557 or website www.cfrcorp.com |
| Emergency Telephone Number | 1-800-270-5201 |

2. Hazards Identification

GHS Classification in accordance with 29CFR 1910 OSHA HCS

Serious eye damage/eye irritation, (Category 2B) H320

Acute Aquatic toxicity (Category 3) H402

GHS Label elements, including precautionary statements

Pictogram None required

Signal Word Warning

Hazard Statements

H320 Causes eye irritation.
H402 Harmful to aquatic life

Precautionary Statements

Prevention

P264 Wash and rinse hands and exposed skin after handling concentrated product.
P273 Avoid release to the environment.

Response

P305+P351+P338 IF IN EYES, Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists, get medical attention.

Storage/Disposal

P501 Dispose of contents/container in accordance with local, regional and federal regulations

3. Composition/Information on Ingredients

The criteria for listing components in this section are: Ingredients that meet the criteria for carcinogenic, toxic to reproduction, or specific target organ toxicity and components otherwise considered hazardous according to OSHA which exceed the cut off limits for SDS specified by the criteria for mixtures are listed. Non hazardous components are not listed. This is not a composition disclosure. Exact percentages are considered proprietary and a trade secret.

| Hazardous Components | CAS# | Classification | % |
|---|-------------|----------------|------|
| Alcohols, C6-C10, ethoxylated propoxylated | 168987-81-5 | H319, H402 | 1-5% |
| Enz-Out contains Alpha Amylase and Protease Enzymes. Not considered hazardous per 29CFR 1910.1200 | | | |

4. First Aid Measures

Description of First Aid Procedures

| | |
|--------------------------------|--|
| In case of Eye Contact | Flush with cool running water for 15 minutes. If irritation persists, get medical attention. |
| In case of Skin Contact | Flush with cool water, Wash with soap and water, If irritation persists, get medical Attention. |
| If Inhaled | If symptoms develop, move to fresh air. If symptoms persist, get medical attention |
| If Ingested | Rinse mouth with water. Drink one or two glasses of water. Do not induce vomiting. Obtain medical attention. Never give anything by mouth to an unconscious person. |
| .Notes to Physician | Symptoms may be delayed. |
| General advice | Seek medical attention if feeling unwell. Show the SDS to the physician in attendance. |

5. Fire-fighting Measures

| | |
|--|---|
| Flammable properties | Not flammable |
| Extinguishing media | Treat for surrounding material. |
| Protection of firefighters | Firefighters should wear protective clothing including self contained breathing apparatus |
| Hazardous combustion products | May include and not limited to oxides of carbon, nitrogen, and oxides of sulfur. |
| Unusual Fire, Explosion hazards | None known. |

6. Accidental Release Measures

| | |
|----------------------------------|--|
| Personal precautions | Keep unnecessary personal away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled containers unless wearing protective Clothing. Stay upwind of spills or leaks. |
| Methods for containment | Stop leak if you can do so without risk. Prevent entry into waterways, sewers. |
| Methods for cleaning up | Before attempting clean up refer to hazard data given above. Small spills may be absorbed with non reactive absorbent and placed in suitable, covered, labeled containers. Prevent large spills from entering sewers or water ways. Dike spill. Absorb spill with non reactive absorbent and place in a suitable, covered, labeled container for disposal. Never return spill to original container for reuse. |
| Environmental Precautions | Avoid release to the environment. |

7. Handling and Storage

| | |
|--------------------------------------|--|
| Precautions for Safe Handling | Use good industrial hygiene practices when handling this material |
| Conditions for Safe Storage | Keep out of reach of children. Keep from freezing, store in a cool dry place away from incompatible materials. |

8. Exposure Controls and Personal Protection

| | | | |
|--|---------------|-----------------|------------------|
| Exposure limits | | | |
| Ingredients | CAS-No | OSHA PEL | ACGIH TLV |
| Alcohols, C6-C10, ethoxylated propoxylated | 168987-81-5 | Not available | Not available |

**Engineering controls**

General ventilation normally adequate

Personal protective equipment**Eye/Face protection**

Wear safety glasses with side shields if splash conditions exist.

Hand protection

Rubber or nitrile gloves.

Skin and body

As required by employer code.

Respiratory protection

Use a NIOSH approved respirator when exposure guidelines are exceeded.

General hygiene considerations

Handle in accordance with good industrial hygiene practices. Do not eat or drink when using product. Wash hands well before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Information on basic physical and chemical properties**Appearance/form**

Clear liquid

Color

Colorless

Odor

Odorless

Odor threshold

Not established

pH

7.0-8.0 (Concentrate)

Melting point/freezing point

Not established

Initial Boiling point

> 212° F. (100° C.)

Flash point

None

Evaporation rate

Not established

Flammability

Not flammable

**Upper/lower flammability or
Explosive limits**

Not established

Vapor pressure

Not established

Vapor density

Not established

Specific gravity/density

1.0-1.05

Solubility in water

Complete

Partition coefficient:

Not established

Auto ignition temperature

Not established

Decomposition temperature

Not established

Stability and Reactivity

Stable and non reactive under normal use and storage conditions.

VOC

< 1%

% Volatile

Approx. 95%

Other safety Information

10. Stability and Reactivity

Reactivity

Not reactive under normal use and storage.

Chemical Stability

Stable under normal storage conditions.

Hazardous reactions

None known.

Conditions to avoid

Do not mix with other chemicals.

Incompatible materials

Acids and oxidizers.

Hazardous decomposition products

May include but not limited to oxides of carbon.

Hazardous polymerization

Will not occur.

11. Toxicological Information

Ingredients**LC50**

Alcohols,C6-C10, ethoxylated propoxylated

> 50mg/l (Inhalation-rat) 4 hours estimated

Ingredients**LD50**

Alcohols,C6-C10, ethoxylated propoxylated

2745 mg/kg (Oral-rat), > 2000mg/kg (dermal-rat) estimated

**Effects of acute exposure****Eye**

Causes eye irritation

Skin

May cause mild or transient irritation.

Inhalation

Not normally a route of entry.

Ingestion

May be harmful if swallowed. May cause stomach distress, nausea, or vomiting.

Sensitization

No data available.

Chronic effects of short and long term exposure

Prolonged exposure to skin may cause drying, defatting and irritation.

Carcinogenicity

Does not contain ingredients considered carcinogenic by NTP, IARC, or OSHA.

Mutagenicity

No data available.

Reproductive effects

No data available.

Teratogenicity

No data available.

12. Ecological Information

Eco-toxicity

Components of this product have been identified as harmful to the aquatic environmental.

Environmental effects

No data available.

Aquatic toxicity

Alcohols, C6-C10, ethoxylated, propoxylated

LC50 Fish (primephales promelas): 1-10mg/l 96 hours

EC50 Algae: 1-10 mg/l 48 hours

EC50 Aquatic plants: 1-10 mg/l 120 hours

Persistence and Degradability

No data available

Bioaccumulation/accumulation

No data available.

Partition coefficient

No data available.

Mobility in environmental media

No data available.

Chemical fate information

No data available.

Other adverse effects

No data available.

13. Disposal Considerations

Disposal instructions

Dispose in accordance with local, state, and federal regulations

Wastes from residues/unused Product

Containerize. Rinse area with water. Keep out of storm sewer/waterways.

Contaminated packaging

Dispose in accordance with all applicable regulations.

14. Transport Information

Basic shipping requirements:

Not DOT regulated

Proper shipping name**Hazard class****UN number****Packing group****Special provisions**

15. Regulatory Information

U.S federal regulations

This product has been classified in accordance with the Occupational Safety and Health Administration hazard criteria and the SDS contains all of the information required by OSHA HCS 2012.

**TSCA**

All ingredients are listed on the Toxic Substances Control Act or are exempt from listing.

CERCLA Super Fund 40CFR117.302 Product contains a material with a Reportable Quantity (RQ): None

SARA Title III Section 311&312

Immediate (Acute) Health Hazard
Alcohols, C6-C10, ethoxylated propoxylated CAS#168987-81-5

SARA Title III Section 313

Ingredients subject to the reporting requirements of Section 313: None

California Proposition 65

This product does not contain intentional ingredients known to the State of California to cause cancer, birth defects or reproductive effects. However trace amounts of Ethylene oxide (CAS#71-25-8) and Propylene oxide (CAS#75-56-9) may be present and are listed as possible carcinogens in the state of California.

States Right to Know

Reportable Chemicals: None

Inventory Status**Countries****Inventory Name****On Inventory (Yes/No)***

U.S.

Chemical Inventory List

Yes

Canada

Domestic substances list

Yes

- A Yes indicates that all of the components of this product comply with the inventory requirements administered by the governing country(s) listed.

16. Other Information

HMIS RATING**HMIS LEGEND**

Severe 4
Serious 3
Moderate 2
Slight 1
Minimal

| | |
|---------------------|---|
| Health | 1 |
| Flammability | 0 |
| Reactivity | 0 |
| Personal Protection | B |

Disclaimer

To the best of our knowledge, the information included herein is accurate. However, neither the above named supplier nor any of its subsidiaries assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of the suitability of any material is the responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Issue date

May 4, 2015

Supersedes date

Previous issues.

Reason for update

Conform to GHS OSHA HCS 2012.

Expiration date

May 4, 2018



SAFETY DATA SHEET

1. Product and Company Identification

| | |
|-----------------------------------|--|
| Product Name | EXCELL |
| Product Number | 3BL |
| Product Type | Mixture |
| Product Use | Carpet cleaner |
| Manufacturer | CFR, A Division of Tacony Corporation 3101 Wichita Court Fort Worth, TX 76140-1710 |
| Company Contact | 1-800-533-2557 or website www.cfrcorp.com |
| Emergency Telephone Number | 1-800-270-5201 |

2. Hazards Identification

GHS Classification in accordance with 29CFR 1910 OSHA HCS

Acute toxicity, Oral (Category 5) H303
Skin corrosion/irritation, (Category 3) H316
Serious eye damage/eye irritation, (Category 2B) H320
Chronic aquatic toxicity, (Category 3) H412

GHS Label elements, including precautionary statements

Pictogram None required

Signal Word Warning

Hazard Statements

| | |
|------|---|
| H303 | May be harmful if swallowed. |
| H316 | Causes mild skin irritation. |
| H320 | Causes eye irritation. |
| H412 | May cause long lasting harmful effects to aquatic life. |

Precautionary Statements

Prevention

| | |
|------|--|
| P264 | Wash and rinse hands and exposed skin after handling concentrated product. |
| P273 | Avoid release to the environment. |

Response

| | |
|----------------|---|
| P312 | Contact a POISON CENTER/doctor if swallowed and feeling unwell. |
| P332+P313 | If skin irritation occurs, get medical attention. |
| P305+P351+P338 | IF IN EYES, Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. |
| P337+P313 | If eye irritation persists, get medical attention. |

Storage/Disposal

| | |
|------|--|
| P501 | Dispose of contents/container in accordance with local, regional and federal regulations |
|------|--|



3. Composition/Information on Ingredients

The criteria for listing components in this section are: Ingredients that meet the criteria for carcinogenic, toxic to reproduction, or specific target organ toxicity and components otherwise considered hazardous according to OSHA which exceed the cut off limits for SDS specified by the criteria for mixtures are listed. Non hazardous components are not listed. This is not a composition disclosure. Exact percentages are considered proprietary and a trade secret.

| Hazardous Components | CAS# | Classification | % |
|-------------------------------|------------------------|------------------------|-------|
| Sodium Bicarbonate | 533-96-0 | H320 | 5-10% |
| Sodium Octyl sulfate | 142-31-4 | H303, H315, H319, H412 | 5-10% |
| Alkydiphenyloxide disulfonate | 36445-71-3, 70146-13-3 | H303, H316, H320, H401 | 1- 5% |
| Sodium Carbonate | 497-19-8 | H320 | 1-5% |

4. First Aid Measures

Description of First Aid Procedures

| | |
|--------------------------------|--|
| In case of Eye Contact | Flush with cool running water for 15 minutes. If irritation persists, get medical attention. |
| In case of Skin Contact | Flush with cool water, Wash with soap and water, If irritation persists, get medical Attention. |
| If Inhaled | If symptoms develop, move to fresh air. If symptoms persist, get medical attention |
| If Ingested | Rinse mouth with water. Drink one or two glasses of water. Do not induce vomiting. Obtain medical attention. Never give anything by mouth to an unconscious person. |
| Notes to Physician | Symptoms may be delayed. |
| General advice | Seek medical attention if feeling unwell. Show the SDS to the physician in attendance. |

5. Fire-fighting Measures

| | |
|--|---|
| Flammable properties | Not flammable |
| Extinguishing media | Treat for surrounding material. |
| Protection of firefighters | Firefighters should wear protective clothing including self contained breathing apparatus |
| Hazardous combustion products | May include and not limited to oxides of carbon and oxides of sulfur. |
| Unusual Fire, Explosion hazards | None known. |

6. Accidental Release Measures

| | |
|----------------------------------|--|
| Personal precautions | Keep unnecessary personal away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled containers unless wearing protective Clothing. Stay upwind of spills or leaks. |
| Methods for containment | Stop leak if you can do so without risk. Prevent entry into waterways, sewers. |
| Methods for cleaning up | Before attempting clean up refer to hazard data given above. Small spills may be absorbed with non reactive absorbent and placed in suitable, covered, labeled containers. Prevent large spills from entering sewers or water ways. Dike spill. Absorb spill with non reactive absorbent and place in a suitable, covered, labeled container for disposal. Never return spill to original container for reuse. |
| Environmental Precautions | Avoid release to the environment. |

7. Handling and Storage

| | |
|--------------------------------------|--|
| Precautions for Safe Handling | Use good industrial hygiene practices when handling this material |
| Conditions for Safe Storage | Keep out of reach of children. Keep from freezing, store in a cool dry place away from incompatible materials. |

8. Exposure Controls and Personal Protection

| Exposure limits | | | |
|--------------------------------|--|--|--------------------------|
| Ingredients | CAS-No | OSHA PEL | ACGIH TLV |
| Sodium bicarbonate | 533-96-0 | 15 mg/m ³ total dust, 5mg/m ³ (resp. fraction) | Not established |
| Sodium octyl sulfate | 142-31-4 | Not established | TWA: 5 mg/m ³ |
| Alkyldiphenyloxide disulfonate | 36445-71-3 | Not established | Not established |
| | 70146-13-3 | Not established | Not established |
| Sodium carbonate | 497-19-8 | Not established | Not established |
| Engineering controls | General ventilation normally adequate | | |
| Personal protective equipment | | | |
| Eye/Face protection | Wear safety glasses with side shields if splash conditions exist. | | |
| Hand protection | Rubber or nitrile gloves. | | |
| Skin and body | As required by employer code. | | |
| Respiratory protection | Use a NIOSH approved respirator when exposure guidelines are exceeded. | | |
| General hygiene considerations | Handle in accordance with good industrial hygiene practices. Do not eat or drink when using product. Wash hands well before breaks and immediately after handling the product. | | |

9. Physical and Chemical Properties

| | |
|--|--|
| Information on basic physical and chemical properties | |
| Appearance/form | Clear liquid |
| Color | Light straw to colorless |
| Odor | Fresh air |
| Odor threshold | Not established |
| pH | 9.0-9.2 (Concentrate) |
| Melting point/freezing point | Not established |
| Initial Boiling point | > 212° F. (100° C.) |
| Flash point | Not established |
| Evaporation rate | Not established |
| Flammability | Not flammable |
| Upper/lower flammability or Explosive limits | Not applicable |
| Vapor pressure | Not established |
| Vapor density | Not established |
| Specific gravity/density | 1.06-1.10 |
| Solubility in water | Complete |
| Partition coefficient: | Not established |
| Auto ignition temperature | Not established |
| Decomposition temperature | Not established |
| Stability and Reactivity | Stable and non reactive under normal use and storage conditions. |
| VOC | < 1% |
| % Volatile | Approx. 80% |
| Other safety Information | |

10. Stability and Reactivity

| | |
|---|--|
| Reactivity | Not reactive under normal use and storage. |
| Chemical Stability | Stable under normal storage conditions. |
| Hazardous reactions | None known. |
| Conditions to avoid | Do not mix with other chemicals. |
| Incompatible materials | Strong acids and oxidizers. |
| Hazardous decomposition products | May include but not limited to oxides of carbon, and oxides of sulfur. |
| Hazardous polymerization | Will not occur. |

11. Toxicological Information

| | |
|--|--|
| Ingredients | LC50 |
| Sodium bicarbonate | > 5.03 mg/l 4 hours - inhalation rat |
| Sodium octyl sulfate | Not available |
| Alkyldiphenyloxide disulfonate | Not available |
| Sodium carbonate | 800 mg/m ³ inhalation guinea pig, 1150 mg/m ³ inhalation rat |
| Ingredients | LD50 |
| Sodium bicarbonate | 5600 mg/kg (Oral-rat) |
| Sodium octyl sulfate | 3200 mg/kg (Oral-rat) |
| Alkyldiphenyloxide disulfonate | 3562 mg/kg (Oral-rat) |
| Sodium carbonate | 2800 mg/kg (Oral-rat) , > 2000 mg/kg (Dermal-rabbit) |
| Effects of acute exposure | |
| Eye | Causes eye irritation |
| Skin | Causes mild irritation. |
| Inhalation | Not normally a route of entry. |
| Ingestion | May be harmful if swallowed. May cause stomach distress, nausea, or vomiting. |
| Sensitization | No data available. |
| Chronic effects of short and long term exposure | Prolonged exposure to skin may cause drying, defatting and irritation. |
| Carcinogenicity | Does not contain ingredients considered carcinogenic by NTP, IARC, or OSHA. |
| Mutagenicity | No data available. |
| Reproductive effects | No data available. |
| Teratogenicity | No data available. |

12. Ecological Information

| | |
|--|--|
| Eco-toxicity | Components of this product have been identified as having potential environmental concerns. |
| Environmental effects | No data available. |
| Aquatic toxicity | |
| Sodium carbonate | LC50 Fish (Lepomis macrochirus): 300 mg/L (static) 96 hour EC50 Akgae (Nitzschia): 242mg/L 120 hour |
| Alkyldiphenyloxide disulfonate | Moderately toxic to aquatic life. |
| Persistence and Degradability | |
| Alkyldiphenyloxide disulfonate | Not readily biodegradable in waste treatment systems. |
| Sodium octyl sulfate | Degradation products are more toxic. |
| Bioaccumulation/accumulation | No data available. |
| Partition coefficient | No data available. |
| Mobility in environmental media | No data available. |
| Chemical fate information | No data available. |
| Other adverse effects | No data available. |

13. Disposal Considerations

| | |
|--|---|
| Disposal instructions | Dispose in accordance with local, state, and federal regulations |
| Wastes from residues/unused Product | Containerize. Rinse area with water. Keep out of storm sewer/waterways. |
| Contaminated packaging | Dispose in accordance with all applicable regulations. |



14. Transport Information

Basic shipping requirements: Not DOT regulated
Proper shipping name
Hazard class
UN number
Packing group
Special provisions

15. Regulatory Information

U.S federal regulations This product has been classified in accordance with the Occupational Safety and Health Administration hazard criteria and the SDS contains all of the information required by OSHA HCS 2012.

TSCA All ingredients are listed on the Toxic Substances Control Act or are exempt from listing.

CERCLA Super Fund 40CFR117.302 Product contains a material with a Reportable Quantity (RQ):
None

SARA Title III Section 311&312 Immediate (Acute) Health Hazard
Sodium carbonate

SARA Title III Section 313 Ingredients subject to the reporting requirements of Section 313:
None

California Proposition 65 This product does not contain intentional ingredients known to the State of California to cause cancer, birth defects or reproductive effects.

States Right to Know Reportable Chemicals:
Aklyldiphenyloxide disulfonate

Inventory Status

Countries

Inventory Name

On Inventory (Yes/No)*

U.S.

Chemical Inventory List

Yes

Canada

Domestic substances list

Yes

- A öYesö indicates that all of the components of this product comply with the inventory requirements administered by the governing country(s) listed.

16. Other Information

HMIS RATING

HMIS LEGEND

Severe 4
Serious 3
Moderate 2
Slight 1
Minimal

| | |
|---------------------|---|
| Health | 1 |
| Flammability | 0 |
| Reactivity | 0 |
| Personal Protection | B |



Disclaimer

To the best of our knowledge, the information included herein is accurate. However, neither the above named supplier nor any of its subsidiaries assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of the suitability of any material is the responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Issue date

Supersedes date

Reason for update

Expiration date

March 9, 2014

October 2, 2010

Conform to GHS OSHA HCS 2012

March 9, 2017

1. Identification

| | |
|---|---|
| Product identifier | EXPEDITER |
| Other means of identification | |
| SDS number | 575N-066D |
| Product code | HIL00532 |
| Recommended use | Floor Finish |
| Recommended restrictions | For Labeled Use Only |
| Manufacturer/Importer/Supplier/Distributor information | |
| Manufacturer | |
| Company name | HILLYARD INDUSTRIES |
| Address | 302 North Fourth St. St. Joseph, MO 64501 |
| Contact person | Regulatory Affairs |
| Telephone number | (816) 233-1321 (Ext. 8285) |
| Fax | (816) 383-8485 |
| E-mail | regulatoryaffairs@hillyard.com |
| Emergency telephone # | (800) 424-9300 |
| | (Only in the event of chemical emergency involving a spill, leak, fire, exposure or accident involving chemicals) |

2. Hazard(s) identification

| | |
|--|---|
| Physical hazards | Not classified. |
| Health hazards | Not classified. |
| Environmental hazards | Not classified. |
| OSHA defined hazards | Not classified. |
| Label elements | |
| Hazard symbol | None. |
| Signal word | None. |
| Hazard statement | The mixture does not meet the criteria for classification. |
| Precautionary statement | |
| Prevention | Observe good industrial hygiene practices. |
| Response | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN: Gently wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. |
| Storage | Store away from incompatible materials. |
| Disposal | Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law in compliance with applicable federal, state and local requirements. CONTAINER DISPOSAL: Triple rinse (or equivalent), then offer clean, dry container for recycling or reconditioning. |
| Hazard(s) not otherwise classified (HNOC) | None known. |
| Supplemental information | None. |

3. Composition/information on ingredients

Mixtures

| Chemical name | Common name and synonyms | CAS number | % |
|--|--------------------------|------------|----------|
| 2-(2-ethoxyethoxy)ethanol | | 111-90-0 | 3 - < 5 |
| Tributoxyethyl Phosphate | | 78-51-3 | 1 - < 3 |
| Other components below reportable levels | | | 90 - 100 |

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

| | |
|---|--|
| Inhalation | Move to fresh air. Call a physician if symptoms develop or persist. |
| Skin contact | Wash off with soap and water. Get medical attention if irritation develops and persists. |
| Eye contact | Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. |
| Ingestion | Rinse mouth thoroughly. Never give anything by mouth to a victim who is unconscious or is having convulsions. If ingestion of a large amount does occur, call a poison control center immediately. Do not induce vomiting. |
| Most important symptoms/effects, acute and delayed | Direct contact with eyes may cause temporary irritation. |
| Indication of immediate medical attention and special treatment needed | Treat symptomatically. |
| General information | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |

5. Fire-fighting measures

| | |
|--|---|
| Suitable extinguishing media | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2). |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | During fire, gases hazardous to health may be formed. |
| Special protective equipment and precautions for firefighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| Fire fighting equipment/instructions | Move containers from fire area if you can do so without risk. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. |
| General fire hazards | No unusual fire or explosion hazards noted. |

6. Accidental release measures

| | |
|--|--|
| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. For personal protection, see section 8 of the SDS. |
| Methods and materials for containment and cleaning up | Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. |
| Environmental precautions | Avoid discharge into drains, water courses or onto the ground. |

7. Handling and storage

| | |
|---|---|
| Precautions for safe handling | Avoid prolonged exposure. Observe good industrial hygiene practices. |
| Conditions for safe storage, including any incompatibilities | Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). |

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. AIHA Workplace Environmental Exposure Level (WEEL) Guides

| OSHA/NIH Workplace Environmental Exposure Level (WELL) Guidelines | | |
|---|---|-------------------------|
| Components | Type | Value |
| 2-(2-ethoxyethoxy)ethanol (CAS 111-90-0) | TWA | 140 mg/m3 25 ppm |
| Biological limit values | No biological exposure limits noted for the ingredient(s). | |
| Appropriate engineering controls | Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. | |
| Individual protection measures, such as personal protective equipment | | |
| Eye/face protection | Avoid contact with eyes. | |
| Skin protection | | |
| Hand protection | Not normally needed. For prolonged or repeated skin contact use suitable protective gloves. | |
| Other | None normally required. If unable to avoid prolonged or repeated contact with skin, wear impervious clothing. | |
| Respiratory protection | Not normally required with adequate ventilation. | |
| Thermal hazards | None known. | |
| General hygiene considerations | Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. | |

9. Physical and chemical properties

| | |
|---|---------------------------------------|
| Appearance | Milky emulsion |
| Physical state | Liquid. |
| Form | Liquid. |
| Color | Milky white |
| Odor | non-objectionable odor |
| Odor threshold | Not available. |
| pH | 7.5 - 8.5 |
| Melting point/freezing point | Not applicable / Not available |
| Initial boiling point and boiling range | > 200 °F (> 93.33 °C) |
| Flash point | > 200.0 °F (> 93.3 °C) Tag Closed Cup |
| Evaporation rate | < 1 Ethyl ether = 1 |
| Flammability (solid, gas) | Not applicable. |
| Upper/lower flammability or explosive limits | |
| Explosive limit - lower (%) | Not available. |
| Explosive limit - upper (%) | Not available. |
| Vapor pressure | 17.49 mm Hg |
| Vapor density | 1.0421 Air=1 |
| Relative density | 1.0247 at 77° F |
| Solubility(ies) | |
| Solubility (water) | 100 % |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |
| Other information | |
| Density | 8.53 lbs/gal |
| Explosive properties | Not explosive. |
| Oxidizing properties | Not oxidizing. |

| | |
|------------------|----------------|
| Percent volatile | 81.5 - 82.5 % |
| VOC | CARB Compliant |

10. Stability and reactivity

| | |
|---|---|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. |
| Conditions to avoid | Avoid temperatures exceeding the flash point. Contact with incompatible materials. |
| Incompatible materials | Strong oxidizing agents. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information

Information on likely routes of exposure

| | |
|---------------------|--|
| Inhalation | Prolonged inhalation may be harmful. |
| Skin contact | No adverse effects due to skin contact are expected. |
| Eye contact | Direct contact with eyes may cause temporary irritation. |
| Ingestion | Expected to be a low ingestion hazard. |

| | |
|---|--|
| Symptoms related to the physical, chemical and toxicological characteristics | Direct contact with eyes may cause temporary irritation. |
|---|--|

Information on toxicological effects

| | |
|-----------------------|------------|
| Acute toxicity | Not known. |
|-----------------------|------------|

| Components | Species | Test Results |
|------------|---------|--------------|
|------------|---------|--------------|

Tributoxyethyl Phosphate (CAS 78-51-3)

Acute

Oral

| | | |
|------|-----|------------|
| LD50 | Rat | 3000 mg/kg |
|------|-----|------------|

* Estimates for product may be based on additional component data not shown.

| | |
|----------------------------------|--|
| Skin corrosion/irritation | Prolonged skin contact may cause temporary irritation. |
|----------------------------------|--|

| | |
|--|--|
| Serious eye damage/eye irritation | Direct contact with eyes may cause temporary irritation. |
|--|--|

Respiratory or skin sensitization

| | |
|----------------------------------|-------------------------------|
| Respiratory sensitization | Not a respiratory sensitizer. |
|----------------------------------|-------------------------------|

| | |
|---------------------------|---|
| Skin sensitization | This product is not expected to cause skin sensitization. |
|---------------------------|---|

| | |
|-------------------------------|--|
| Germ cell mutagenicity | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
|-------------------------------|--|

| | |
|------------------------|---|
| Carcinogenicity | Not classifiable as to carcinogenicity to humans. |
|------------------------|---|

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

| | |
|------------------------------|--|
| Reproductive toxicity | This product is not expected to cause reproductive or developmental effects. |
|------------------------------|--|

| | |
|---|-----------------|
| Specific target organ toxicity - single exposure | Not classified. |
|---|-----------------|

| | |
|---|-----------------|
| Specific target organ toxicity - repeated exposure | Not classified. |
|---|-----------------|

| | |
|--------------------------|---------------------------|
| Aspiration hazard | Not an aspiration hazard. |
|--------------------------|---------------------------|

| | |
|------------------------|--------------------------------------|
| Chronic effects | Prolonged inhalation may be harmful. |
|------------------------|--------------------------------------|

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

| Product | Species | Test Results |
|--|----------------|--|
| EXPEDITER | | |
| Aquatic | | |
| Fish | LC50 | 515.711 mg/l, 96 hours estimated |
| Components | Species | Test Results |
| 2-(2-ethoxyethoxy)ethanol (CAS 111-90-0) | | |
| Aquatic | | |
| Fish | LC50 | Bluegill (<i>Lepomis macrochirus</i>) > 10000 mg/l, 96 hours |
| Tributoxyethyl Phosphate (CAS 78-51-3) | | |
| Aquatic | | |
| Fish | LC50 | Fathead minnow (<i>Pimephales promelas</i>) 10.4 - 12 mg/l, 96 hours |

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

| | |
|---------------------------|-------|
| 2-(2-ethoxyethoxy)ethanol | -0.54 |
| Tributoxyethyl Phosphate | 3.75 |

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

| | |
|--|--|
| Disposal instructions | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations. |
| Local disposal regulations | Dispose in accordance with all applicable regulations. |
| Hazardous waste code | The waste code should be assigned in discussion between the user, the producer and the waste disposal company. |
| Waste from residues / unused products | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). |
| Contaminated packaging | Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. Triple rinse (or equivalent). Then offer clean, dry container for recycling or reconditioning. |

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|---|------------------------|
| Canada | Domestic Substances List (DSL) | Yes |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 05-23-2015
Revision date 06-08-2017
Version # 02
HMIS® ratings Health: 0
Flammability: 0
Physical hazard: 0

Disclaimer No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose, or of any nature are made with respect to the product(s) or information contained in this material safety data sheet. The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate. The buyer or user assumes all risks associated with the use, misuse or disposal of this product. The buyer or user is responsible to comply with all federal, state or local regulations concerning the use, misuse or disposal of these products.

Revision information This document has undergone significant changes and should be reviewed in its entirety.

Safety Data Sheet

Printing date 02/23/2017

Revised On 02/23/2017

1 Identification of the substance and manufacturer

Trade name: FASTLANE AEROSOL BLACK
Product code: TSBK1, TSBK12
Product category: PC9a Paints and coatings

MANUFACTURED FOR:
 PIONEER ATHLETICS
 4529 INDUSTRIAL PKWY
 CLEVELAND, OH 44135
 PHONE NUMBER: 800-877-1500

2 Hazard(s) identification**Classification of the substance or mixture**

Flam. Aerosol 1 H222 Extremely flammable aerosol.
 Press. Gas H280 Contains gas under pressure; may explode if heated.
 Skin Irrit. 2 H315 Causes skin irritation.
 Repr. 2 H361 Suspected of damaging fertility or the unborn child.
 STOT SE 3 H335 May cause respiratory irritation.
 STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

GHS Hazard pictograms

GHS02 GHS04 GHS07 GHS08

Signal word**Hazard statements**

Danger
 Extremely flammable aerosol.
 Contains gas under pressure; may explode if heated.
 Causes skin irritation.
 Suspected of damaging fertility or the unborn child.
 May cause respiratory irritation.
 May cause damage to organs through prolonged or repeated exposure.
 Obtain special instructions before use.
 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
 Do not spray on an open flame or other ignition source.
 Do not pierce or burn, even after use.
 Wash hands thoroughly after handling.
 Use only outdoors or in a well-ventilated area.
 Do not handle until all safety precautions have been read and understood.
 Wear protective gloves/protective clothing/eye protection/face protection.
 Do not breathe dust/fume/gas/mist/vapors/spray.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 Call a POISON CENTER/doctor if you feel unwell.
 IF skin irritation occurs: Get medical advice/attention.
 IF ON SKIN: Wash with plenty of water.
 Take off contaminated clothing and wash it before reuse.
 Store locked up.
 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
 Protect from sunlight. Store in a well-ventilated place.
 Store in a well-ventilated place. Keep container tightly closed.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

Precautionary statements**3 Composition/information on ingredients****Chemical characterization: Mixtures****Chemical Description:**

This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:

| | | |
|------------|-------------------|--------|
| 1317-65-3 | Calcium Carbonate | |
| 64742-89-8 | VM&P Naphtha | 22.9% |
| 74-98-6 | propane | 18.59% |
| 110-54-3 | hexane | 12.62% |
| 106-97-8 | n-butane | 10.4% |
| 67-63-0 | Isopropyl Alcohol | 7.41% |
| 108-65-6 | PM acetate | 3.77% |
| 64742-47-8 | Mineral Spirits | 1.9% |
| | | 1.34% |

4 First-aid measures**After inhalation:****After skin contact:****After eye contact:****After swallowing:****Most important symptoms and effects:****Indication of any immediate medical attention needed:**

Supply fresh air; consult doctor in case of complaints.
 Remove contaminated clothing. Wash exposed area with soap and water.
 Rinse opened eye for several minutes under running water. Then consult a doctor.
 Rinse mouth with water. Do not induce vomiting.

Dizziness

No further relevant information available.

5 Fire-fighting measures**Extinguishing agents:**

CO2, extinguishing powder or water spray. Fight larger fires with water spray.

(Contd. on page 2)

FOR CHEMICAL EMERGENCY

Call INFOTRAC

1-800-535-5053

24 hours per day, 7 days per week

Safety Data Sheet

Printing date 02/23/2017

Revised On 02/23/2017

Trade name: FASTLANE AEROSOL BLACK

**Special hazards:
Protective equipment for
firefighters:**

Can form explosive gas-air mixtures.

(Contd. of page 1)

A respiratory protective device may be necessary.

6 Accidental release measures**Personal precautions, protective
equipment and emergency
procedures:**

Use respiratory protective device against the effects of fumes/dust/aerosol.

**Methods and material for
containment and cleaning up:**

Dispose contaminated material as waste according to section 13.

7 Handling and storage**Precautions for safe handling
Storage requirements:**

Use only in well ventilated areas.

Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions. Store locked up.

8 Exposure controls/personal protection**Components with limit values that require monitoring at the workplace:****74-98-6 propane**

| | |
|-----------|--|
| PEL (USA) | Long-term value: 1800 mg/m ³ , 1000 ppm |
| REL (USA) | Long-term value: 1800 mg/m ³ , 1000 ppm |
| TLV (USA) | refer to Appendix F in TLVs&BEIs book; NIC-EX |

110-54-3 hexane

| | |
|-----------|--|
| PEL (USA) | Long-term value: 1800 mg/m ³ , 500 ppm |
| REL (USA) | Long-term value: 180 mg/m ³ , 50 ppm |
| TLV (USA) | Long-term value: 176 mg/m ³ , 50 ppm Skin; BEI |

106-97-8 n-butane

| | |
|-----------|---|
| REL (USA) | Long-term value: 1900 mg/m ³ , 800 ppm |
| TLV (USA) | Short-term value: (2370) mg/m ³ , (1000) ppm NIC-EX |

67-63-0 Isopropyl Alcohol

| | |
|-----------|--|
| PEL (USA) | Long-term value: 980 mg/m ³ , 400 ppm |
| REL (USA) | Short-term value: 1225 mg/m ³ , 500 ppm Long-term value: 980 mg/m ³ , 400 ppm |
| TLV (USA) | Short-term value: 984 mg/m ³ , 400 ppm Long-term value: 492 mg/m ³ , 200 ppm BEI |

108-65-6 PM acetate

| | |
|------------|-------------------------|
| WEEL (USA) | Long-term value: 50 ppm |
|------------|-------------------------|

Ingredients with biological limit values:**110-54-3 hexane**

| | |
|-----------|---|
| BEI (USA) | 0.4 mg/L Medium: urine Time: end of shift at end of workweek Parameter: 2.5-Hexanedione without hydrolysis |
|-----------|---|

67-63-0 Isopropyl Alcohol

| | |
|-----------|---|
| BEI (USA) | 40 mg/L Medium: urine Time: end of shift at end of workweek Parameter: Acetone (background, nonspecific) |
|-----------|---|

Hygienic protection:Immediately remove all soiled and contaminated clothing.
Wash hands after use.**Breathing equipment:**

Do not eat or drink while working.

A respirator is generally not necessary when using this product outdoors or in large open areas. In cases where short and/or long term overexposure exists, a charcoal filter respirator should be worn. If you suspect overexposure conditions exist, please consult an authority on chemical hygiene.

Hand protection:

Nitrile gloves.

Eye protection:Protective gloves. The glove material must be impermeable and resistant to the substance.
Tightly sealed goggles**9 Physical and chemical properties****Appearance:**

Aerosol.

Odor:

Solvent

Odor threshold:

Not determined.

pH-value:

Not determined.

Melting point/Melting range

Undetermined.

Boiling point:

-44 °C (-47 °F)

Flash point:

-19 °C (-2 °F)

Flammability (solid, gas):

Extremely flammable.

(Contd. on page 3)

Safety Data Sheet

Printing date 02/23/2017

Revised On 02/23/2017

Trade name: FASTLANE AEROSOL BLACK

Decomposition temperature: Not determined.
Auto igniting: Product is not self-igniting.
Danger of explosion: In use, may form flammable/explosive vapour-air mixture.
Lower Explosion Limit: 1.2 Vol %
Upper Explosion Limit: 10.9 Vol %
Vapor pressure: Not determined.
Relative Density: Between 0.77 and 0.85 (Water equals 1.00)
Vapor density: Not determined.
Evaporation rate: Not applicable.
Partition coefficient: n-octanol/water: Not determined.
Solubility: Not determined.
Viscosity: Not determined.
VOC content (less exempt solvents): 57.3 %
Solids content: 47.4 %

(Contd. of page 2)

10 Stability and reactivity

Reactivity: Stable at normal temperatures.
Conditions to avoid: Do not allow can to exceed 120 degrees Fahrenheit. Do not warehouse in subfreezing temperatures.
Chemical stability: Not fully evaluated.
Possibility of hazardous reactions: No dangerous reactions known.
Incompatible materials: No further relevant information available.
Hazardous decomposition: No dangerous decomposition products known.

11 Toxicological information

LD/LC50 values that are relevant for classification:

106-97-8 n-butane

Inhalative LC50/4 h 658 mg/l (rat)

67-63-0 Isopropyl Alcohol

Oral LD50 4570 mg/kg (rat)

Dermal LD50 13400 mg/kg (rab)

Inhalative LC50/4 h 30 mg/l (rat)

108-65-6 PM acetate

Oral LD50 8500 mg/kg (rat)

Inhalative LC50/4 h 35.7 mg/l (rat)

Information on toxicological effects: No data available.
Skin effects: No irritant effect.
Eye effects: No irritating effect.
Sensitization: No sensitizing effects known.

12 Ecological information

Aquatic toxicity: Hazardous for water, do not empty into drains.
Persistence and degradability: The product is degradable after prolonged exposure to natural weathering processes.
Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.
Ecotoxicological effects:
Remark: Harmful to fish
Other adverse effects: No further relevant information available.

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.
Recommendation: Completely empty cans should be recycled.

14 Transport information

UN-Number UN1950
DOT N/A
DOT Consumer Commodity ORM-D
ADR Aerosols, flammable
Transport hazard class(es): 1950 Aerosols
Class 2.1
Marine pollutant: No
Special precautions for user: Warning: Gases
EMS Number: F-D,S-U
Quantity limitations On passenger aircraft/rail: 75 kg
 On cargo aircraft only: 150 kg

ADR
Excepted quantities (EQ) Code: E0
 Not permitted as Excepted Quantity

(Contd. on page 4)

Safety Data Sheet

Printing date 02/23/2017

Revised On 02/23/2017

Trade name: FASTLANE AEROSOL BLACK

IMDG

(Contd. of page 3)

Limited quantities (LQ)
Excepted quantities (EQ)1L
Code: E0
Not permitted as Excepted Quantity
UN "Model Regulation":
UN1950, Aerosols, 2.1

15 Regulatory information

SARA Section 355 (extremely hazardous substances):

None of the ingredients in this product are listed.

SARA Section 313 (Specific toxic chemical listings):

110-54-3 hexane

67-63-0 Isopropyl Alcohol

Toxic Substances Control Act

(TSCA):

Consumer Product Safety

Commission (CPSC):

All ingredients for this product are found on the inventory list of substances.

This product complies with 16 CFR 1303 and does not contain more than 90 ppm of lead.

California Proposition 65 chemicals known to cause cancer:

1333-86-4 Carbon black

100-41-4 ethyl benzene

California Proposition 65 chemicals known to cause birth defects or reproductive harm:

None of the ingredients in this product are listed.

CANADIAN ENVIRONMENTAL

PROTECTION ACT:

WHMIS Symbols for Canada:

All hazardous ingredients for this product appear on the Canadian Domestic Substance List.
A - Compressed gas
D2A - Very toxic material causing other toxic effects

EPA:

110-54-3 hexane

16 Other information

Contact:

Date of preparation / last revision

Regulatory Affairs
02/23/2017 / -

Safety Data Sheet

Printing date 02/23/2017

Revised On 02/23/2017

1 Identification of the substance and manufacturer

Trade name: FASTLANE AEROSOL WHITE
 Product code: 73959, 73421
 Product category: PC9a Paints and coatings

MANUFACTURED FOR:
 PIONEER ATHLETICS
 4529 INDUSTRIAL PKWY
 CLEVELAND, OH 44135
 PHONE NUMBER: 800-877-1500

2 Hazard(s) identification**Classification of the substance or mixture**

Flam. Aerosol 1 H222 Extremely flammable aerosol.
 Press. Gas H280 Contains gas under pressure; may explode if heated.
 Eye Irrit. 2B H320 Causes eye irritation.
 STOT SE 3 H335 May cause respiratory irritation.
 STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

GHS Hazard pictograms

GHS02 GHS04 GHS07 GHS08

Signal word
Hazard statements

Danger
 Extremely flammable aerosol.
 Contains gas under pressure; may explode if heated.
 Causes eye irritation.
 May cause respiratory irritation.
 May cause damage to organs through prolonged or repeated exposure.
 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
 Do not spray on an open flame or other ignition source.
 Do not pierce or burn, even after use.
 Wash hands thoroughly after handling.
 Use only outdoors or in a well-ventilated area.
 Do not breathe dust/fume/gas/mist/vapors/spray.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Call a POISON CENTER/doctor if you feel unwell.
 If eye irritation persists: Get medical advice/attention.
 Store locked up.
 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
 Protect from sunlight. Store in a well-ventilated place.
 Store in a well-ventilated place. Keep container tightly closed.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

Precautionary statements**3 Composition/information on ingredients****Chemical characterization: Mixtures****Chemical Description:**

This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:

| | | |
|------------|-------------------|--------|
| 64742-89-8 | VM&P Naphtha | |
| 1317-65-3 | Calcium Carbonate | 15.13% |
| 74-98-6 | propane | 13.86% |
| 13463-67-7 | titanium dioxide | 12.61% |
| 106-97-8 | n-butane | 9.8% |
| 142-82-5 | heptane | 7.4% |
| 64742-47-8 | Mineral Spirits | 6.16% |
| 1330-20-7 | xylene (mix) | 5.67% |
| | | 1.25% |

4 First-aid measures**After inhalation:**

Supply fresh air; consult doctor in case of complaints.

After skin contact:

Remove contaminated clothing. Wash exposed area with soap and water.

After eye contact:

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing:

Rinse out mouth and then drink plenty of water.
 Rinse mouth with water. Do not induce vomiting.

Most important symptoms and effects:

Dizziness

Indication of any immediate medical attention needed:

No further relevant information available.

5 Fire-fighting measures**Extinguishing agents:**

CO₂, extinguishing powder or water spray. Fight larger fires with water spray.

Special hazards:

Can form explosive gas-air mixtures.

(Contd. on page 2)

FOR CHEMICAL EMERGENCY
 Call INFOTRAC
 1-800-535-5053
 24 hours per day, 7 days per week

Safety Data Sheet

Page 2/4

Printing date 02/23/2017

Revised On 02/23/2017

Trade name: **FASTLANE AEROSOL WHITE****Protective equipment for firefighters:**

A respiratory protective device may be necessary.

(Contd. of page 1)

6 Accidental release measures**Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Keep unprotected persons away.
Use respiratory protective device against the effects of fumes/dust/aerosol.

Methods and material for containment and cleaning up:

Ensure adequate ventilation.

7 Handling and storage**Precautions for safe handling
Storage requirements:**

Use only in well ventilated areas.
Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions. Store locked up.

8 Exposure controls/personal protection**Components with limit values that require monitoring at the workplace:****74-98-6 propane**

PEL (USA) Long-term value: 1800 mg/m³, 1000 ppm
REL (USA) Long-term value: 1800 mg/m³, 1000 ppm
TLV (USA) refer to Appendix F in TLVs&BEIs book; NIC-EX

106-97-8 n-butane

REL (USA) Long-term value: 1900 mg/m³, 800 ppm
TLV (USA) Short-term value: (2370) mg/m³, (1000) ppm
NIC-EX

142-82-5 heptane

PEL (USA) Long-term value: 2000 mg/m³, 500 ppm
REL (USA) Long-term value: 350 mg/m³, 85 ppm
Ceiling limit value: 1800* mg/m³, 440* ppm
*15-min
TLV (USA) Short-term value: 2050 mg/m³, 500 ppm
Long-term value: 1640 mg/m³, 400 ppm

1330-20-7 xylene (mix)

PEL (USA) Long-term value: 435 mg/m³, 100 ppm
REL (USA) Short-term value: 655 mg/m³, 150 ppm
Long-term value: 435 mg/m³, 100 ppm
TLV (USA) Short-term value: 651 mg/m³, 150 ppm
Long-term value: 434 mg/m³, 100 ppm
BEI

Ingredients with biological limit values:**1330-20-7 xylene (mix)**

BEI (USA) 1.5 g/g creatinine
Medium: urine
Time: end of shift
Parameter: Methylhippuric acids

Hygienic protection:

Keep away from foodstuffs and animal feed. Wash hands after use.
Immediately remove all soiled and contaminated clothing.
Wash hands after use.

Breathing equipment:

Do not eat or drink while working.
A respirator is generally not necessary when using this product outdoors or in large open areas.
In cases where short and/or long term overexposure exists, a charcoal filter respirator should be worn. If you suspect overexposure conditions exist, please consult an authority on chemical hygiene.

Hand protection:

Nitrile gloves.

Eye protection:

Protective gloves. The glove material must be impermeable and resistant to the substance.
Tightly sealed goggles

9 Physical and chemical properties**Appearance:**

Aerosol.

Odor:

Solvent

Odor threshold:

Not determined.

pH-value:

Not determined.

Melting point/Melting range

Undetermined.

Boiling point:

-44 °C (-47 °F)

Flash point:

-19 °C (-2 °F)

Flammability (solid, gas):

Extremely flammable.

Decomposition temperature:

Not determined.

Auto igniting:

Product is not self-igniting.

Danger of explosion:

In use, may form flammable/explosive vapour-air mixture.
1.7 Vol %

Lower Explosion Limit:

(Contd. on page 3)

Safety Data Sheet

Page 3/4

Printing date 02/23/2017

Revised On 02/23/2017

Trade name: FASTLANE AEROSOL WHITE

Upper Explosion Limit: 10.9 Vol %
 Vapor pressure: Not determined.
 Relative Density: Between 0.77 and 0.85 (Water equals 1.00)
 Vapor density: Not determined.
 Evaporation rate: Not applicable.
 Partition coefficient: n-octanol/water: Not determined.
 Solubility: Not determined.
 Viscosity: Not determined.
 VOC content (less exempt solvents): 48.8 %
 Water: 17.7 %
 Solids content: 33.0 %

(Contd. of page 2)

10 Stability and reactivity

Reactivity: Stable at normal temperatures.
 Conditions to avoid: Do not allow can to exceed 120 degrees Fahrenheit. Do not warehouse in subfreezing temperatures.
 Chemical stability: Not fully evaluated.
 Possibility of hazardous reactions: No dangerous reactions known.
 Incompatible materials: No further relevant information available.
 Hazardous decomposition: No dangerous decomposition products known.

11 Toxicological information

LD/LC50 values that are relevant for classification:

13463-67-7 titanium dioxide

| | | |
|------------|----------|--------------------|
| Oral | LD50 | >20000 mg/kg (rat) |
| Dermal | LD50 | >10000 mg/kg (rbt) |
| Inhalative | LC50/4 h | >6.82 mg/l (rat) |

106-97-8 n-butane

| | | |
|------------|----------|----------------|
| Inhalative | LC50/4 h | 658 mg/l (rat) |
|------------|----------|----------------|

1330-20-7 xylene (mix)

| | | |
|------------|----------|------------------|
| Oral | LD50 | 8700 mg/kg (rat) |
| Dermal | LD50 | 2000 mg/kg (rbt) |
| Inhalative | LC50/4 h | 6350 mg/l (rat) |

Information on toxicological effects: No data available.
 Skin effects: No irritant effect.
 Eye effects: No irritating effect.
 Sensitization: No sensitizing effects known.

12 Ecological information

Aquatic toxicity: Hazardous for water, do not empty into drains.
 Persistence and degradability: The product is degradable after prolonged exposure to natural weathering processes.
 Bioaccumulative potential: No further relevant information available.
 Mobility in soil: No further relevant information available.
 Ecotoxicological effects:
 Remark: Toxic for fish
 Other adverse effects: No further relevant information available.

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.
 Recommendation: Completely empty cans should be recycled.

14 Transport information

UN-Number UN1950
 DOT N/A
 DOT UN1950
 Consumer Commodity ORM-D
 Aerosols, flammable
 1950 Aerosols, ENVIRONMENTALLY HAZARDOUS
 ADR
 Transport hazard class(es):
 Class 2.1
 Marine pollutant: Yes
 Symbol (fish and tree)
 Symbol (fish and tree)
 Warning: Gases
 F-D, S-U
 Special marking (ADR):
 Special precautions for user:
 EMS Number:
 Packaging Group:
 UN "Model Regulation": UN1950, Aerosols, ENVIRONMENTALLY HAZARDOUS, 2.1

(Contd. on page 4)

Safety Data Sheet

Page 4/4

Printing date 02/23/2017

Revised On 02/23/2017

Trade name: FASTLANE AEROSOL WHITE

(Contd. of page 3)

15 Regulatory information

SARA Section 355 (extremely hazardous substances):

None of the ingredients in this product are listed.

SARA Section 313 (Specific toxic chemical listings):

1330-20-7 | xylene (mix)

Toxic Substances Control Act (TSCA):**Consumer Product Safety****Commission (CPSC):**

All ingredients for this product are found on the inventory list of substances.

This product complies with 16 CFR 1303 and does not contain more than 90 ppm of lead.

California Proposition 65 chemicals known to cause cancer:

13463-67-7 | titanium dioxide

100-41-4 | ethyl benzene

California Proposition 65 chemicals known to cause birth defects or reproductive harm:

None of the ingredients in this product are listed.

CANADIAN ENVIRONMENTAL**PROTECTION ACT:****WHMIS Symbols for Canada:**All hazardous ingredients for this product appear on the Canadian Domestic Substance List.
A - Compressed gas**EPA:**

142-82-5 | heptane

1330-20-7 | xylene (mix)

D

I

16 Other information

Contact:

Date of preparation / last revision

Regulatory Affairs

02/23/2017 / -

Safety Data Sheet

Revised On 02/23/2017

1 Identification of the substance and manufacturer

Trade name: FASTLANE AEROSOL YELLOW
 Product code: 73961, 73422
 Product category: PC9a Paints and coatings

MANUFACTURED FOR:
 PIONEER ATHLETICS
 4529 INDUSTRIAL PKWY
 CLEVELAND, OH 44135
 PHONE NUMBER: 800-877-1500

2 Hazard(s) identification**Classification of the substance or mixture**

Flam. Aerosol 1 H222 Extremely flammable aerosol.
 Press. Gas H280 Contains gas under pressure; may explode if heated.
 STOT SE 3 H335 May cause respiratory irritation.
 STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
 GHS Hazard pictograms



Signal word
 Hazard statements

Precautionary statements

Danger
 Extremely flammable aerosol.
 Contains gas under pressure; may explode if heated.
 May cause respiratory irritation.
 May cause damage to organs through prolonged or repeated exposure.
 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
 Do not spray on an open flame or other ignition source.
 Do not pierce or burn, even after use.
 Use only outdoors or in a well-ventilated area.
 Do not breathe dust/fume/gas/mist/vapors/spray.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 Call a POISON CENTER/doctor if you feel unwell.
 Store locked up.
 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
 Protect from sunlight. Store in a well-ventilated place.
 Store in a well-ventilated place. Keep container tightly closed.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients**Chemical characterization: Mixtures****Chemical Description:**

This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:

| | | |
|------------|-------------------|--------|
| 64742-89-8 | VM&P Naphtha | |
| 1317-65-3 | Calcium Carbonate | |
| 74-98-6 | propane | 21.93% |
| 106-97-8 | n-butane | 16.12% |
| 64742-47-8 | Mineral Spirits | 12.6% |
| 7727-43-7 | barium sulfate | 7.4% |
| 1330-20-7 | xylene (mix) | 4.44% |
| | | 2.54% |
| | | 1.33% |

4 First-aid measures

After inhalation:
 After skin contact:
 After eye contact:
 After swallowing:

Supply fresh air; consult doctor in case of complaints.
 Remove contaminated clothing. Wash exposed area with soap and water.
 Rinse opened eye for several minutes under running water. Then consult a doctor.
 Rinse out mouth and then drink plenty of water.
 Rinse mouth with water. Do not induce vomiting.

Most important symptoms and effects:
 Indication of any immediate medical attention needed:

Dizziness
 No further relevant information available.

5 Fire-fighting measures

Extinguishing agents:
 Special hazards:
 Protective equipment for firefighters:

CO₂, extinguishing powder or water spray. Fight larger fires with water spray.
 Can form explosive gas-air mixtures.
 A respiratory protective device may be necessary.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Wear protective equipment. Keep unprotected persons away.
 Use respiratory protective device against the effects of fumes/dust/aerosol.

(Contd. on page 2)

FOR CHEMICAL EMERGENCY
 Call INFOTRAC
 1-800-535-5053
 24 hours per day, 7 days per week

Trade name: FASTLANE AEROSOL YELLOW

Revised On 02/23/2017

**Methods and material for
containment and cleaning up:**

Ensure adequate ventilation.

(Contd. of page 1)

7 Handling and storage**Precautions for safe handling
Storage requirements:**

Use only in well ventilated areas.
Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions. Store locked up.

8 Exposure controls/personal protection**Components with limit values that require monitoring at the workplace:****74-98-6 propane**

PEL (USA) Long-term value: 1800 mg/m³, 1000 ppm
REL (USA) Long-term value: 1800 mg/m³, 1000 ppm
TLV (USA) refer to Appendix F in TLVs & BEIs book; NIC-EX

106-97-8 n-butane

REL (USA) Long-term value: 1900 mg/m³, 800 ppm
TLV (USA) Short-term value: (2370) mg/m³, (1000) ppm
NIC-EX

7727-43-7 barium sulfate

PEL (USA) Long-term value: 15* 5** mg/m³
*total dust **respirable fraction
REL (USA) Long-term value: 10* 5** mg/m³
*total dust **respirable fraction
TLV (USA) Long-term value: 5* mg/m³
*inhalable fraction; E

1330-20-7 xylene (mix)

PEL (USA) Long-term value: 435 mg/m³, 100 ppm
REL (USA) Short-term value: 655 mg/m³, 150 ppm
Long-term value: 435 mg/m³, 100 ppm
TLV (USA) Short-term value: 651 mg/m³, 150 ppm
Long-term value: 434 mg/m³, 100 ppm
BEI

Ingredients with biological limit values:**1330-20-7 xylene (mix)**

BEI (USA) 1.5 g/g creatinine
Medium: urine
Time: end of shift
Parameter: Methylhippuric acids

Hygienic protection:

Keep away from foodstuffs and animal feed. Wash hands after use.
Wash hands after use.

Breathing equipment:

Do not eat or drink while working.
A respirator is generally not necessary when using this product outdoors or in large open areas.
In cases where short and/or long term overexposure exists, a charcoal filter respirator should be worn. If you suspect overexposure conditions exist, please consult an authority on chemical hygiene.

Hand protection:

Nitrile gloves.

Eye protection:

Protective gloves. The glove material must be impermeable and resistant to the substance.
Tightly sealed goggles

9 Physical and chemical properties**Appearance:**

Aerosol.

Odor:

Solvent

Odor threshold:

Not determined.

pH-value:

Not determined.

Melting point/Melting range

Undetermined.

Boiling point:

-44 °C (-47 °F)

Flash point:

-19 °C (-2 °F)

Flammability (solid, gas):

Extremely flammable.

Decomposition temperature:

Not determined.

Auto igniting:

Product is not self-igniting.

Danger of explosion:

In use, may form flammable/explosive vapour-air mixture.

Lower Explosion Limit:

1.7 Vol %

Upper Explosion Limit:

10.9 Vol %

Vapor pressure:

Not determined.

Relative Density:

Between 0.77 and 0.85 (Water equals 1.00)

Vapor density

Not determined.

Evaporation rate

Not applicable.

Partition coefficient: n-octanol/water:

Not determined.

Solubility:

Not determined.

Viscosity:

Not determined.

VOC content (less exempt solvents):

48.1 %

(Contd. on page 3)

Safety Data Sheet

Printing date 02/23/2017

Page 3/4

Trade name: FASTLANE AEROSOL YELLOW

Revised On 02/23/2017

Water: 19.1 %
Solids content: 31.4 %

(Contd. of page 2)

10 Stability and reactivity

Reactivity: Stable at normal temperatures.
Conditions to avoid: Do not allow can to exceed 120 degrees Fahrenheit. Do not warehouse in subfreezing temperatures.
Chemical stability: Not fully evaluated.
Possibility of hazardous reactions: No dangerous reactions known.
Incompatible materials: No further relevant information available.
Hazardous decomposition: No dangerous decomposition products known.

11 Toxicological information

LD/LC50 values that are relevant for classification:

106-97-8 n-butane

Inhalative LC50/4 h 658 mg/l (rat)

1330-20-7 xylene (mix)

Oral LD50 8700 mg/kg (rat)

Dermal LD50 2000 mg/kg (rbt)

Inhalative LC50/4 h 6350 mg/l (rat)

Information on toxicological effects: No data available.
Skin effects: No irritant effect.
Eye effects: No irritating effect.
Sensitization: No sensitizing effects known.

12 Ecological information

Aquatic toxicity: Hazardous for water, do not empty into drains.
Persistence and degradability: The product is degradable after prolonged exposure to natural weathering processes.
Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.
Other adverse effects: No further relevant information available.

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.
Recommendation: Completely empty cans should be recycled.

14 Transport information

UN-Number UN1950
DOT N/A
DOT UN1950
ADR Consumer Commodity ORM-D
Transport hazard class(es): Aerosols, flammable
Class 1950 Aerosols
Marine pollutant: 2.1
Special precautions for user: No
EMS Number: Warning: Gases
Packaging Group: F-D,S-U
UN "Model Regulation": UN1950, Aerosols, 2.1

15 Regulatory information

SARA Section 355 (extremely hazardous substances):

None of the ingredients in this product are listed.

SARA Section 313 (Specific toxic chemical listings):

7727-43-7 barium sulfate

1330-20-7 xylene (mix)

Toxic Substances Control Act

(TSCA):

Consumer Product Safety

Commission (CPSC):

All ingredients for this product are found on the inventory list of substances.

California Proposition 65 chemicals known to cause cancer:

13463-67-7 titanium dioxide

100-41-4 ethyl benzene

California Proposition 65 chemicals known to cause birth defects or reproductive harm:

None of the ingredients in this product are listed.

CANADIAN ENVIRONMENTAL
PROTECTION ACT:

All hazardous ingredients for this product appear on the Canadian Domestic Substance List.

(Contd. on page 4)

Safety Data Sheet

Trade name: FASTLANE AEROSOL YELLOW

Revised On 02/23/2017

WHMIS Symbols for Canada:

A - Compressed gas



(Contd. of page 3)

EPA:

7727-43-7 barium sulfate

1330-20-7 xylene (mix)

D, CBD(inh), NL(oral)

16 Other information

Contact:

Date of preparation / last revision

Regulatory Affairs
02/23/2017 / -

Safety Data Sheet

Printing date 12/19/2016

Revised On 12/19/2016

1 Identification of the substance and manufacturer

Trade name: 1509163 FLAT BLACK
Product category: PC9a Paints and coatings.
Manufacturer/Supplier: Lawson Products, Inc.
 8770 W. Bryn Mawr Avenue
 Chicago, IL 60631
 USA
 phone: 773-304-5050
Emergency telephone number: 888-426-4851

2 Hazard(s) identification

Classification of the substance or mixture

Flam. Aerosol 1 H222 Extremely flammable aerosol.
 Press. Gas H280 Contains gas under pressure; may explode if heated.
 Eye Irrit. 2A H319 Causes serious eye irritation.
 STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.
 STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

GHS Hazard pictograms



GHS02 GHS04 GHS07 GHS08

Signal word

Hazard statements

Danger
 Extremely flammable aerosol.
 Contains gas under pressure; may explode if heated.
 Causes serious eye irritation.
 May cause respiratory irritation. May cause drowsiness or dizziness.
 May cause damage to organs through prolonged or repeated exposure.
 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
 Do not spray on an open flame or other ignition source.
 Do not pierce or burn, even after use.
 Wash hands thoroughly after handling.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves/protective clothing/eye protection/face protection.
 Do not breathe dust/fume/gas/mist/vapors/spray.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Call a POISON CENTER/doctor if you feel unwell.
 If eye irritation persists: Get medical advice/attention.
 Store locked up.
 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
 Protect from sunlight. Store in a well-ventilated place.
 Store in a well-ventilated place. Keep container tightly closed.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

Precautionary statements

3 Composition/information on ingredients

Chemical characterization: Mixtures

Chemical Description: This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:

| | | |
|-------------|------------------------|--------|
| 67-64-1 | Acetone | 21.24% |
| 74-98-6 | propane | 15.75% |
| 1317-65-3 | Calcium Carbonate | 13.23% |
| 106-97-8 | n-butane | 9.25% |
| 110-19-0 | Isobutyl Acetate | 8.54% |
| 64742-89-8 | VM&P Naphtha | 4.54% |
| 2807-30-9 | Glycol Ether EP | 2.56% |
| 108-10-1 | methyl isobutyl ketone | 1.49% |
| 107-87-9 | Methyl Propyl Ketone | 1.33% |
| 112926-00-8 | Silicon Dioxide | 1.13% |

4 First-aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact: Remove contaminated clothing. Wash exposed area with soap and water.
After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
After swallowing: Rinse mouth with water. Do not induce vomiting.
Most important symptoms and effects: Dizziness
Indication of any immediate medical attention needed: No further relevant information available.

5 Fire-fighting measures

Extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray.
Special hazards: Can form explosive gas-air mixtures.

(Contd. on page 2)

Safety Data Sheet

Printing date 12/19/2016

Revised On 12/19/2016

Trade name: 1509163 FLAT BLACK

Eye protection: Tightly sealed goggles

(Contd. of page 2)

9 Physical and chemical properties

Appearance: Aerosol.
Odor: Aromatic
Odor threshold: Not determined.
pH-value: Not determined.
Melting point/Melting range: Undetermined.
Boiling point: -44 °C (-47 °F)
Flash point: -19 °C (-2 °F)
Flammability (solid, gas): Extremely flammable.
Decomposition temperature: Not determined.
Auto igniting: Product is not self-igniting.
Danger of explosion: In use, may form flammable/explosive vapour-air mixture.
Lower Explosion Limit: 1.7 Vol %
Upper Explosion Limit: 10.9 Vol %
Vapor pressure: Not determined.
Relative Density: Between 0.77 and 0.85 (Water equals 1.00)
Vapor density: Not determined.
Evaporation rate: Not applicable.
Partition coefficient: n-octonal/water: Not determined.
Solubility: Not determined.
Viscosity: Not determined.
VOC content (less exempt solvents): 45.1 %
MIR Value: 0.75
Solids content: 29.3 %

10 Stability and reactivity

Reactivity: Stable at normal temperatures.
Conditions to avoid: Do not allow can to exceed 120 degrees Fahrenheit. Do not warehouse in subfreezing temperatures.
Chemical stability: Not fully evaluated.
Possibility of hazardous reactions: No dangerous reactions known.
Incompatible materials: No further relevant information available.
Hazardous decomposition: No dangerous decomposition products known.

11 Toxicological information

LD/LC50 values that are relevant for classification:

106-97-8 n-butane

Inhalative LC50/4 h 658 mg/l (rat)

110-19-0 Isobutyl Acetate

Oral LD50 4763 mg/kg (rbt)

108-10-1 methyl isobutyl ketone

Oral LD50 2100 mg/kg (rat)

Dermal LD50 16000 mg/kg (rab)

Inhalative LC50/4 h 8.3-16.6 mg/l (rat)

Information on toxicological effects: No data available.**Skin effects:** No irritant effect.**Eye effects:** Irritating effect.**Sensitization:** No sensitizing effects known.

Carcinogenic categories

IARC (International Agency for Research on Cancer)

108-10-1 methyl isobutyl ketone

2B

NTP (National Toxicology Program)

None of the ingredients is listed.

12 Ecological information

Aquatic toxicity: Hazardous for water, do not empty into drains.
Persistence and degradability: The product is degradable after prolonged exposure to natural weathering processes.
Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.
Other adverse effects: No further relevant information available.

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.

(Contd. on page 4)

Safety Data Sheet

Printing date 12/19/2016

Revised On 12/19/2016

Trade name: 1509163 FLAT BLACK

Recommendation: Completely empty cans should be recycled.

(Contd. of page 3)

14 Transport information

| | |
|--------------------------------------|--|
| UN-Number | UN1950 |
| DOT | N/A |
| DOT | Consumer Commodity ORM-D |
| ADR | Aerosols, flammable |
| Transport hazard class(es): | 1950 Aerosols |
| Class | 2.1 |
| Special precautions for user: | Warning: Gases |
| EMS Number: | F-D,S-U |
| Stowage Code | SW1 Protected from sources of heat. SW22 For AEROSOLS with a maximum capacity of 1 litre: Category A. For AEROSOLS with a capacity above 1 litre: Category B. For WASTE AEROSOLS: Category C, Clear of living quarters. |
| Segregation Code | SG69 For AEROSOLS with a maximum capacity of 1 litre: Segregation as for class 9. Stow "separated from" class 1 except for division 1.4. For AEROSOLS with a capacity above 1 litre: Segregation as for the appropriate subdivision of class 2. For WASTE AEROSOLS: Segregation as for the appropriate subdivision of class 2. |
| Quantity limitations | On passenger aircraft/rail: 75 kg On cargo aircraft only: 150 kg |

| | |
|---------------------------------|--|
| ADR | |
| Excepted quantities (EQ) | Code: E0 Not permitted as Excepted Quantity |

| | |
|---------------------------------|--|
| IMDG | |
| Limited quantities (LQ) | 1L |
| Excepted quantities (EQ) | Code: E0 Not permitted as Excepted Quantity |
| Packaging Group: | -- |
| UN "Model Regulation": | UN 1950 AEROSOLS, 2.1 |

15 Regulatory information

SARA Section 355 (extremely hazardous substances):

None of the ingredients in this product are listed.

SARA Section 313 (Specific toxic chemical listings):

108-10-1 methyl isobutyl ketone

CPSC: This product complies with 16 CFR 1303 and does not contain more than 90 ppm of lead.

California Proposition 65 chemicals known to cause cancer:

108-10-1 methyl isobutyl ketone

1333-86-4 Carbon black

100-41-4 ethyl benzene

**CANADIAN ENVIRONMENTAL
PROTECTION ACT:**
WHMIS Symbols for Canada:

All hazardous ingredients for this product appear on the Canadian Domestic Substance List.
A - Compressed gas
D2B - Toxic material causing other toxic effects



EPA:

67-64-1 Acetone

110-19-0 Isobutyl Acetate

108-10-1 methyl isobutyl ketone

I

D

I

16 Other information

Contact: Regulatory Affairs
Date of preparation / last revision 12/19/2016 / -

SAFETY DATA SHEET

1. Identification

| | | | |
|--|------------------------|-------------------|--|
| Product Name: | Flo-Max De-Icer | Producer: | ET Products, LLC |
| Product Number: | #1290 | Address: | PO Box 100, 747 Douglas Road Bremen, IN 46506 |
| Recommended use: | Diesel Fuel Additive | Telephone: | 800-325-5746 (general inquiries) |
| <i>24-Hour Emergency Response Number: 800-424-9300 CHEMTREC®</i> | | | |

2. Hazard(s) identification

Classification:

Physical, Flammable Liquids - Category 3
 Health, Aspiration hazard - Category 1
 Health, Carcinogenicity - Category 2
 Health, Serious Eye Damage/Eye Irritation - Category 2A
 Health, Skin corrosion/irritation - Category 2
 Health, Specific target organ systemic toxicity (single exposure) - Category 3 (narcotic effects)
 Environmental, Hazards to the aquatic environment - Acute, - Category 2
 Environmental, Hazards to the aquatic environment - Chronic, Category 2

Labeling:

Pictograms:



Signal Word:

WARNING

Hazard Statements:

H226 - Flammable liquid and vapor
 H304 - May be fatal if swallowed and enters airways
 H315 - Causes skin irritation
 H318 - Causes serious eye damage
 H335 - May cause respiratory irritation
 H336 - May cause drowsiness or dizziness
 H351 - Suspected of causing cancer
 H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements:

Prevention:

P210 - Keep away from heat/sparks/open flames/hot surfaces. No smoking.
 P241 - Use explosion-proof electrical/ventilating/light/equipment.
 P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
 P264 - Wash thoroughly after handling.
 P271 - Use only outdoors or in a well-ventilated area.
 P273 - Avoid release to the environment.
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Response:

P301+P310+P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.
 P302+P352 - IF ON SKIN: Wash with soap and water.
 P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338 - IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue Rinsing.

P362: Take off contaminated clothing and wash before reuse.

P370+P378: IN CASE OF FIRE: Use water spray, carbon dioxide, dry chemical or alcohol foam for extinction.

P391 - Collect spillage.

Storage:

P403+P233+P235 - Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Disposal:

P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

3. Composition / Information on ingredients

| Components | CAS No. | % Volume | |
|--|--------------|----------|-------|
| | | Min | Max |
| Petroleum Naphtha | 64742-95-6 | 2.17 | 97.62 |
| Trimethylbenzene | 25551-13-7 | 15.46 | 46.09 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 6.03 | 24.95 |
| Non Hazardous Additives (Proprietary) | Proprietary | - | 9.07 |
| Diethylene Glycol Monomethyl Ether | 111-77-3 | 4.00 | 6.00 |
| Xylene | 1330-20-7 | 0.60 | 3.46 |
| Cumene | 98-82-8 | 0.60 | 2.85 |
| Cymenes | 25155-15-1 | 0.30 | 1.36 |
| Alkylphenol | Confidential | 0.38 | 0.86 |
| Heavy Aromatic Naphtha (aka Petroleum Naphtha) | 64742-94-5 | 0.17 | 0.38 |
| Benzene, ethylenated, residues, distn. Lights | 178535-25-6 | 0.17 | 0.38 |
| 1,2,3-Trimethylbenzene | 526-73-8 | 0.10 | 0.29 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 0.10 | 0.29 |
| Ethylbenzene | 100-41-4 | - | 0.14 |
| Naphthalene | 91-20-3 | 0.02 | 0.13 |
| Triethylbenzene | 102-25-0 | - | 0.13 |
| Diethylbenzene | 25340-17-4 | - | 0.06 |
| Vinyl Acetate | 108-05-4 | - | 0.04 |
| Toluene | 108-88-3 | - | 0.03 |
| Benzene | 71-43-2 | - | 0.005 |

(See Section 8 for Exposure Controls.)

4. First-aid measures

| | |
|----------------------|---|
| Inhalation: | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. |
| Skin contact: | IF ON SKIN: Wash with soap and water. |
| Eye contact: | IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue Rinsing. |
| Ingestion: | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. |

5. Firefighting measures

| | |
|---|---|
| Suitable extinguishing media: | IN CASE OF FIRE: Use water spray, carbon dioxide, dry chemical or alcohol foam for extinction. |
| Unsuitable extinguishing media: | Do not use a solid water stream as it may scatter and spread fire. |
| Specific hazards in case of fire: | <p>Combustion may produce CO_x, reactive hydrocarbons, irritating vapors, and other decomposition products in the case of incomplete combustion.</p> <p>Extremely flammable. Vapors form flammable or explosive mixtures with air at room temperature. Vapor or gas may spread to distant ignition sources and flash back.</p> <p>Static accumulator (nonconductive) flammable or combustible material may form ignitable vapor-air mixtures in storage tanks. Bonding and grounding may be insufficient to eliminate the hazard from static accumulation.</p> <p>Explosion hazard if exposed to extreme heat.</p> |
| Special protective equipment and precaution for fire fighters: | <p>Evacuate area and fight fire from a safe distance.</p> <p>If leak or spill has not ignited, ventilate area and use water spray to disperse gas or vapor, cool adjacent structures, and to protect personnel attempting to stop a leak.</p> <p>Shut off source of flow, if possible.</p> <p>Stay away from storage tank ends. Withdraw immediately in case of rising sound from venting safety device or any discoloration of storage tank due to fire. Always stay away from tanks engulfed in flame.</p> <p>Firefighters must wear NIOSH approved positive pressure breathing apparatus (SCBA) with full face mask and full protective equipment.</p> |

6. Accidental release measures

| | |
|---|--|
| Personal precautions: | <p>Use special care to avoid static electric charges. Keep away from open flames, hot surfaces and sources of ignition. No smoking.</p> <p>Use appropriate personal protection equipment (PPE).</p> <p>Evacuate unnecessary personnel.</p> <p>Ventilate area. Eliminate ignition sources. Stop leak if safe to do so.</p> |
| Environmental precautions: | Prevent entry to sewers and public waters. |
| Methods and materials for containment and cleaning up: | <p>Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Use only non-sparking tools.</p> <p>Clear up spills immediately and dispose of waste safely. Absorb and/or contain spill with inert material. Do not take up in combustible material such as: saw dust or cellulosic material. Use explosion-proof equipment.</p> <p>See Section 8 Exposure Controls and Personal Protection for additional information.</p> |

7. Handling and storage

| | |
|---------------------------------------|--|
| Precautions for safe handling: | Keep away from heat/sparks/open flames/hot surfaces. No smoking. Use explosion-proof electrical/ventilating/light/equipment. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. |
| Conditions for safe storage: | Store in a well-ventilated place. Keep container tightly closed. Keep cool. See Section 10 for incompatible materials. |

8. Exposure controls / personal protection

Exposure Limits:

| Component | OSHA | | ACGIH | |
|------------------------------------|------------|---------|------------|------------|
| | TWA | STEL | TWA | STEL |
| 1,2,3-Trimethylbenzene | N/E | N/E | 25 ppm | N/E |
| 1,2,4-Trimethylbenzene | N/E | N/E | 25 ppm | N/E |
| 1,3,5-Trimethylbenzene | N/E | N/E | 25 ppm | N/E |
| Benzene | 5 ppm | 5 ppm | 0.5ppm (s) | 2.5ppm (s) |
| Cumene | 50 ppm (s) | N/E | 50 ppm | N/E |
| Diethylene Glycol Monomethyl Ether | 30 ppm | N/E | 30 ppm | N/E |
| Ethylbenzene | 100 ppm | 125 ppm | 100 ppm | 125 ppm |
| Light Aromatic Naphtha | 500 ppm | N/E | N/E | N/E |
| Naphthalene | 10 ppm | 15 ppm | 10 ppm (s) | 15 ppm (s) |
| Petroleum Naphtha | N/E | N/E | N/E | N/E |
| Toluene | 100 ppm | 150 ppm | 20 ppm | N/E |
| Trimethylbenzene | 25 ppm | N/E | 25 ppm | N/E |
| Vinyl Acetate | 10 ppm | 20 ppm | 10 ppm | 15 ppm |
| Xylene | 100 ppm | 150 ppm | 100 ppm | 150 ppm |

(s) – Skin exposure N/E – None established

| | | |
|---|--------------------------------|---|
| Engineering Controls: | Ventilation: | Use local exhaust ventilation to control mists or vapors. Additional ventilation or exhaust may be required to maintain air concentrations below recommended exposure limits. |
| Personal Protective Equipment (PPE): | Skin Protection: | Nitrile Gloves. Long sleeve shirt is recommended. Wear either a chemical protective suit or apron when potential for contact with material exists. |
| | Eye Protection: | Safety glasses. If potential for splash or mist exists, wear goggles or face shield. |
| | Respiratory Protection: | Under normal use conditions, with adequate ventilation, no special handling equipment is required. If anticipating close contact with this product or its mist, local ventilation may be required to keep exposure below limits. Use NIOSH/MSHA approved full face respirator with a combination organic vapor and high efficiency filter cartridge if the recommended exposure limit is exceeded. Use self-contained breathing apparatus for entry into confined space, or other poorly ventilated areas and for large spill clean-up sites. |

9. Physical and chemical properties

| | | | |
|---|--------------------------------------|---------------------------------------|-------------------|
| Physical state: | Liquid | Evaporation rate: | No data available |
| Color: | Tan to Amber-Colored Liquid | Flammability: | No data available |
| Flash point (° F): | 114 | Explosive limits: | No data available |
| Relative density: | 0.89 | Vapor pressure: | No data available |
| Odor: | Mild solvent odor | Vapor density: | No data available |
| Odor threshold: | No data available | Solubility: | No data available |
| pH: | Not applicable; non aqueous solution | Partition coefficient: | No data available |
| Melting point/ Freezing point: | No data available | Autoignition temperature: | No data available |
| Initial boiling point and boiling range: | No data available | Decomposition temperature: | No data available |

10. Stability and reactivity

| | |
|--|--|
| Chemical stability: | Material is normally stable at moderately elevated temperatures and pressures. |
| Possibility of hazardous reactions: | Hazardous polymerization will not occur. |
| Conditions to avoid: | High temperatures and open flame. |
| Incompatible materials: | Avoid strong oxidizing agents and strong reducing agents. |
| Hazardous decomposition products: | Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion. |

11. Toxicological information

Acute Toxicity: Harmful if swallowed. Harmful in contact with skin.

| Component | CAS | Test | Result |
|--------------------------|------------|----------------------------|--|
| 1,2,4-Trimethylbenzene | 95-63-6 | LC50 Inhalation Rat (mg/l) | > 18 mg/l 18000 mg/kg (Exposure time: 4 h) |
| Benzene | 71-43-2 | ATE (Oral) | 1800.000 mg/kg |
| Benzene | 71-43-2 | LC50 Inhalation Rat (ppm) | 13050 - 14380 ppm/4h |
| Benzene | 71-43-2 | LD50 Oral Rat | 930 mg/kg |
| Benzene, 1,2,4-trimethyl | 95-63-6 | ATE (Vapors) | 10.800 mg/l/4h |
| Benzene, 1,2,4-trimethyl | 95-63-6 | LC50 Inhalation Rat (mg/l) | 18 g/m ³ (Exposure time: 4 h) |
| Benzene, 1,2,4-trimethyl | 95-63-6 | LD50 Dermal Rabbit | > 3160 mg/kg |
| Benzene, 1,2,4-trimethyl | 95-63-6 | LD50 Oral Rat | 6000 mg/kg |
| Cumene | 98-82-8 | LC50 Inhalation Rat (mg/l) | 20 - 40 mg/l (Exposure time: 6 h) |
| Cumene | 98-82-8 | LD50 Dermal Rabbit | 10000 mg/kg |
| Cumene | 98-82-8 | LD50 Oral Rat | 2260 mg/kg |
| Ethylbenzene | 100-41-4 | LC50 Inhalation Rat (mg/l) | 17.2 mg/l/4h (Exposure time: 4 h) |
| Ethylbenzene | 100-41-4 | LD50 Dermal Rabbit | 15354 mg/kg |
| Ethylbenzene | 100-41-4 | LD50 Oral Rat | 3500 mg/kg |
| Light Aromatic Naphtha | 64742-95-6 | LC50 Inhalation Rat (mg/l) | > 5.2 mg/l |
| Light Aromatic Naphtha | 64742-95-6 | LD50 Dermal Rat | > 2000 mg/kg |
| Light Aromatic Naphtha | 64742-95-6 | LD50 Oral Rat | > 5000 mg/kg |
| Naphthalene | 91-20-3 | LC50 Inhalation Rat (mg/l) | > 340 mg/m ³ (Exposure time: 1 h) |
| Naphthalene | 91-20-3 | LD50 Dermal Rabbit | 1120 mg/kg |
| Naphthalene | 91-20-3 | LD50 Oral Rat | 533 - 710 mg/kg |
| Toluene | 108-88-3 | LC50 Inhalation Rat (mg/l) | 12.5 mg/l/4h |
| Toluene | 108-88-3 | LD50 Dermal Rabbit | 8390 mg/kg |
| Toluene | 108-88-3 | LD50 Oral Rat | 636 mg/kg |

| | | | |
|------------------------------|-----------|----------------------------|---------------------------------------|
| Xylenes (o-, m-, p- isomers) | 1330-20-7 | ATE (Dermal) | 1100.000 mg/kg body weight |
| Xylenes (o-, m-, p- isomers) | 1330-20-7 | ATE (Vapors) | 11.000 mg/l/4h |
| Xylenes (o-, m-, p- isomers) | 1330-20-7 | LC50 Inhalation Rat (mg/l) | 47635 mg/l/4h (Exposure time: 4 h) |
| Xylenes (o-, m-, p- isomers) | 1330-20-7 | LC50 Inhalation Rat (ppm) | 6247 ppm/4h (species: Sprague-Dawley) |
| Xylenes (o-, m-, p- isomers) | 1330-20-7 | LD50 Oral Rat | 4300 mg/kg |

Skin Corrosion/Irritation: Causes skin irritation.

Serious Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: May cause genetic defects. May cause genetic defects

Carcinogenicity: May cause cancer.

| Component | CAS | Group | Notes |
|------------------------------|-----------|--|---|
| Benzene | 71-43-2 | IARC group | 1 |
| Benzene | 71-43-2 | National Toxicity Program (NTP) Status | Evidence of Carcinogenicity, Known Human Carcinogens. |
| Cumene | 98-82-8 | IARC group | 2B |
| Cumene | 98-82-8 | National Toxicity Program (NTP) Status | Evidence of Carcinogenicity. |
| Ethylbenzene | 100-41-4 | IARC group | 2B |
| Ethylbenzene | 100-41-4 | National Toxicity Program (NTP) Status | Evidence of Carcinogenicity. |
| Naphthalene | 91-20-3 | IARC group | 2B |
| Naphthalene | 91-20-3 | National Toxicity Program (NTP) Status | Evidence of Carcinogenicity, Reasonably anticipated to be Human Carcinogen. |
| Toluene | 108-88-3 | IARC group | 3 |
| Xylenes (o-, m-, p- isomers) | 1330-20-7 | IARC group | 3 |

Reproductive Toxicity: May damage fertility or the unborn child.

Specific Target Organ Toxicity (Single Exposure): May cause damage to organs.

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Aspiration Hazard: May be fatal if swallowed and enters airways.

Potential Adverse Human Health Effects and Symptoms: Harmful in contact with skin. Harmful if swallowed.

Symptoms/Injuries After Inhalation: Harmful if inhaled.

Symptoms/Injuries After Skin Contact: Harmful in contact with skin. Causes skin irritation.

Symptoms/Injuries After Eye Contact: May cause eye irritation.

Symptoms/Injuries After Ingestion: Harmful if swallowed. May be fatal if swallowed and enters airways.

Chronic Symptoms: May cause genetic defects. May cause cancer. May damage fertility. May damage the unborn child.

12. Ecological information

12.1. Toxicity

Ecology – General: Harmful to aquatic life. Toxic to aquatic life with long lasting effects.

| Component | CAS | Test | Result |
|--------------------------|------------|----------------|---|
| Benzene | 71-43-2 | LC50 Fish 1 | 10.7 - 14.7 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |
| Benzene | 71-43-2 | EC50 Daphnia 1 | 8.76 - 15.6 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static]) |
| Benzene | 71-43-2 | LC 50 Fish 2 | 5.3 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through]) |
| Benzene | 71-43-2 | EC50 Daphnia 2 | 10 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| Benzene, 1,2,4-trimethyl | 95-63-6 | LC50 Fish 1 | 7.19 (7.19 - 8.28) mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |
| Benzene, 1,2,4-trimethyl | 95-63-6 | EC50 Daphnia 1 | 6.14 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| Cumene | 98-82-8 | LC50 Fish 1 | 6.04 - 6.61 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |
| Cumene | 98-82-8 | EC50 Daphnia 1 | 0.6 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| Cumene | 98-82-8 | LC 50 Fish 2 | 4.8 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through]) |
| Cumene | 98-82-8 | EC50 Daphnia 2 | 7.9 - 14.1 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static]) |
| Ethylbenzene | 100-41-4 | LC50 Fish 1 | 11.0 - 18.0 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static]) |
| Ethylbenzene | 100-41-4 | EC50 Daphnia 1 | 1.8 - 2.4 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| Ethylbenzene | 100-41-4 | LC 50 Fish 2 | 4.2 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static]) |
| Light Aromatic | 64742-95-6 | LC50 Fish | >1 mg/l |

| | | | |
|------------------------------|------------|------------------------|--|
| Naphtha | | | |
| Light Aromatic Naphtha | 64742-95-6 | EC50 Daphnia | >1 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| Light Aromatic Naphtha | 64742-95-6 | NOEL Chronic Crustacea | 0.39-2.6 mg/l (Species Daphnia magna) |
| Light Aromatic Naphtha | 64742-95-6 | NOEL Chronic Fish | 2.6-6.4 mg/l |
| Naphthalene | 91-20-3 | LC50 Fish 1 | 5.74 - 6.44 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |
| Naphthalene | 91-20-3 | EC50 Daphnia 1 | 2.16 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| Naphthalene | 91-20-3 | LC 50 Fish 2 | 1.6 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through]) |
| Naphthalene | 91-20-3 | EC50 Daphnia 2 | 1.96 mg/l (Exposure time: 48 h - Species: Daphnia magna [Flow through]) |
| Toluene | 108-88-3 | LC50 Fish 1 | 15.22 - 19.05 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |
| Toluene | 108-88-3 | EC50 Daphnia 1 | 5.46 - 9.83 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static]) |
| Toluene | 108-88-3 | LC 50 Fish 2 | 12.6 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static]) |
| Toluene | 108-88-3 | EC50 Daphnia 2 | 11.5 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| Toluene | 108-88-3 | NOEC chronic crustacea | 0.74 mg/l (Ceriodaphnia dubia) |
| Xylenes (o-, m-, p- isomers) | 1330-20-7 | LC50 Fish 1 | 3.3 mg/l |
| Xylenes (o-, m-, p- isomers) | 1330-20-7 | EC50 Daphnia 1 | 3.82 mg/l (Exposure time: 48 h - Species: water flea) |
| Xylenes (o-, m-, p- isomers) | 1330-20-7 | LC 50 Fish 2 | 2.661 (2.661 - 4.093) mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static]) |

12.2. Persistence and Degradability

1115

Persistence and Degradability

Not established.

12.3. Bioaccumulative Potential

| Component | CAS | Test | Result |
|------------------------------|-----------|------------|-----------------|
| Benzene | 71-43-2 | BCF fish 1 | 3.5 - 4.4 |
| Benzene | 71-43-2 | Log Pow | 1.83 |
| Benzene, 1,2,4-trimethyl | 95-63-6 | Log Pow | 3.63 |
| Cumene | 98-82-8 | BCF fish 1 | 35.5 |
| Cumene | 98-82-8 | Log Pow | 3.55 (at 23 °C) |
| Ethylbenzene | 100-41-4 | BCF fish 1 | 15 |
| Ethylbenzene | 100-41-4 | Log Pow | 3.118 |
| Naphthalene | 91-20-3 | BCF fish 1 | 30 - 430 |
| Naphthalene | 91-20-3 | Log Pow | 3.3 (at 20 °C) |
| Toluene | 108-88-3 | Log Pow | 2.65 |
| Xylenes (o-, m-, p- isomers) | 1330-20-7 | BCF fish 1 | 0.6 (0.6 - 15) |
| Xylenes (o-, m-, p- isomers) | 1330-20-7 | Log Pow | 2.77 - 3.15 |

12.4. Mobility in Soil

No additional information available

12.5. Other Adverse Effects

Other Information: Avoid release to the environment.

13. Disposal considerations

| | |
|------------------------|--|
| Waste Disposal: | <p>Dispose of waste material in accordance with all local, regional, national, provincial, territorial, and international regulations.</p> <p>Handle empty containers with care because residual vapors are flammable.</p> <p>Avoid release to the environment</p> |
|------------------------|--|

14. Transport information

In Accordance with DOT:

This material is not regulated for US DOT transportation in quantities less than 119 gallons.

| | |
|--------------------------------|---|
| Identification number: | NA 1993 |
| Proper shipping name: | Combustible Liquid, N.O.S. (Contains Petroleum Naphtha, Trimethylbenzene) |
| Transport hazard class: | 3 |
| Packing group: | III |
| Marine Pollutant: | Yes (Contains Benzene, ethylenated, residues, distn. Lights) |
| ERG Number | 128 |

15. Regulatory information

U.S. Federal Regulations

Comprehensive Environmental Response and Liability Act of 1980 (CERCLA):

| Component | CAS # | RQ (lbs) | Max Vol % | T | B |
|---------------|-----------|----------|-----------|---|---|
| Benzene | 71-43-2 | 10 | 0.005 | | |
| Naphthalene | 91-20-3 | 100 | 0.13 | | |
| Xylene | 1330-20-7 | 100 | 3.46 | | * |
| Ethylbenzene | 100-41-4 | 1000 | 0.14 | | |
| Toluene | 108-88-3 | 1000 | 0.03 | | |
| Cumene | 98-82-8 | 5000 | 2.85 | | |
| Vinyl Acetate | 108-05-4 | 5000 | 0.04 | | |

Toxic Substances Control Act (TSCA): All components of this product are included on the TSCA inventory.

Superfund Amendments and Reauthorization Act (SARA) Title III Information:

SARA Section 311/312 (40 CFR 370) Hazard Categories:

| | |
|-------------------|-----|
| Immediate Hazard | Yes |
| Delayed Hazard | Yes |
| Fire Hazard | Yes |
| Pressure Hazard | No |
| Reactivity Hazard | No |

This product contains the following toxic chemical(s) subject to reporting requirements of SARA Section 313 (40 CFR 372)

| | |
|------------------------|-----------|
| 1,2,4-Trimethylbenzene | 95-63-6 |
| Benzene | 71-43-2 |
| Cumene | 98-82-8 |
| Naphthalene | 91-20-3 |
| Ethylbenzene | 100-41-4 |
| Toluene | 108-88-3 |
| Vinyl Acetate | 108-05-4 |
| Xylene | 1330-20-7 |

16. Other information

| HMIS Code | | NFPA Code | |
|--------------|----|--------------|---|
| Health | 2* | Health | 2 |
| Flammability | 2 | Flammability | 2 |
| Reactivity | 0 | Reactivity | 0 |

SDS Preparation date: August 20,2015

The information presented herein has been compiled from sources considered to be dependable and is accurate to the best of E.T. Products LLC knowledge; however, E.T. Products LLC makes no warranty whatsoever, expressed, implied or of MERCHANTABILITY OR FITNESS FOR THE PARTICULAR PURPOSE, regarding the accuracy of such data or the results to be obtained from the use thereof. E.T. Products LLC assumes no responsibility for injury to recipient or to third persons or for any damage to any property and recipient assumes all such risks.



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SAFETY DATA SHEET

Issue Date 28-Jun-2016

Revision Date 08-Jan-2018

Version 3.4

Page 1 / 18

1. IDENTIFICATION

Product identifier

Product Name SPADNS Fluoride Reagent

Other means of identification

Product Code(s) 2506025

Safety data sheet number M00481

UN/ID no UN1789

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory Use. Determination of fluoride.

Uses advised against None.

Restrictions on use None.

Details of the supplier of the safety data sheet

Manufacturer Address

Hach Company P.O.Box 389 Loveland,
CO 80539 USA +1(970) 669-3050

Emergency telephone number

+1(303) 623-5716 - 24 Hour Service +1(515)232-2533 - 8am - 4pm CST

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|-----------------------------------|------------|
| Corrosive to metals | Category 1 |
| Skin corrosion/irritation | Category 1 |
| Serious eye damage/eye irritation | Category 1 |
| Respiratory sensitization | |
| Skin sensitization | |
| Mutagenicity | |
| Carcinogenicity | |
| Reproductive toxicity | |
| Chronic aquatic toxicity | Category 3 |

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word - Danger

Product Code(s) 2506025
Issue Date 28-Jun-2016
Version 3.4

Product Name SPADNS Fluoride Reagent
Revision Date 08-Jan-2018
Page 2 / 18



Hazard statements

H290 - May be corrosive to metals
H314 - Causes severe skin burns and eye damage
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements

P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P363 - Wash contaminated clothing before reuse
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P405 - Store locked up
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P273 - Avoid release to the environment
P501 - Dispose of contents/ container to an approved waste disposal plant
P234 - Keep only in original container
P390 - Absorb spillage to prevent material damage

Other Information

Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Percent ranges are used where confidential product information is applicable.

| Chemical name | CAS No. | Percent Range | HMRIC # |
|-----------------------|-----------|---------------|---------|
| Hydrochloric acid | 7647-01-0 | 10 - 20% | - |
| Sodium arsenite | 7784-46-5 | <0.1% | - |
| Zirconium oxychloride | 7699-43-6 | <0.1% | - |

4. FIRST AID MEASURES

Description of first aid measures

| | |
|---|--|
| General advice | Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. |
| Inhalation | Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention. |
| Eye contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get immediate medical advice/attention. |
| Skin contact | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention. |
| Ingestion | Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get immediate medical advice/attention. |
| Self-protection of the first aider | Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. |

Most important symptoms and effects, both acute and delayed

| | |
|-----------------|--------------------|
| Symptoms | Burning sensation. |
|-----------------|--------------------|

Indication of any immediate medical attention and special treatment needed

| | |
|---------------------------|--|
| Note to physicians | Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. |
|---------------------------|--|

5. FIRE-FIGHTING MEASURES

| | |
|---|--|
| Suitable Extinguishing Media | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Unsuitable Extinguishing Media | Caution: Use of water spray when fighting fire may be inefficient. |
| Specific hazards arising from the chemical | The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. |
| Hazardous combustion products | This material will not burn. |
| Special protective equipment for fire-fighters | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. |

6. ACCIDENTAL RELEASE MEASURES

U.S. Notice

Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.

Personal precautions, protective equipment and emergency procedures

Personal precautions

Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Attention! Corrosive material. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other Information

Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions

Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Pick up and transfer to properly labeled containers.

Prevention of secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections

See section 8 for more information. See section 13 for more information.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

Flammability class

Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

| Chemical name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|--------------------------------------|----------------|--|--|
| Hydrochloric acid CAS#: 7647-01-0 | Ceiling: 2 ppm | (vacated) Ceiling: 5 ppm (vacated) Ceiling: 7 mg/m ³ Ceiling: 5 ppm | IDLH: 50 ppm Ceiling: 5 ppm Ceiling: 7 mg/m ³ |

Product Code(s) 2506025
Issue Date 28-Jun-2016
Version 3.4

Product Name SPADNS Fluoride Reagent
Revision Date 08-Jan-2018
Page 5 / 18

| | | | |
|--|--|--|---|
| | | Ceiling: 7 mg/m ³ | |
| Sodium arsenite CAS#: 7784-46-5 | TWA: 0.01 mg/m ³ | TWA: 10 µg/m ³ | IDLH: 5 mg/m ³ As Ceiling: 0.002 mg/m ³ As 15 min |
| Zirconium oxychloride CAS#: 7699-43-6 | STEL: 10 mg/m ³ TWA: 5 mg/m ³ | TWA: 5 mg/m ³ (vacated) TWA: 5 mg/m ³ (vacated) STEL: 10 mg/m ³ | IDLH: 25 mg/m ³ Zr TWA: 5 mg/m ³ except Zirconium tetrachloride Zr STEL: 10 mg/m ³ Zr |

Appropriate engineering controls

Engineering Controls

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hand Protection

Wear suitable gloves. Impervious gloves.

Eye/face protection

Face protection shield.

Skin and body protection

Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

General Hygiene Considerations

Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product.

Environmental exposure controls

Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.

Thermal hazards

None under normal processing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Liquid
Appearance aqueous solution
Odor Acidic

Color dark red
Odor threshold No data available

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|--------------------------------------|--|---|
| Molecular weight | No data available | |
| pH | < 0.5 | |
| Melting point/freezing point | ~ -6 °C / 21 °F | Estimation based on theoretical calculation |
| Boiling point / boiling range | 105 °C / 221 °F | |
| Evaporation rate | 0.64 (water = 1) | |
| Vapor pressure | 23.102 mm Hg / 3.08 kPa at 25 °C / 77 °F | Estimation based on theoretical calculation |
| Vapor density (air = 1) | 0.64 (air = 1) | |

Product Code(s) 2506025
Issue Date 28-Jun-2016
Version 3.4

Product Name SPADNS Fluoride Reagent
Revision Date 08-Jan-2018
Page 6 / 18

Specific gravity (water = 1 / air = 1) 1.015
Partition Coefficient (n-octanol/water) Not applicable
Soil Organic Carbon-Water Partition Coefficient Not applicable
Autoignition temperature No data available
Decomposition temperature No data available
Dynamic viscosity No data available
Kinematic viscosity No data available

Solubility(ies)

Water solubility

| <u>Water solubility classification</u> | <u>Water solubility</u> | <u>Water Solubility Temperature</u> |
|--|-------------------------|-------------------------------------|
| Soluble | > 1000 mg/L | 25 °C / 77 °F |

Solubility in other solvents

| <u>Chemical Name</u> | <u>Solubility classification</u> | <u>Solubility</u> | <u>Solubility Temperature</u> |
|----------------------|----------------------------------|-------------------|-------------------------------|
| Acid | Soluble | > 1000 mg/L | 25 °C / 77 °F |

Other Information

Metal Corrosivity

Steel Corrosion Rate 5.26 mm/yr / 0.21 in/yr
Aluminum Corrosion Rate

Volatile Organic Compounds (VOC) Content

| Chemical name | CAS No. | Volatile organic compounds (VOC) content | CAA (Clean Air Act) |
|-----------------------|----------------|---|----------------------------|
| Hydrochloric acid | 7647-01-0 | No data available | - |
| Sodium arsenite | 7784-46-5 | No data available | - |
| Zirconium oxychloride | 7699-43-6 | No data available | - |

Explosive properties

Upper explosion limit No data available
Lower explosion limit No data available

Flammable properties

Flash point No data available
Method No information available

Flammability Limit in Air

Upper flammability limit: No data available
Lower flammability limit: No data available

Oxidizing properties No data available.

Bulk density Not applicable

Product Code(s) 2506025
Issue Date 28-Jun-2016
Version 3.4

Product Name SPADNS Fluoride Reagent
Revision Date 08-Jan-2018
Page 7 / 18

Particle Size No information available

Particle Size Distribution No information available

10. STABILITY AND REACTIVITY

Reactivity

Not applicable.

Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None

Sensitivity to Static Discharge None.

Possibility of Hazardous Reactions

Possibility of Hazardous Reactions None under normal processing.

Hazardous polymerization

None under normal processing.

Conditions to avoid

Conditions to avoid Exposure to air or moisture over prolonged periods.

Incompatible materials

Incompatible materials Oxidizing agent. Acids. Bases.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Product Information

Inhalation

Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal.

Eye contact

Causes burns. Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.

Skin contact

May cause irritation.

Ingestion

Causes burns. Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms

Redness. Burning. May cause blindness. Coughing and/ or wheezing.

Aggravated Medical Conditions

Eye disorders. Skin disorders. Respiratory disorders. Preexisting eye disorders.

Toxicologically synergistic products

None known.

Toxicokinetics, metabolism and

See ingredients information below.

distribution

| Chemical name | Toxicokinetics, metabolism and distribution |
|--|--|
| Hydrochloric acid (10 - 20%) CAS#: 7647-01-0 | Low concentrations of hydrochloric acid solution do not seem to cause adverse effects to animals and its corrosivity may be greatly attributed to any acute deaths, therefore it is not classified for acute toxicity. |

Product Acute Toxicity Data

Test data reported below

Oral Exposure Route

No data available

Key literature references and sources for data

Outside testing

Dermal Exposure Route

No data available

Inhalation (Dust/Mist) Exposure Route

No data available

Inhalation (Vapor) Exposure Route

No data available

Inhalation (Gas) Exposure Route

No data available

Unknown Acute Toxicity

0% of the mixture consists of ingredient(s) of unknown toxicity.

Acute Toxicity Estimations (ATE)

| | |
|-------------------------------|--------------------------|
| ATEmix (oral) | No information available |
| ATEmix (dermal) | No information available |
| ATEmix (inhalation-dust/mist) | No information available |
| ATEmix (inhalation-vapor) | No information available |
| ATEmix (inhalation-gas) | No information available |

Ingredient Acute Toxicity Data

Oral Exposure Route

If available, see data below

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|---|-------------------------|---------------|---------------|-----------------------|--|
| Sodium arsenite (<0.1%) CAS#: 7784-46-5 | Rat LD ₅₀ | 41 mg/kg | None reported | None reported | RTECS (Registry of Toxic Effects of Chemical Substances) |
| Zirconium oxychloride (<0.1%) CAS#: 7699-43-6 | Rat LD ₅₀ | 2950 mg/kg | None reported | None reported | RTECS (Registry of Toxic Effects of Chemical Substances) |
| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
| Hydrochloric acid (10 - 20%) CAS#: 7647-01-0 | Rat LD ₅₀ | 234 mg/kg | None reported | None reported | IUCLID (The International Uniform Chemical Information Database) |

Dermal Exposure Route

If available, see data below

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|--|----------------------------|---------------|---------------|-----------------------|--|
| Hydrochloric acid (10 - 20%) CAS#: 7647-01-0 | Rabbit LD ₅₀ | > 5010 mg/kg | None reported | None reported | IUCLID (The International Uniform Chemical Information Database) |
| Sodium arsenite (<0.1%) CAS#: 7784-46-5 | Rat LD ₅₀ | 150 mg/kg | None reported | None reported | RTECS (Registry of Toxic Effects of Chemical Substances) |

Inhalation (Dust/Mist) Exposure Route

If available, see data below

Inhalation (Vapor) Exposure Route

If available, see data below

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|-------------------|---------------|---------------|---------------|-----------------------|--|
| Hydrochloric acid | Rat | 16.8 mg/L | 4 hours | None reported | IUCLID (The International |

Product Code(s) 2506025
Issue Date 28-Jun-2016
Version 3.4

Product Name SPADNS Fluoride Reagent
Revision Date 08-Jan-2018
Page 9 / 18

| | | | | | |
|-------------------------------|------------------|--|--|--|--|
| (10 - 20%) CAS#: 7647-01-0 | LC ₅₀ | | | | Uniform Chemical Information Database) |
|-------------------------------|------------------|--|--|--|--|

Inhalation (Gas) Exposure Route

If available, see data below

Product Specific Target Organ Toxicity Single Exposure Data

Oral Exposure Route

No data available

Dermal Exposure Route

No data available

Inhalation (Dust/Mist) Exposure Route

No data available

Inhalation (Vapor) Exposure Route

No data available

Inhalation (Gas) Exposure Route

No data available

Ingredient Specific Target Organ Toxicity Single Exposure Data

Oral Exposure Route

If available, see data below

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|--|-------------------------|---------------|---------------|---|--|
| Hydrochloric acid (10 - 20%) CAS#: 7647-01-0 | Man LD _{Lo} | 2.857 mg/kg | None reported | Vascular BP lowering not characterized in autonomic section Lungs, Thorax, or Respiration Respiratory depression Gastrointestinal Other changes | RTECS (Registry of Toxic Effects of Chemical Substances) |

Dermal Exposure Route

If available, see data below

Inhalation (Dust/Mist) Exposure Route

If available, see data below

Inhalation (Vapor) Exposure Route

If available, see data below

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|--|---------------------------|---------------|---------------|---|--|
| Hydrochloric acid (10 - 20%) CAS#: 7647-01-0 | Human TC _{Lo} | 0.05 mg/L | None reported | Lungs, Thorax, or Respiration Cough | RTECS (Registry of Toxic Effects of Chemical Substances) |

Inhalation (Gas) Exposure Route

If available, see data below

Aspiration toxicity

No data available

Product Skin Corrosion/Irritation Data

No data available.

Ingredient Skin Corrosion/Irritation Data

If available, see data below

| Chemical name | Test method | Species | Reported dose | Exposure time | Results | Key literature references and sources for data |
|--|---------------------------|---------|---------------|---------------|-------------------|--|
| Hydrochloric acid (10 - 20%) CAS#: 7647-01-0 | Existing human experience | Human | None reported | None reported | Corrosive to skin | RTECS (Registry of Toxic Effects of Chemical Substances) |
| Sodium arsenite (<0.1%) CAS#: 7784-46-5 | Existing human experience | Human | None reported | None reported | Skin irritant | No information available |

Product Serious Eye Damage/Eye Irritation Data

No data available.

Ingredient Eye Damage/Eye Irritation Data

If available, see data below

| Chemical name | Test method | Species | Reported dose | Exposure time | Results | Key literature references and sources for data |
|-------------------|----------------|---------|---------------|---------------|-------------------|--|
| Hydrochloric acid | Existing human | Human | None | None | Corrosive to eyes | No information |

Product Code(s) 2506025
Issue Date 28-Jun-2016
Version 3.4

Product Name SPADNS Fluoride Reagent
Revision Date 08-Jan-2018
Page 10 / 18

| | | | | | | |
|---|------------------------------|-------|------------------|------------------|--------------|-----------------------------|
| (10 - 20%) CAS#: 7647-01-0 | experience | | reported | reported | | available |
| Sodium arsenite (<0.1%) CAS#: 7784-46-5 | Existing human experience | Human | None reported | None reported | Eye irritant | No information available |

Sensitization Information

Product Sensitization Data

Skin Sensitization Exposure Route

No data available.

Respiratory Sensitization Exposure Route

No data available.

Ingredient Sensitization Data

Skin Sensitization Exposure Route

If available, see data below.

Respiratory Sensitization Exposure Route

If available, see data below.

Chronic Toxicity Information

Product Specific Target Organ Toxicity Repeat Dose Data

Oral Exposure Route

No data available.

Dermal Exposure Route

No data available.

Inhalation (Dust/Mist) Exposure Route

No data available.

Inhalation (Vapor) Exposure Route

No data available.

Inhalation (Gas) Exposure Route

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

Oral Exposure Route

If available, see data below

Dermal Exposure Route

If available, see data below

Inhalation (Dust/Mist) Exposure Route

If available, see data below

Inhalation (Vapor) Exposure Route

If available, see data below

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|--|-------------------------|------------------|---------------|--|--|
| Hydrochloric acid (10 - 20%) CAS#: 7647-01-0 | Rat TC _{Lo} | 0.000685 mg/L | 84 days | Behavioral Muscle contraction or spasticity Biochemical Enzyme inhibition, induction, or change in blood or tissue levels (true cholinesterase) Kidney, Ureter, or Bladder Other changes in urine composition | RTECS (Registry of Toxic Effects of Chemical Substances) |

Inhalation (Gas) Exposure Route

If available, see data below

Product Carcinogenicity Data

Oral Exposure Route

No data available

Dermal Exposure Route

No data available

Inhalation (Dust/Mist) Exposure Route

No data available

Inhalation (Vapor) Exposure Route

No data available

Inhalation (Gas) Exposure Route

No data available

Ingredient Carcinogenicity Data

| Chemical name | CAS No. | ACGIH | IARC | NTP | OSHA |
|-----------------------|-----------|-------|---------|-------|------|
| Hydrochloric acid | 7647-01-0 | - | Group 3 | - | X |
| Sodium arsenite | 7784-46-5 | A1 | Group 1 | Known | X |
| Zirconium oxychloride | 7699-43-6 | - | - | - | - |

Legend

| | |
|--|--|
| ACGIH (American Conference of Governmental Industrial Hygienists) | Does not apply |
| IARC (International Agency for Research on Cancer) | Group 3 - Not classifiable as a human carcinogen |

Product Code(s) 2506025
Issue Date 28-Jun-2016
Version 3.4

Product Name SPADNS Fluoride Reagent
Revision Date 08-Jan-2018
Page 11 / 18

| | |
|--|----------------|
| NTP (National Toxicology Program) | Does not apply |
| OSHA (Occupational Safety and Health Administration of the US Department of Labor) | X - Present |

Oral Exposure Route

If available, see data below

Dermal Exposure Route

If available, see data below

Inhalation (Dust/Mist) Exposure Route

If available, see data below

Inhalation (Vapor) Exposure Route

If available, see data below

Inhalation (Gas) Exposure Route

If available, see data below

Product Germ Cell Mutagenicity *invitro* Data

No data available.

Ingredient Germ Cell Mutagenicity *invitro* Data

If available, see data below

| Chemical name | Test | Cell Strain | Reported dose | Exposure time | Results | Key literature references and sources for data |
|--|----------------------------|-------------------------------|---------------|---------------|---------------------------------------|--|
| Hydrochloric acid (10 - 20%) CAS#: 7647-01-0 | Cytogenetic analysis | Hamster lung | 30 mmol/L | None reported | Positive test result for mutagenicity | RTECS (Registry of Toxic Effects of Chemical Substances) |
| Sodium arsenite (<0.1%) CAS#: 7784-46-5 | DNA damage | Human liver | 0.001 mmol/L | None reported | Positive test result for mutagenicity | RTECS (Registry of Toxic Effects of Chemical Substances) |
| Zirconium oxychloride (<0.1%) CAS#: 7699-43-6 | Mutation in microorganisms | <i>Salmonella typhimurium</i> | None reported | None reported | Negative test result for mutagenicity | HSDB (Hazardous Substances Data Bank) |
| Chemical name | Test | Cell Strain | Reported dose | Exposure time | Results | Key literature references and sources for data |
| Hydrochloric acid (10 - 20%) CAS#: 7647-01-0 | Cytogenetic analysis | Hamster ovary | 8 mmol/L | None reported | Positive test result for mutagenicity | RTECS (Registry of Toxic Effects of Chemical Substances) |
| Sodium arsenite (<0.1%) CAS#: 7784-46-5 | DNA damage | Human lung | 0.001 mmol/L | None reported | Positive test result for mutagenicity | RTECS (Registry of Toxic Effects of Chemical Substances) |

Product Germ Cell Mutagenicity *in vivo* Data

Oral Exposure Route

No data available

Dermal Exposure Route

No data available

Inhalation (Dust/Mist) Exposure Route

No data available

Inhalation (Vapor) Exposure Route

No data available

Inhalation (Gas) Exposure Route

No data available

Ingredient Germ Cell Mutagenicity *in vivo* Data

Oral Exposure Route

If available, see data below

| Chemical name | Test | Species | Reported dose | Exposure time | Results | Key literature references and sources for data |
|--|---------------------|---------|---------------|---------------|---------------------------------------|--|
| Sodium arsenite (<0.1%) CAS#: 7784-46-5 | Specific locus test | Mouse | 140 mg/kg | 10 weeks | Positive test result for mutagenicity | RTECS (Registry of Toxic Effects of Chemical Substances) |
| Chemical name | Test | Species | Reported dose | Exposure time | Results | Key literature references and |

| | | | | | | |
|---|------------|-------|-----------|---------------|---------------------------------------|---|
| Sodium arsenite (<0.1%) CAS#: 7784-46-5 | DNA damage | Mouse | 100 mg/kg | None reported | Positive test result for mutagenicity | sources for data RTECS (Registry of Toxic Effects of Chemical Substances) |
|---|------------|-------|-----------|---------------|---------------------------------------|---|

Dermal Exposure Route

If available, see data below

Inhalation (Dust/Mist) Exposure Route

If available, see data below

Inhalation (Vapor) Exposure Route

If available, see data below

Inhalation (Gas) Exposure Route

If available, see data below

Product Reproductive Toxicity Data

Oral Exposure Route

No data available

Dermal Exposure Route

No data available

Inhalation (Dust/Mist) Exposure Route

No data available

Inhalation (Vapor) Exposure Route

No data available

Inhalation (Gas) Exposure Route

No data available

Ingredient Reproductive Toxicity Data

Oral Exposure Route

If available, see data below

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|---|-------------------------|---------------|---------------|--|--|
| Sodium arsenite (<0.1%) CAS#: 7784-46-5 | Rat TD _{Lo} | 0.05478 mg/kg | None reported | Effects on Embryo or Fetus Abortion Effects on Newborn Stillbirth | RTECS (Registry of Toxic Effects of Chemical Substances) |
| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
| Sodium arsenite (<0.1%) CAS#: 7784-46-5 | Rat TD _{Lo} | 41 mg/kg | None reported | Effects on Embryo or Fetus Fetal death Fetotoxicity (except death e.g. stunted fetus) | RTECS (Registry of Toxic Effects of Chemical Substances) |

Inhalation (Dust/Mist) Exposure Route

If available, see data below

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|--|-------------------------|---------------|---------------|--|--|
| Hydrochloric acid (10 - 20%) CAS#: 7647-01-0 | Rat TC _{Lo} | 0.450 mg/L | 1 hours | Effects on Embryo or Fetus Fetotoxicity (except death e.g. stunted fetus) Specific Developmental Abnormalities Homeostasis | RTECS (Registry of Toxic Effects of Chemical Substances) |

Inhalation (Vapor) Exposure Route

If available, see data below

Inhalation (Gas) Exposure Route

If available, see data below

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects

Product Ecological Data

Aquatic toxicity

Fish

No data available

Crustacea

No data available

Algae

No data available

Ingredient Ecological Data

Aquatic toxicity

Fish

If available, see ingredient data below

| Chemical name | Exposure | Species | Endpoint | Reported | Key literature references and |
|---------------|----------|---------|----------|----------|-------------------------------|
|---------------|----------|---------|----------|----------|-------------------------------|

Product Code(s) 2506025
Issue Date 28-Jun-2016
Version 3.4

Product Name SPADNS Fluoride Reagent
Revision Date 08-Jan-2018
Page 13 / 18

| | time | | type | dose | sources for data |
|---|----------|-------------------------|------------------|-----------|---|
| Sodium arsenite (<0.1%) CAS#: 7784-46-5 | 96 hours | <i>Esox masquinongy</i> | LC ₅₀ | 0.55 mg/L | GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance) |

Crustacea If available, see ingredient data below

| Chemical name | Exposure time | Species | Endpoint type | Reported dose | Key literature references and sources for data |
|---|---------------|---------------|------------------|---------------|---|
| Sodium arsenite (<0.1%) CAS#: 7784-46-5 | 48 Hours | None reported | EC ₅₀ | 1.27 mg/L | GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance) |

Algae If available, see ingredient data below

| Chemical name | Exposure time | Species | Endpoint type | Reported dose | Key literature references and sources for data |
|---|---------------|---------------|------------------|---------------|---|
| Sodium arsenite (<0.1%) CAS#: 7784-46-5 | 96 hours | None reported | EC ₅₀ | 0.07 mg/L | GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance) |

Other Information

Persistence and degradability

Product Biodegradability Data
No data available.

Ingredient Biodegradability Data

| Chemical name | Test method | Biodegradation | Exposure time | Results |
|--|---------------|----------------|---------------|-----------------------|
| Hydrochloric acid (10 - 20%) CAS#: 7647-01-0 | None reported | None reported | None reported | Readily biodegradable |

Bioaccumulation

Product Bioaccumulation Data
No data available.

Partition Coefficient (n-octanol/water) Not applicable

Ingredient Bioaccumulation Data

| Chemical name | Test method | Exposure time | Species | Bioconcentration factor (BCF) | Results |
|---|---------------|---------------|---------------|-------------------------------|--|
| Zirconium oxychloride (<0.1%) CAS#: 7699-43-6 | None reported | None reported | None reported | None reported | Does not have the potential to bioaccumulate |

Mobility

Soil Organic Carbon-Water Partition Coefficient Not applicable

Water solubility

Product Code(s) 2506025
Issue Date 28-Jun-2016
Version 3.4

Product Name SPADNS Fluoride Reagent
Revision Date 08-Jan-2018
Page 14 / 18

| <u>Water solubility classification</u> | <u>Water solubility</u> | <u>Water Solubility Temperature</u> |
|--|-------------------------|-------------------------------------|
| Soluble | > 1000 mg/L | 25 °C / 77 °F |

Other adverse effects

Contains a substance with an endocrine-disrupting potential.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

| | |
|--|---|
| Waste from residues/unused products | Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. |
| Contaminated packaging | Do not reuse empty containers. |
| US EPA Waste Number | D002 |

Special instructions for disposal Dispose of material in an E.P.A. approved hazardous waste facility.

14. TRANSPORT INFORMATION

U.S. DOT

| | |
|--|----------------------------|
| UN/ID no | UN1789 |
| Proper shipping name | Hydrochloric Acid Solution |
| Hazard Class | 8 |
| Packing Group | II |
| Emergency Response Guide Number | 157 |

TDG

| | |
|-----------------------------|----------------------------|
| UN/ID no | UN1789 |
| Proper shipping name | Hydrochloric Acid Solution |
| Hazard Class | 8 |
| Packing Group | II |

IATA

| | |
|----------------------|--------|
| UN/ID no | UN1789 |
| Hazard Class | 8 |
| Packing Group | II |
| ERG Code | 157 |

IMDG

| | |
|----------------------|--------|
| UN/ID no | UN1789 |
| Hazard Class | 8 |
| Packing Group | II |

Additional information

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies.

If the item is part of a reagent set or kit the classification would change to the following:

UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.

If the item is not regulated, the Chemical Kit classification does not apply.

15. REGULATORY INFORMATION

Product Code(s) 2506025
Issue Date 28-Jun-2016
Version 3.4

Product Name SPADNS Fluoride Reagent
Revision Date 08-Jan-2018
Page 15 / 18

National Inventories

TSCA Complies
DSL/NDSL Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories

EINECS/ELINCS Complies
ENCS Does not comply
IECSC Complies
KECL Complies
PICCS Complies
TCSI Complies
AICS Complies
NZIoC Complies

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
TCSI - Taiwan Chemical Substances Inventory
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

| Chemical name | SARA 313 - Threshold Values % |
|--------------------------------------|-------------------------------|
| Hydrochloric acid (CAS #: 7647-01-0) | 1.0 |
| Sodium arsenite (CAS #: 7784-46-5) | 0.1 |

SARA 311/312 Hazard Categories

Acute health hazard Yes
Chronic Health Hazard Yes
Fire hazard No
Sudden release of pressure hazard No
Reactive Hazard No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

| Chemical name | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|--------------------------------|-----------------------------|------------------------|---------------------------|----------------------------|
| Hydrochloric acid 7647-01-0 | 5000 lb | - | - | X |
| Sodium arsenite 7784-46-5 | 1 lb | X | - | X |

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Product Code(s) 2506025
Issue Date 28-Jun-2016
Version 3.4

Product Name SPADNS Fluoride Reagent
Revision Date 08-Jan-2018
Page 16 / 18

| Chemical name | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ) |
|--------------------------------|--------------------------|----------------|--|
| Hydrochloric acid 7647-01-0 | 5000 lb | 5000 lb | RQ 5000 lb final RQ RQ 2270 kg final RQ |
| Sodium arsenite 7784-46-5 | 1 lb | 1 lb | RQ 1 lb final RQ RQ 0.454 kg final RQ |

U.S. - Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues

| Chemical name | U.S. - Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues |
|--|---|
| Hydrochloric acid (10 - 20%) CAS#: 7647-01-0 | Release - Toxic (concentration $\geq 37\%$); Release - Toxic (anhydrous); Theft - Weapons of Mass Effect (anhydrous) |

U.S. - DEA (Drug Enforcement Administration) List I & List II

| Chemical name | U.S. - DEA (Drug Enforcement Administration) - List I or Precursor Chemicals | U.S. - DEA (Drug Enforcement Administration) - List II or Essential Chemicals |
|--|--|---|
| Hydrochloric acid (10 - 20%) CAS#: 7647-01-0 | Not Listed | 0.0 kg Domestic Sales Weight (listed under anhydrous Hydrogen chloride); 50 gallon Export Volume (exports, transshipments and international transactions to designated countries); 27 kg Export Weight (exports, transshipments and international transactions to designated countries, listed under anhydrous Hydrogen chloride) |

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

| Chemical name | California Proposition 65 |
|------------------------------------|---------------------------|
| Sodium arsenite (CAS #: 7784-46-5) | Carcinogen |

U.S. State Right-to-Know Regulations

| Chemical name | New Jersey | Massachusetts | Pennsylvania |
|------------------------------------|------------|---------------|--------------|
| Hydrochloric acid 7647-01-0 | X | X | X |
| Sodium arsenite 7784-46-5 | X | X | X |
| Zirconium oxychloride 7699-43-6 | - | X | - |

U.S. EPA Label Information

| Chemical name | FIFRA | FDA |
|-------------------|----------|-----------------|
| Hydrochloric acid | 180.0910 | 21 CFR 182.1057 |

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Product Code(s) 2506025
Issue Date 28-Jun-2016
Version 3.4

Product Name SPADNS Fluoride Reagent
Revision Date 08-Jan-2018
Page 17 / 18

Special Comments

None

Additional information

Global Automotive Declarable Substance List (GADSL)

| Chemical name | Global Automotive Declarable Substance List Classifications | Global Automotive Declarable Substance List Thersholds |
|------------------------------|---|--|
| Sodium arsenite 7784-46-5 | Declarable Substance (FA) | 0.05 % 0.01 % |

NFPA and HMIS Classifications

| NFPA | Health hazards - 3 | Flammability - 0 | Instability - 0 | Physical and Chemical Properties - |
|------|--------------------|------------------|----------------------|---|
| HMIS | Health hazards - 3 | Flammability - 0 | Physical Hazards - 0 | Personal protection - X - See section 8 for more information |

Key or legend to abbreviations and acronyms used in the safety data sheet

| | |
|------------|---|
| NIOSH IDLH | Immediately Dangerous to Life or Health |
| ACGIH | ACGIH (American Conference of Governmental Industrial Hygienists) |
| NDF | no data |

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | | | |
|------|---------------------------------|---------|---|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| MAC | Maximum Allowable Concentration | Ceiling | Ceiling Limit Value |
| X | Listed | Vacated | These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations. |
| SKN* | Skin designation | SKN+ | Skin sensitization |
| RSP+ | Respiratory sensitization | ** | Hazard Designation |
| C | Carcinogen | R | Reproductive toxicant |
| M | mutagen | | |

Prepared By Hach Product Compliance Department

Issue Date 28-Jun-2016

Revision Date 08-Jan-2018

Revision Note SDS sections updated
2

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE

Product Code(s) 2506025
Issue Date 28-Jun-2016
Version 3.4

Product Name SPADNS Fluoride Reagent
Revision Date 08-Jan-2018
Page 18 / 18

OBTAINED FROM THE USE THEREOF.

HACH COMPANY©2017

End of Safety Data Sheet



Safety Data Sheet

Issue Date: 11-Nov-2013

Revision Date: 21-Nov-2013

Version 1

1. IDENTIFICATION

Product Identifier

Product Name FORMULA FIVE-COMPONENT A

Other means of identification

SDS # ACT-8925

Product Code 8925

UN/ID No UN3266

Recommended use of the chemical and restrictions on use

Recommended Use Concentrated industrial cleaning solution. For professional use only.

Details of the supplier of the safety data sheet

Supplier Address

Actiblend Systems
900 East 103rd Street
Chicago, IL 60628
www.nuancesolutions.com

Emergency Telephone Number

Company Phone Number Phone: 800-621-8553

Fax: 800-621-1276

Emergency Telephone (24 hr) INFOTRAC 1-352-323-3500 (International)

1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance Clear liquid

Physical State Liquid

Odor Bland

Classification

| | |
|-----------------------------------|---------------------------|
| Acute toxicity - Oral | Category 4 |
| Skin corrosion/irritation | Category 1 Sub-category B |
| Serious eye damage/eye irritation | Category 1 |

Signal Word

Danger

Hazard Statements

Harmful if swallowed

Causes severe skin burns and eye damage



Precautionary Statements - Prevention

Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray

Precautionary Statements - Response

Immediately call a poison center or doctor/physician
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a poison center or doctor/physician
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a poison center or doctor/physician
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth
Do not induce vomiting

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other Hazards

Harmful to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS No | Weight-% |
|----------------------------|-----------|----------|
| Potassium hydroxide | 1310-58-3 | 30-40 |
| EDTA | 60-00-4 | <1 |
| Triethanolamine | 102-71-6 | 3-7 |
| D-Sodium Silicate Solution | 1344-09-8 | <5 |

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES**First Aid Measures**

| | |
|---------------------|--|
| Eye Contact | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician. |
| Skin Contact | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. |
| Inhalation | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician. |
| Ingestion | IF SWALLOWED: call a poison control center or physician immediately. Rinse mouth. Do not induce vomiting. |

Most important symptoms and effects

Symptoms Causes severe skin burns and eye damage. Harmful if swallowed.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Material is corrosive.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Personal Precautions Use personal protective equipment as required.

Environmental Precautions Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE**Precautions for safe handling**

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing. Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands, and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed and store in a cool, dry and well-ventilated place. Store locked up. Keep out of the reach of children.

Incompatible Materials Acids. Oxidizing agents. Bleach. Do not mix with other chemicals or cleaners.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|----------------------------------|------------------------------|--|------------------------------|
| Potassium hydroxide 1310-58-3 | Ceiling: 2 mg/m ³ | (vacated) Ceiling: 2 mg/m ³ | Ceiling: 2 mg/m ³ |
| Triethanolamine 102-71-6 | TWA: 5 mg/m ³ | - | - |

Appropriate engineering controls

Engineering Controls Apply technical measures to comply with the occupational exposure limits. Eyewash stations. Showers.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear approved safety goggles where a splash hazard exists.

Skin and Body Protection Wear suitable protective clothing.

Respiratory Protection Ensure adequate ventilation, especially in confined areas.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Wash face, hands and any exposed skin thoroughly after handling. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | | | |
|-----------------------|--------------|-----------------------|----------------|
| Physical State | Liquid | Odor | Bland |
| Appearance | Clear liquid | Odor Threshold | Not determined |
| Color | Colorless | | |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|------------------------------|-----------------------|-------------------------|
| pH | 12.9-13.9 | |
| Melting Point/Freezing Point | Not determined | |
| Boiling Point/Boiling Range | 100 °C / 212 °F | IBP |
| Flash Point | None to boiling | Tag Closed Cup |
| Evaporation Rate | Equal to water | |
| Flammability (Solid, Gas) | Liquid-not applicable | |
| Upper Flammability Limits | Not determined | |
| Lower Flammability Limit | Not determined | |
| Vapor Pressure | Not determined | |
| Vapor Density | Not determined | |
| Specific Gravity | 1.43 | |
| Water Solubility | Soluble in water | |
| Solubility in other solvents | Not determined | |
| Partition Coefficient | Not determined | |
| Auto-ignition Temperature | Not determined | |
| Decomposition Temperature | Not determined | |
| Kinematic Viscosity | Not determined | |
| Dynamic Viscosity | Water thin (<5 cps) | |
| Explosive Properties | Not determined | |
| Oxidizing Properties | Not determined | |
| VOC Content (%) | 6% | |
| Density | 11.90 lb/gal | |

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous Polymerization

Hazardous polymerization does not occur.

Conditions to Avoid

Keep out of reach of children.

Incompatible Materials

Acids. Oxidizing agents. Bleach. Do not mix with other chemicals or cleaners.

Hazardous Decomposition Products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

| | |
|---------------------|----------------------------------|
| Eye Contact | Causes severe eye damage. |
| Skin Contact | Causes severe skin burns. |
| Inhalation | Avoid breathing vapors or mists. |
| Ingestion | Harmful if swallowed. |

Component Information

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|----------------------|---|-----------------|
| Water 7732-18-5 | > 90 mL/kg (Rat) | - | - |
| Potassium hydroxide 1310-58-3 | = 214 mg/kg (Rat) | - | - |
| EDTA 60-00-4 | = 1700 mg/kg (Rat) | - | - |
| Triethanolamine 102-71-6 | = 4190 mg/kg (Rat) | > 2000 mg/kg (Rabbit) > 16 mL/kg (Rat) | - |
| D-Sodium Silicate Solution 1344-09-8 | = 1153 mg/kg (Rat) | > 4640 mg/kg (Rabbit) | - |

Information on physical, chemical and toxicological effects

| | |
|-----------------|--|
| Symptoms | Please see section 4 of this SDS for symptoms. |
|-----------------|--|

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Carcinogenicity**

The table below indicates whether each agency has listed any ingredient as a carcinogen. However, the product as a whole has not been tested. Group 3 IARC components are "not classifiable as human carcinogens".

| Chemical Name | ACGIH | IARC | NTP | OSHA |
|-----------------------------|-------|---------|-----|------|
| Triethanolamine 102-71-6 | | Group 3 | | |

IARC (International Agency for Research on Cancer)

Group 3 IARC components are "not classifiable as human carcinogens"

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Numerical measures of toxicity

Not determined

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Harmful to aquatic life with long lasting effects.

Component Information

| Chemical Name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|---|--|--|----------------------------|---|
| Potassium hydroxide 1310-58-3 | | 80: 96 h Gambusia affinis mg/L LC50 static | | |
| EDTA 60-00-4 | 1.01: 72 h Desmodium subspicatus mg/L EC50 | 34 - 62: 96 h Lepomis macrochirus mg/L LC50 static 44.2 - 76.5: 96 h Pimephales promelas mg/L LC50 static | | 113: 48 h Daphnia magna mg/L EC50 Static |
| Triethanolamine 102-71-6 | 216: 72 h Desmodium subspicatus mg/L EC50 169: 96 h Desmodium subspicatus mg/L EC50 | 10600 - 13000: 96 h Pimephales promelas mg/L LC50 flow-through 1000: 96 h Pimephales promelas mg/L LC50 static 450 - 1000: 96 h Lepomis macrochirus mg/L LC50 static | | 1386: 24 h Daphnia magna mg/L EC50 |
| D-Sodium Silicate Solution 1344-09-8 | | 301 - 478: 96 h Lepomis macrochirus mg/L LC50 3185: 96 h Brachydanio rerio mg/L LC50 semi-static | | 216: 96 h Daphnia magna mg/L EC50 |

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

| Chemical Name | Partition Coefficient |
|----------------------------------|-----------------------|
| Potassium hydroxide 1310-58-3 | 0.83 |
| Triethanolamine 102-71-6 | -2.53 |

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

| | |
|-------------------------------|---|
| Disposal of Wastes | Disposal should be in accordance with applicable regional, national and local laws and regulations. |
| Contaminated Packaging | Disposal should be in accordance with applicable regional, national and local laws and regulations. |

California Hazardous Waste Status

| Chemical Name | California Hazardous Waste Status |
|----------------------------------|-----------------------------------|
| Potassium hydroxide 1310-58-3 | Toxic Corrosive |

14. TRANSPORT INFORMATION

Note Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT

| | |
|-----------------------------|--|
| UN/ID No | UN3266 |
| Proper Shipping Name | Corrosive liquid, basic, inorganic, n.o.s. (Potassium hydroxide) |
| Hazard Class | 8 |
| Packing Group | II |

IATA

| | |
|-----------------------------|--|
| UN/ID No | UN3266 |
| Proper Shipping Name | Corrosive liquid, basic, inorganic, n.o.s. (Potassium hydroxide) |
| Hazard Class | 8 |
| Packing Group | II |

IMDG

| | |
|-----------------------------|--|
| UN/ID No | UN3266 |
| Proper Shipping Name | Corrosive liquid, basic, inorganic, n.o.s. (Potassium hydroxide) |
| Hazard Class | 8 |
| Packing Group | II |
| Marine Pollutant | This material may meet the definition of a marine pollutant |

15. REGULATORY INFORMATION

International Inventories

Not determined

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances

US Federal Regulations**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Chemical Name | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ) |
|----------------------------------|--------------------------|----------------|--|
| Potassium hydroxide 1310-58-3 | 1000 lb | | RQ 1000 lb final RQ RQ 454 kg final RQ |
| EDTA 60-00-4 | 5000 lb | | RQ 5000 lb final RQ RQ 2270 kg final RQ |

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

| Component | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|--|-----------------------------|------------------------|---------------------------|----------------------------|
| Potassium hydroxide 1310-58-3 (30-40) | 1000 lb | | | X |
| EDTA 60-00-4 (<1) | 5000 lb | | | X |

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|----------------------------------|------------|---------------|--------------|
| Potassium hydroxide 1310-58-3 | X | X | X |
| EDTA 60-00-4 | X | X | X |
| Triethanolamine 102-71-6 | X | X | X |

16. OTHER INFORMATION**NEPA****Health Hazards**

3

Flammability

0

Instability

0

Special Hazards

Cor

HMIS**Health Hazards**

3

Flammability

0

Physical Hazards

0

Personal Protection

X

Issue Date: 11-Nov-2013**Revision Date:** 21-Nov-2013**Revision Note:** New format**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Safety Data Sheet

Date Issued: 2/9/2016

SECTION 1: IDENTIFICATION OF THE PREPARATION AND THE COMPANY

PRODUCT NAME: PARA

RECOMMENDED USE: Deodorizer

RESTRICTIONS ON USE: For intended use only

MANUFACTURER:

Fresh Products, LLC
4010 South Ave
Toledo
Ohio 43615
USA

TELEPHONE: +1-419-531-9741

FAX: +1-419-531-8472

EMERGENCY CONTACT (spill/release): 800-424-9300

ITEM NUMBER: Para

Section 2: HAZARDS IDENTIFICATION

General: Contains small amounts of chemicals that are hazardous to health and the environment but in quantities too small to constitute any practical risks to health or the environment.

Classification:

Acute Toxicity Oral 4
Acute Toxicity Dermal 4
Eye Damage/Irritation 2A
Carcinogenicity 2



WARNING

Hazard Phrases:

H302: Harmful if swallowed.
H312: Harmful in contact with skin.
H319: Causes serious eye irritation.
H351: Suspected of causing cancer.

Precautionary Phrases:

P102: Keep out of reach of children
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P280: Wear protective gloves/protective clothing/eye protection/ face protection.
P301+P312: If swallowed: Call a poison center or doctor/physician if you feel unwell.
P302+ P352: If on skin, wash with plenty of water.
P305+P351+P338: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P308+P313: If exposed or concerned get medical advice/attention.
P312: Call a poison center or doctor/physician if you feel unwell.
P330: Rinse Mouth
P332+P313: If rash occurs, seek medical attention.
P337+P313: If eye irritation persists: Get medical advice/ attention.
P362: Take off contaminated clothing and wash before reuse.
P405: Store locked up
P501: Dispose of contents to an approved waste disposal plant.

SECTION 3: INGREDIENT INFORMATION

Chemical Identification: Crystalline solid

Form/Shape: Para super block comes in various shapes and sizes.

CAS Number: Not applicable since the product is a preparation.

EINECS/ELINCS #: Not applicable since the product is a preparation.

The product is a complex mixture of substances of which the following have been classified as presenting a health or environmental hazard or as having an occupational exposure limit within the meaning of the Directive 67/548/EEC or 1999/45/EC

| Level (%) | CAS Nr | EC Nr | Substance | Hazard Classification | |
|-----------|----------|-----------|-------------------|-----------------------|------------------------------|
| | | | | (Dir. 67/548/CE) | (Reg. CE 1272/2008) |
| 99% | 106-46-7 | 203-400-5 | p-Dichlorobenzene | | H302 H312 H319 H351 |

SECTION 4: FIRST AID MEASURES

General: No specific acute effects or symptoms are known.

Inhalation: No acute effects expected. If person is feeling unwell, remove to fresh air.

Ingestion: Possibility of ingestion limited due to product form and difficulty to chew and ingest. In the event of ingestion, rinse mouth thoroughly with water.

Skin: Wash off with soap and water.

Eyes: Possibility of eye contact limited. In the event, wash thoroughly with water or approved eyewash.

SECTION 5: FIRE FIGHTING MEASURES

Extinguishing Media: Use extinguishing media appropriate for the surrounding fire. Water spray, fog or mist. Dry chemicals, sand etc.

Exposure Hazards: Thermal decomposition or burning may release a variety of products ranging from simple hydrocarbons to toxic/irritating gases including carbon monoxide and carbon dioxide. Full protective clothing should be worn before a confined fire space is entered. Self-contained breathing apparatus should be worn.

SECTION 6: ACCIDENTAL RELEASE MEASURES

No special requirements for accidental release required. Apply good housekeeping practices.

SECTION 7: HANDLING AND STORAGE

Usage Precautions: Follow normal good-housekeeping practices. Keep away from direct flames.

Storage Precautions: Keep in cool, dry conditions in original containers at no more than 30° C

SECTION 8: EXPOSURE CONTROL AND PERSONAL PROTECTION

Occupational Exposure limit: Not Established

Respiratory Protection: None required under normal usage

Protection: Although unexpected, avoid prolonged skin contact. Use chemically resistant gloves as needed.

Eye Protection: None required

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Crystalline Solid in various shapes and sizes

Odor: Characteristic

Odor Threshold: Not determined

Color: Various Color

pH value: Not determined/applicable

Melting Pt: Estimated 60° C

Boiling Pt: Not applicable.

Flash pt: Not applicable.

Evaporation Rate: Not applicable.

Flammability: Not determined/applicable

UEL: Not determined

LEL: Not determined

Vapor Pressure: Not determined/applicable

Vapor Density: Not determined/applicable

Relative Density: Not determined

Solubility in water: Insoluble.

Partition Coefficient: Not determined

Autoignition Temperature: Not applicable

Decomposition Temperature: Not determined/applicable

SECTION 10: STABILITY AND REACTIVITY

Stability: Normally stable.

Conditions to avoid: Avoid extreme heat and naked flames.

Materials to avoid: Strong oxidizing agents.

Decomposition Products: None under normal storage conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Effects: Ingredients include a small quantity of volatile chemicals which may contain small amounts of substances that are harmful if swallowed and/or irritating to the eyes and skin.

Chronic Effects: None are known.

Health Risks:

INHALATION: Prolonged exposure to volatile ingredients is unlikely to cause irritation or other adverse health effects.

INGESTION: No practical risk of adverse health effects.

SKIN CONTACT: No practical risk of adverse health effects.

EYE CONTACT: No practical risk of adverse health effects.

SECTION 12: ECOLOGICAL INFORMATION

No specific information has been established regarding the product. However according to the conventional method of Directive 99/45/EC the product is classified as harmful to aquatic organisms, or causing long-term effects in the

aquatic environment.

Ecotoxicity: N/A

Persistence and Degradability: N/A

Bioaccumulative Potential: N/A

Mobility in Soil: N/A

Other Adverse Effects: N/A

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of in accordance with Local Authority requirements e.g., for used product, as household waste

SECTION 14: TRANSPORT INFORMATION

Product is not regulated as hazardous

DOT Classifications: Non Hazardous

UN-Number: N/A

UN Proper Shipping Name: N/A

Transport Hazard Class: N/A

Packing group: N/A

Marine Pollutant: N/A

Special Precautions with Transport: N/A

SECTION 15: REGULATORY INFORMATION

Classification, Packaging and Labeling according to Directive 99/45/EC

Signal word:

WARNING

Pictograms:

Health Hazard

Exclamation mark

Hazard Phrases:

H302: Harmful if swallowed.

H312: Harmful in contact with skin.

H319: Causes serious eye irritation.

H351: Suspected of causing cancer.

Precautionary Phrases:

P102: Keep out of reach of children

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

P264: Wash hands thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P280: Wear protective gloves/protective clothing/eye protection/ face protection.

P301+P312: If swallowed: Call a poison center or doctor/physician if you feel unwell.

P302+ P352: If on skin, wash with plenty of water.

P305+P351+P338: If in eyes: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing

P308+P313: If exposed or concerned get medical advice/attention.

P312: Call a poison center or doctor/physician if you feel unwell.

P330: Rinse Mouth

P332+P313: If rash occurs, seek medical attention.

P337+P313: If eye irritation persists: Get medical advice/ attention.

P362: Take off contaminated clothing and wash before reuse.

P405: Store locked up

P501: Dispose of contents to an approved waste disposal plant.

SECTION 16: OTHER INFORMATION

This Safety Data Sheet was prepared to comply with the current OSHA Hazard Communication Standard (HCS) adoption of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)



Safety Data Sheet

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| | | | |
|------------------------|-----------|-------------------------|----------|
| Document Group: | 20-4453-5 | Version Number: | 5.01 |
| Issue Date: | 02/23/15 | Supersedes Date: | 02/23/15 |

SECTION 1: Identification

1.1. Product identifier

3M™ Deodorizer - Fresh Scent - Ready-to-Use (Product No. 13, 3M™ Chemical Management Systems)

Product Identification Numbers

LN-DCCX-127B-1, 61-0000-6307-5

1.2. Recommended use and restrictions on use

Recommended use

Deodorizer, Long-lasting deodorizer leaves a fresh, clean scent.

1.3. Supplier's details

| | |
|----------------------|---|
| MANUFACTURER: | 3M |
| DIVISION: | Commercial Solutions Division |
| ADDRESS: | 3M Center, St. Paul, MN 55144-1000, USA |
| Telephone: | 1-888-3M HELPS (1-888-364-3577) |

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Skin Sensitizer: Category 1.

2.2. Label elements

Signal word

Warning

Symbols

Exclamation mark |

Pictograms



Hazard Statements

May cause an allergic skin reaction.

Precautionary Statements**Prevention:**

Avoid breathing mist/spray.

Wear protective gloves.

Contaminated work clothing must not be allowed out of the workplace.

Response:

IF ON SKIN: Wash with plenty of soap and water.

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

Disposal:

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Hazards not otherwise classified

None.

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|--|-------------------|--------------------------------|
| WATER | 7732-18-5 | > 95 Trade Secret * |
| POLYALKOXY ALCOHOLS | 69013-18-9 | 0.5 - 1.5 Trade Secret * |
| SORBITAN POLYETHOXY MONOLAUATE (POLYSORBATE 20) | 9005-64-5 | 0.1 - 1 Trade Secret * |
| TERPENES AND TERPENOIDS, SWEET ORANGE- OIL | 68647-72-3 | 0.01 - 1 Trade Secret * |
| FRAGRANCE (NJTSN 04499600-6517) | Trade Secret* | 0.01 - 1 |
| 2-PHENOXYETHANOL | 122-99-6 | 0.01 - 1 Trade Secret * |
| TERPINOLENE | 586-62-9 | 0.001 - 0.05 Trade Secret * |

NJTS or NJTSRN: New Jersey Trade Secret Registry Number.

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation:**

Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures**5.1. Suitable extinguishing media**

Material will not burn. Non-combustible. Use a fire fighting agent suitable for surrounding fire.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products**Substance**

Carbon monoxide

Carbon dioxide

Oxides of Nitrogen

Condition

During Combustion

During Combustion

During Combustion

5.3. Special protective actions for fire-fighters

No unusual fire or explosion hazards are anticipated.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Ventilate the area with fresh air. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with water. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

For industrial or professional use only. NOTE: The above precautionary information presumes that this ready-to-use product has been diluted and dispensed from a chemical dispensing system. Keep out of reach of children. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage including any incompatibilities

No special storage requirements.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|------------------|------------|--------|------------|---------------------|
| 2-PHENOXYETHANOL | 122-99-6 | CMRG | TWA:25 ppm | Skin Notation |

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control mist/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Safety Glasses with side shields

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Gloves made from the following material(s) are recommended: Nitrile Rubber

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron – Nitrile

Respiratory protection

None required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|-------------------------|--|
| General Physical Form: | Liquid |
| Specific Physical Form: | Liquid |
| Odor, Color, Grade: | Clear; blue color; fresh, clean fragrance. |
| Odor threshold | No Data Available |
| pH | 6.5 - 7.5 |
| Boiling Point | 212 °F |
| Flash Point | No flash point |
| Evaporation rate | 1 [Ref Std: WATER=1] |

| | |
|--------------------------------|---|
| Flammability (solid, gas) | Not Applicable |
| Flammable Limits(LEL) | <i>Not Applicable</i> |
| Flammable Limits(UEL) | <i>Not Applicable</i> |
| Density | 1 g/ml [<i>Ref Std:</i> WATER=1] |
| Specific Gravity | 1 [<i>Ref Std:</i> WATER=1] |
| Solubility in Water | Complete |
| Solubility- non-water | <i>No Data Available</i> |
| Decomposition temperature | <i>No Data Available</i> |
| Viscosity | < 100 centipoise |
| Hazardous Air Pollutants | <i>Not Applicable</i> |
| Volatile Organic Compounds | 0 % weight [<i>Test Method:</i> calculated per CARB title 2] |
| Percent volatile | > 95 % |
| VOC Less H2O & Exempt Solvents | 0 g/l [<i>Test Method:</i> calculated per CARB title 2] |

SECTION 10: Stability and reactivity

10.1. Reactivity

This material is considered to be non reactive under normal use conditions.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

| <u>Substance</u> | <u>Condition</u> |
|------------------|------------------|
| None known. | |

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

No known health effects.

Skin Contact:

Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:

Contact with the eyes during product use is not expected to result in significant irritation.

Ingestion:

No known health effects.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

| Name | Route | Species | Value |
|---|----------------------------|---------|---|
| Overall product | Ingestion | | No data available; calculated ATE > 5,000 mg/kg |
| SORBITAN POLYETHOXY MONOLAUATE (POLYSORBATE 20) | Ingestion | Rat | LD50 40,600 mg/kg |
| TERPENES AND TERPENOIDS, SWEET ORANGE-OIL | Inhalation-Vapor (4 hours) | Mouse | LC50 > 3.14 mg/l |
| FRAGRANCE (NJTSN 04499600-6517) | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| TERPENES AND TERPENOIDS, SWEET ORANGE-OIL | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| FRAGRANCE (NJTSN 04499600-6517) | Ingestion | Rat | LD50 14,800 mg/kg |
| TERPENES AND TERPENOIDS, SWEET ORANGE-OIL | Ingestion | Rat | LD50 4,400 mg/kg |
| 2-PHENOXYETHANOL | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| 2-PHENOXYETHANOL | Ingestion | Rat | LD50 1,260 mg/kg |
| TERPINOLENE | Inhalation-Vapor (4 hours) | Mouse | LC50 > 3.14 mg/l |
| TERPINOLENE | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| TERPINOLENE | Ingestion | Rat | LD50 4,400 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|---|---------|---------------|
| TERPENES AND TERPENOIDS, SWEET ORANGE-OIL | Rabbit | Mild irritant |
| TERPINOLENE | Rabbit | Mild irritant |

Serious Eye Damage/Irritation

| Name | Species | Value |
|---|---------|---------------|
| TERPENES AND TERPENOIDS, SWEET ORANGE-OIL | Rabbit | Mild irritant |
| TERPINOLENE | Rabbit | Mild irritant |

Skin Sensitization

| Name | Species | Value |
|---|---------|-------------|
| TERPENES AND TERPENOIDS, SWEET ORANGE-OIL | Mouse | Sensitizing |
| TERPINOLENE | Mouse | Sensitizing |

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

| Name | Route | Value |
|---|----------|---------------|
| TERPENES AND TERPENOIDS, SWEET ORANGE-OIL | In Vitro | Not mutagenic |
| TERPENES AND TERPENOIDS, SWEET ORANGE-OIL | In vivo | Not mutagenic |
| TERPINOLENE | In Vitro | Not mutagenic |
| TERPINOLENE | In vivo | Not mutagenic |

Carcinogenicity

| Name | Route | Species | Value |
|---|-----------|---------|--|
| TERPENES AND TERPENOIDS, SWEET ORANGE-OIL | Ingestion | Rat | Some positive data exist, but the data are not |

| | | | |
|-------------|-----------|-----|--|
| | | | sufficient for classification |
| TERPINOLENE | Ingestion | Rat | Some positive data exist, but the data are not sufficient for classification |

Reproductive Toxicity**Reproductive and/or Developmental Effects**

| Name | Route | Value | Species | Test Result | Exposure Duration |
|---|-----------|--|-------------------------|---------------------|------------------------------|
| TERPENES AND TERPENOIDS, SWEET ORANGE-OIL | Ingestion | Not toxic to male reproduction | Rat | NOAEL 150 mg/kg/day | 103 weeks |
| TERPENES AND TERPENOIDS, SWEET ORANGE-OIL | Ingestion | Some positive female reproductive data exist, but the data are not sufficient for classification | Rat | NOAEL 750 mg/kg/day | premating & during gestation |
| TERPENES AND TERPENOIDS, SWEET ORANGE-OIL | Ingestion | Some positive developmental data exist, but the data are not sufficient for classification | Multiple animal species | NOAEL 591 mg/kg/day | during organogenesis |
| TERPINOLENE | Ingestion | Not toxic to male reproduction | Rat | NOAEL 150 mg/kg/day | 103 weeks |
| TERPINOLENE | Ingestion | Some positive female reproductive data exist, but the data are not sufficient for classification | Rat | NOAEL 750 mg/kg/day | premating & during gestation |
| TERPINOLENE | Ingestion | Some positive developmental data exist, but the data are not sufficient for classification | Multiple animal species | NOAEL 591 mg/kg/day | during organogenesis |

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|-----------|-----------------|--|---------|---------------------|-------------------|
| TERPENES AND TERPENOIDS, SWEET ORANGE-OIL | Ingestion | nervous system | Some positive data exist, but the data are not sufficient for classification | | NOAEL Not available | |
| TERPINOLENE | Ingestion | nervous system | Some positive data exist, but the data are not sufficient for classification | | NOAEL Not available | |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|-----------|---|--|---------|-----------------------|-------------------|
| TERPENES AND TERPENOIDS, SWEET ORANGE-OIL | Ingestion | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 75 mg/kg/day | 103 weeks |
| TERPENES AND TERPENOIDS, SWEET ORANGE-OIL | Ingestion | liver | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 1,000 mg/kg/day | 103 weeks |
| TERPENES AND TERPENOIDS, SWEET ORANGE-OIL | Ingestion | heart endocrine system bone, teeth, nails, and/or hair hematopoietic system immune system muscles nervous system respiratory system | All data are negative | Rat | NOAEL 600 mg/kg/day | 103 weeks |
| TERPINOLENE | Ingestion | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 75 mg/kg/day | 103 weeks |
| TERPINOLENE | Ingestion | liver | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 1,000 mg/kg/day | 103 weeks |
| TERPINOLENE | Ingestion | heart endocrine system bone, teeth, nails, and/or hair hematopoietic system immune system muscles nervous system | All data are negative | Rat | NOAEL 600 mg/kg/day | 103 weeks |

| | | | | | | |
|--|--|--------------------|--|--|--|--|
| | | respiratory system | | | | |
|--|--|--------------------|--|--|--|--|

Aspiration Hazard

| Name | Value |
|---|-------------------|
| TERPENES AND TERPENOIDS, SWEET ORANGE-OIL | Aspiration hazard |
| TERPINOLENE | Aspiration hazard |

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information**Ecotoxicological information**

A 3M Product Environmental Data Sheet (PED) is available.

Chemical fate information

A 3M Product Environmental Data Sheet (PED) is available.

SECTION 13: Disposal considerations**13.1. Disposal methods**

Dispose of contents/ container in accordance with the local/regional/national/international regulations. Dispose of waste product in a permitted industrial waste facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information**15.1. US Federal Regulations****311/312 Hazard Categories:**

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - No Delayed Hazard - No

15.2. State Regulations**15.3. Chemical Inventories**

The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the chemical notification requirements of TSCA.

15.4. International Regulations

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 2 **Flammability:** 0 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: 2 **Flammability:** 0 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® III) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® III ratings are to be used with a fully implemented HMIS® III program. HMIS® is a registered mark of the American Coatings Association (ACA).

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SAFETY DATA SHEET

1. Identification

Product number 1000011538
Product identifier **MULTI-SURFACE FURNITURE POLISH**
Company information Claire Manufacturing Co.
1005 S. Westgate Drive
Addison, IL 60101 United States
Company phone General Assistance 1-630-543-7600
Emergency telephone US 1-866-836-8855
Emergency telephone outside US 1-952-852-4646
Version # 01
Recommended use Not available.
Recommended restrictions None known.

2. Hazard(s) identification

Physical hazards Flammable aerosols Category 1
Health hazards Not classified.
Environmental hazards Not classified.
OSHA defined hazards Not classified.

Label elements



Signal word Danger
Hazard statement Extremely flammable aerosol.
Precautionary statement
Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use.
Response Wash hands after handling.
Storage Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Disposal Not available.
Hazard(s) not otherwise classified (HNOC) None known.
Supplemental information None.

3. Composition/information on ingredients

Mixtures

| Chemical name | Common name and synonyms | CAS number | % |
|--|--------------------------|------------|----------|
| Butane | | 106-97-8 | 2.5 - 10 |
| Propane | | 74-98-6 | 1 - 2.5 |
| Other components below reportable levels | | | 90 - 100 |

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation If symptoms develop move victim to fresh air. Get medical attention if symptoms persist.
Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact Rinse with water. Get medical attention if irritation develops and persists.

| | |
|---|--|
| Ingestion | Rinse mouth. Get medical attention if symptoms occur. |
| Most important symptoms/effects, acute and delayed | Direct contact with eyes may cause temporary irritation. |
| Indication of immediate medical attention and special treatment needed | Provide general supportive measures and treat symptomatically. |
| General information | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |

5. Fire-fighting measures

| | |
|--|--|
| Suitable extinguishing media | Not available. |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | Contents under pressure. Pressurized container may explode when exposed to heat or flame. |
| Special protective equipment and precautions for firefighters | Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. |
| Fire-fighting equipment/instructions | Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. In the event of fire and/or explosion do not breathe fumes. |
| General fire hazards | Extremely flammable aerosol. |

6. Accidental release measures

| | |
|--|--|
| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. |
| Methods and materials for containment and cleaning up | Refer to attached safety data sheets and/or instructions for use. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Isolate area until gas has dispersed. Prevent entry into waterways, sewer, basements or confined areas. For waste disposal, see section 13 of the SDS. |
| Environmental precautions | Avoid discharge into drains, water courses or onto the ground. |

7. Handling and storage

| | |
|---|--|
| Precautions for safe handling | Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Do not re-use empty containers. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. |
| Conditions for safe storage, including any incompatibilities | Level 1 Aerosol. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Refrigeration recommended. Store away from incompatible materials (see Section 10 of the SDS). |

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| Components | Type | Value |
|-----------------------|------|------------------------|
| Propane (CAS 74-98-6) | PEL | 1800 mg/m3 1000 ppm |

US. ACGIH Threshold Limit Values

| Components | Type | Value |
|-----------------------|------|----------|
| Butane (CAS 106-97-8) | STEL | 1000 ppm |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value |
|-----------------------|------|------------------------|
| Butane (CAS 106-97-8) | TWA | 1900 mg/m3 800 ppm |
| Propane (CAS 74-98-6) | TWA | 1800 mg/m3 1000 ppm |

| | |
|--|---|
| Biological limit values | No biological exposure limits noted for the ingredient(s). |
| Appropriate engineering controls | Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. |
| Individual protection measures, such as personal protective equipment | |
| Eye/face protection | Wear safety glasses with side shields (or goggles). |
| Hand protection | Wear appropriate chemical resistant gloves. |
| Skin protection | |
| Other | Wear suitable protective clothing. |
| Respiratory protection | If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator. |
| Thermal hazards | Wear appropriate thermal protective clothing, when necessary. |
| General hygiene considerations | When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. |

9. Physical and chemical properties**Appearance**

| | |
|---|--|
| Physical state | Gas. |
| Form | Aerosol. |
| Color | White. |
| Odor | Citrus |
| Odor threshold | Not available. |
| pH | 10 - 11 estimated |
| Melting point/freezing point | Not available. |
| Initial boiling point and boiling range | 212 °F (100 °C) estimated |
| Flash point | -156.0 °F (-104.4 °C) Propellant estimated |
| Evaporation rate | Not available. |
| Flammability (solid, gas) | Not available. |
| Upper/lower flammability or explosive limits | |
| Flammability limit - lower (%) | Not available. |
| Flammability limit - upper (%) | Not available. |
| Explosive limit - lower (%) | Not available. |
| Explosive limit - upper (%) | Not available. |
| Vapor pressure | 65 - 85 psig @20C estimated |
| Vapor density | Not available. |
| Relative density | Not available. |
| Solubility(ies) | |
| Solubility (water) | Not available. |

| | |
|--|-------------------------|
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |
| Other information | |
| Specific gravity | 0.991 - 1.002 estimated |

10. Stability and reactivity

| | |
|---|---|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | Hazardous polymerization does not occur. |
| Conditions to avoid | Avoid temperatures exceeding the flash point. Contact with incompatible materials. |
| Incompatible materials | Strong oxidizing agents. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information

Information on likely routes of exposure

| | |
|---------------------|--|
| Ingestion | Expected to be a low ingestion hazard. |
| Inhalation | No adverse effects due to inhalation are expected. |
| Skin contact | No adverse effects due to skin contact are expected. |
| Eye contact | Direct contact with eyes may cause temporary irritation. |

Symptoms related to the physical, chemical and toxicological characteristics
Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity

| Components | Species | Test Results |
|-----------------------|---------|------------------------|
| Butane (CAS 106-97-8) | | |
| Acute | | |
| <i>Inhalation</i> | | |
| LC50 | Mouse | 1237 mg/l, 120 Minutes |
| | | 52 %, 120 Minutes |
| | Rat | 1355 mg/l |
| Propane (CAS 74-98-6) | | |
| Acute | | |
| <i>Inhalation</i> | | |
| LC50 | Mouse | 1237 mg/l, 120 Minutes |
| | | 52 %, 120 Minutes |
| | Rat | 1355 mg/l |
| | | 658 mg/l/4h |

* Estimates for product may be based on additional component data not shown.

| | |
|--|--|
| Skin corrosion/irritation | Prolonged skin contact may cause temporary irritation. |
| Serious eye damage/eye irritation | Direct contact with eyes may cause temporary irritation. |

Respiratory or skin sensitization

| | |
|----------------------------------|---|
| Respiratory sensitization | Not available. |
| Skin sensitization | This product is not expected to cause skin sensitization. |

Germ cell mutagenicity
No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not likely, due to the form of the product.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Butane 2.89

Propane 2.36

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers.

14. Transport information

DOT

UN number UN1950

UN proper shipping name Aerosols, flammable

Transport hazard class(es)

Class 2.1

Subsidiary risk -

Label(s) 2.1

Packing group Not applicable.

Special precautions for user Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.

Special provisions N82

Packaging exceptions 306

Packaging non bulk None

Packaging bulk None

This product meets the exception requirements of section 173.306 as a limited quantity and may be shipped as a limited quantity. Until 12/31/2020, the "Consumer Commodity - ORM-D" marking may still be used in place of the new limited quantity diamond mark for packages of UN 1950 Aerosols. Limited quantities require the limited quantity diamond mark on cartons after 12/31/20 and may be used now in place of the "Consumer Commodity ORM-D" marking and both may be displayed concurrently.

IATA

UN number UN1950

UN proper shipping name Aerosols, flammable

Transport hazard class(es)**Class** 2.1**Subsidiary risk** -**Label(s)** 2.1**Packing group** Not applicable.**Environmental hazards** No.**ERG Code** 10L**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.**Other information****Passenger and cargo aircraft** Allowed.**Cargo aircraft only** Allowed.**Packaging Exceptions** LTD QTY**IMDG****UN number** UN1950**UN proper shipping name** AEROSOLS**Transport hazard class(es)****Class** 2.1**Subsidiary risk** -**Label(s)** 2.1**Packing group** Not applicable.**Environmental hazards****Marine pollutant** No.**EmS** F-D, S-U**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.**Packaging Exceptions** LTD QTY**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.**DOT****IATA; IMDG****15. Regulatory information****US federal regulations**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - No
 Delayed Hazard - No
 Fire Hazard - Yes
 Pressure Hazard - Yes
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance

| Chemical name | CAS number | Reportable quantity | Threshold planning quantity | Threshold planning quantity, lower value | Threshold planning quantity, upper value |
|-------------------|------------|---------------------|-----------------------------|--|--|
| Anhydrous Ammonia | 7664-41-7 | 100 | 500 lbs | | |

SARA 311/312 Hazardous chemical

No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Butane (CAS 106-97-8)

Propane (CAS 74-98-6)

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations**US. Massachusetts RTK - Substance List**

Butane (CAS 106-97-8)

Propane (CAS 74-98-6)

US. New Jersey Worker and Community Right-to-Know Act

Butane (CAS 106-97-8)

Propane (CAS 74-98-6)

US. Pennsylvania Worker and Community Right-to-Know Law

Butane (CAS 106-97-8)

Propane (CAS 74-98-6)

US. Rhode Island RTK

Butane (CAS 106-97-8)

Propane (CAS 74-98-6)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|----------------------|--|------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | No |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | No |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | No |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | No |

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|---|------------------------|
| New Zealand | New Zealand Inventory | No |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

| | |
|-------------------|--|
| Issue date | 05-28-2015 |
| Version # | 01 |
| Disclaimer | The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. |



Unleaded Gasoline

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations
Revision Date: 06/28/2016 Date of issue: 07/06/2015

Version: 3.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Unleaded Gasoline

Synonyms: CountryMark 87 E10 Plus, CountryMark 89 E10 Plus, CountryMark 91 Plus, CountryMark 93 E10 Plus, 87 Regular, 87 Regular E10, 89 Midgrade E10, 93 Premium E10, 84 CBOB, 91 CBOB, Hydrocarbon Mixture, Light Petroleum Distillate.

1.2. Intended Use of the Product

Use of the substance/mixture: No use is specified.

1.3. Name, Address, and Telephone of the Responsible Party

Company

Countrymark Refining and Logistics, LLC
1200 Refinery Road
Mt. Vernon, Indiana 47620
(812) 838-8165

CountryMark.com

1.4. Emergency Telephone Number

Emergency Number : Countrymark: (812) 838-8165 (CHEMTREC) (800) 424-9300

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

| | |
|-------------------|------|
| Flam. Liq. 1 | H224 |
| Skin Irrit. 2 | H315 |
| Muta. 1B | H340 |
| Carc. 1A | H350 |
| Repr. 2 | H361 |
| STOT SE 1 | H370 |
| STOT SE 3 | H336 |
| STOT RE 1 | H372 |
| Asp. Tox. 1 | H304 |
| Aquatic Acute 2 | H401 |
| Aquatic Chronic 2 | H411 |

Full text of H-phrases: see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)

:



GHS02



GHS07



GHS08



GHS09

Signal Word (GHS-US)

: Danger

Hazard Statements (GHS-US)

: H224 - Extremely flammable liquid and vapor.
H304 - May be fatal if swallowed and enters airways.
H315 - Causes skin irritation.
H336 - May cause drowsiness or dizziness.
H340 - May cause genetic defects.
H350 - May cause cancer.
H361 - Suspected of damaging fertility or the unborn child.
H370 - Causes damage to organs.
H372 - Causes damage to organs through prolonged or repeated exposure.
H401 - Toxic to aquatic life.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary Statements (GHS-US)

: P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from extremely high or low temperatures, ignition sources, and incompatible materials. No smoking.
P233 - Keep container tightly closed.

Unleaded Gasoline

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

P240 - Ground/bond container and receiving equipment.
P241 - Use explosion-proof electrical, ventilating, and lighting equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P260 - Do not breathe vapors, mist, or spray.
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, and eye protection.
P301+P310 - If swallowed: Immediately call a poison center or doctor.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - If inhaled: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P314 - Get medical advice/attention if you feel unwell.
P321 - Specific treatment (see section 4 on this SDS).
P331 - Do NOT induce vomiting.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P362 - Take off contaminated clothing and wash it before reuse.
P370+P378 - In case of fire: Use appropriate media (see section 5) to extinguish.
P391 - Collect spillage.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

Gasoline is a blend of several petroleum refinery streams to meet specifications set up in the United States by the American Society for Testing and Materials (ASTM D 439). This blend is predominantly a complex mixture of hydrocarbons that includes normal and branched alkanes, cycloalkanes, alkenes, and aromatics including benzene and Ethanol at 10.0% when the base gasoline is blended w/ Ethanol. Contains benzene, a regulated human carcinogen. Benzene has the potential to cause anemia and other blood diseases, including leukemia, after repeated and prolonged exposure. Exposure to light hydrocarbons in the same boiling range as this product has been associated in animal studies with systemic toxicity. See also Section 11 – Toxicological Information.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

| Name | Product Identifier | % | Classification (GHS-US) |
|----------------------|---------------------|----------|---|
| Gasoline, motor fuel | (CAS No) 86290-81-5 | 90 - 100 | Flam. Liq. 1, H224 Skin Irrit. 2, H315 Muta. 1B, H340 Carc. 1B, H350 Repr. 2, H361 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 |

Unleaded Gasoline

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| | | | |
|------------------------------|--------------------|-------|---|
| Toluene | (CAS No) 108-88-3 | <= 12 | Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 3, H412 |
| Xylenes (o-, m-, p- isomers) | (CAS No) 1330-20-7 | <= 12 | Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation:vapor), H332 Skin Irrit. 2, H315 Asp. Tox. 1, H304 Aquatic Acute 2, H401 |
| Hexane | (CAS No) 110-54-3 | <= 5 | Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411 |
| Benzene | (CAS No) 71-43-2 | <= 3 | Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Muta. 1B, H340 Carc. 1A, H350 STOT RE 1, H372 Asp. Tox. 1, H304 Aquatic Chronic 3, H412 |
| Cyclohexane | (CAS No) 110-82-7 | <= 3 | Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| Ethylbenzene | (CAS No) 100-41-4 | <= 3 | Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation:vapor), H332 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 3, H412 |
| Naphthalene | (CAS No) 91-20-3 | <= 3 | Flam. Sol. 2, H228 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Carc. 2, H351 STOT SE 1, H370 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

Unleaded Gasoline

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

First-aid Measures After Inhalation: Remove individual to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped, give artificial respiration. Keep person warm, quiet, and get medical attention.

First-aid Measures After Skin Contact: Thoroughly wash exposed area with soap and water. Remove contaminated clothing. Launder contaminated clothing before wearing. If skin irritation occurs: Get medical advice/attention.

First-aid Measures After Eye Contact: Flush with large amounts of water, lifting upper and lower lids occasionally. Remove contact lenses, if present and easy to do. Get medical attention.

First-aid Measures After Ingestion: DO NOT INDUCE VOMITING. Do not give liquids. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Keep person warm, quiet and get medical attention. Aspiration of material into the lungs due to vomiting can cause chemical pneumonia which can be fatal.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/Injuries: Causes skin irritation. May cause drowsiness or dizziness. May be fatal if swallowed and enters airways. May cause cancer. May cause genetic defects. Suspected of damaging fertility or the unborn child. Causes damage to organs. Causes damage to organs through prolonged or repeated exposure.

Symptoms/Injuries After Inhalation: May cause drowsiness or dizziness. In high concentrations may cause narcotic effects. Symptoms may include dizziness, headache, nausea, loss of co-ordination, and asphyxiation.

Symptoms/Injuries After Skin Contact: Causes skin irritation. Repeated or prolonged skin contact may cause dermatitis and defatting.

Symptoms/Injuries After Eye Contact: Can cause severe eye irritation. Redness, pain, swelling, itching, burning, tearing, and blurred vision.

Symptoms/Injuries After Ingestion: The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.

Chronic Symptoms: May cause cancer. May cause genetic defects. Suspected of damaging fertility or the unborn child. Causes damage to organs. Causes damage to organs through prolonged or repeated exposure.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Alcohol-resistant foam, carbon dioxide (CO₂), dry chemical, water spray, fog.

Unsuitable Extinguishing Media: Do not use a heavy water stream. A heavy water stream may spread burning liquid. Water may be ineffective because it may not cool the material below its flash point.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Extremely flammable liquid and vapor.

Explosion Hazard: May form flammable/explosive vapor-air mixture. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard. Material is highly volatile and readily gives off vapors which may travel along the ground or be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electric motors, static discharge, or other ignition sources at locations distant from material handling point.

Reactivity: Reacts with strong oxidants causing fire and explosion hazard. Hazardous reactions may occur on contact with certain chemicals. Refer to incompatible materials.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. Extinguish/cool from behind cover/unmanned monitors. Remove containers from fire area if this can be done without risk. Do not breathe fumes from fires or vapors from decomposition. Do not allow run-off from firefighting to enter drains or water courses.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Other Information: Vapors are heavier than air and may travel considerable distance to an ignition source and flash back to source of vapors.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Remove ignition sources. Use special care to avoid static electric charges. Keep away from heat, sparks, open flames, hot surfaces. No smoking. Avoid breathing (dust, vapor, mist, gas). Use only outdoors or in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice.

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Unleaded Gasoline

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel. Eliminate ignition sources. Stop leak if safe to do so. Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Eliminate all ignition sources. Absorb and/or contain spill with inert material, then place in suitable container. Do not take up in combustible material such as: saw dust or cellulosic material. Use water spray to disperse vapors. If spilled directly onto the ground, remove sufficient soil to ensure material is fully recovered. Contact competent authorities after a spill. For small spill allow volatile portion to safely evaporate under controlled conditions. Allow sufficient time for vapors to completely clear. Check with LEL meter before cleaning up.

6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection. Concerning disposal elimination after cleaning, see item 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Handle empty containers with care because residual vapors are flammable.

Precautions for Safe Handling: Do not handle until all safety precautions have been read and understood. Take precautionary measures against static discharge. Use only non-sparking tools. Keep away from heat, sparks, open flames, hot surfaces. No smoking. Avoid all eye and skin contact and do not breathe vapor and mist. Use only outdoors or in a well-ventilated area. Use appropriate personal protection equipment (PPE). Never use welding or cutting torch on or near drum (even empty) because product and its residue can ignite explosively. Material is highly volatile and readily gives off vapors which may travel along the ground or be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electric motors, static discharge, or other ignition sources at locations distant from materials handling point.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Wash hands and exposed areas thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Ground/bond container and receiving equipment. Use explosion-proof electrical, lighting, ventilating equipment. Container remains hazardous when empty. Continue to observe all precautions. Ensure all national/local regulations are observed. Do not allow smoking in areas of use or dispensing. Motors, fans, switches, and etc. in area of use or dispensing should be explosion proof. Ground containers when filling. Prevent all static and electric sparks.

Storage Conditions: Store containers in an upright position. Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep in fireproof place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store locked up.

Incompatible Products: Strong acids. Strong bases. Strong oxidizers. Chlorine. Permanganates. Chromates.

7.3. Specific End Use(s)

No use is specified.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), or OSHA (PEL).

| Benzene (71-43-2) | | |
|-------------------|--------------------------|--|
| USA ACGIH | ACGIH TWA (ppm) | 0.5 ppm |
| USA ACGIH | ACGIH STEL (ppm) | 2.5 ppm |
| USA ACGIH | ACGIH chemical category | Skin - potential significant contribution to overall exposure by the cutaneous route, Confirmed Human Carcinogen |
| USA NIOSH | NIOSH REL (TWA) (ppm) | 0.1 ppm |
| USA NIOSH | NIOSH REL (STEL) (ppm) | 1 ppm |
| USA IDLH | US IDLH (ppm) | 500 ppm |
| USA OSHA | OSHA PEL (TWA) (ppm) | 10 ppm 1 ppm |
| USA OSHA | OSHA PEL (STEL) (ppm) | 5 ppm (see 29 CFR 1910.1028) |
| USA OSHA | OSHA PEL (Ceiling) (ppm) | 25 ppm |

Unleaded Gasoline

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| | | |
|---|---------------------------------------|--|
| Cyclohexane (110-82-7) | | |
| USA ACGIH | ACGIH TWA (ppm) | 100 ppm |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 1050 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (ppm) | 300 ppm |
| USA IDLH | US IDLH (ppm) | 1300 ppm (10% LEL) |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 1050 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (ppm) | 300 ppm |
| Ethylbenzene (100-41-4) | | |
| USA ACGIH | ACGIH TWA (ppm) | 20 ppm |
| USA ACGIH | ACGIH chemical category | Confirmed Animal Carcinogen with Unknown Relevance to Humans |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 435 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (ppm) | 100 ppm |
| USA NIOSH | NIOSH REL (STEL) (mg/m ³) | 545 mg/m ³ |
| USA NIOSH | NIOSH REL (STEL) (ppm) | 125 ppm |
| USA IDLH | US IDLH (ppm) | 800 ppm (10% LEL) |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 435 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (ppm) | 100 ppm |
| Hexane (110-54-3) | | |
| USA ACGIH | ACGIH TWA (ppm) | 50 ppm |
| USA ACGIH | ACGIH chemical category | Skin - potential significant contribution to overall exposure by the cutaneous route |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 180 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (ppm) | 50 ppm |
| USA IDLH | US IDLH (ppm) | 1100 ppm (10% LEL) |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 1800 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (ppm) | 500 ppm |
| Naphthalene (91-20-3) | | |
| USA ACGIH | ACGIH TWA (ppm) | 10 ppm |
| USA ACGIH | ACGIH chemical category | Skin - potential significant contribution to overall exposure by the cutaneous route, Confirmed Animal Carcinogen with Unknown Relevance to Humans |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 50 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (ppm) | 10 ppm |
| USA NIOSH | NIOSH REL (STEL) (mg/m ³) | 75 mg/m ³ |
| USA NIOSH | NIOSH REL (STEL) (ppm) | 15 ppm |
| USA IDLH | US IDLH (ppm) | 250 ppm |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 50 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (ppm) | 10 ppm |
| Toluene (108-88-3) | | |
| USA ACGIH | ACGIH TWA (ppm) | 20 ppm |
| USA ACGIH | ACGIH chemical category | Not Classifiable as a Human Carcinogen |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 375 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (ppm) | 100 ppm |
| USA NIOSH | NIOSH REL (STEL) (mg/m ³) | 560 mg/m ³ |
| USA NIOSH | NIOSH REL (STEL) (ppm) | 150 ppm |
| USA IDLH | US IDLH (ppm) | 500 ppm |
| USA OSHA | OSHA PEL (TWA) (ppm) | 200 ppm |
| USA OSHA | OSHA PEL (Ceiling) (ppm) | 300 ppm |
| Xylenes (o-, m-, p- isomers) (1330-20-7) | | |
| USA ACGIH | ACGIH TWA (ppm) | 100 ppm |
| USA ACGIH | ACGIH STEL (ppm) | 150 ppm |
| USA ACGIH | ACGIH chemical category | Not Classifiable as a Human Carcinogen |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 435 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (ppm) | 100 ppm |

Unleaded Gasoline

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| Gasoline, motor fuel (86290-81-5) | | |
|-----------------------------------|-------------------------|--|
| USA ACGIH | ACGIH TWA (ppm) | 300 ppm |
| USA ACGIH | ACGIH STEL (ppm) | 500 ppm |
| USA ACGIH | ACGIH chemical category | Confirmed Animal Carcinogen with Unknown Relevance to Humans |

8.2. Exposure Controls

Appropriate Engineering Controls

: Use explosion-proof equipment. Proper grounding procedures to avoid static electricity should be followed. Gas detectors should be used when flammable gases/vapors may be released. Ensure adequate ventilation, especially in confined areas. Have written confined space and tank entry procedures. Never allow tank entry without checking OXYGEN AND VAPOR levels. Use safety harness and safety line on person entering a tank. Stand-by person required with protective equipment available. Ensure all national/local regulations are observed.

Personal Protective Equipment

: Where splashing is possible: Safety glasses with side shields. Face shield. Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing

: Chemically resistant materials and fabrics. Wear fire/flamm resistant/retardant clothing.

Hand Protection

: Wear chemically resistant protective gloves such as neoprene or nitrile.

Eye Protection

: No special eye protection is normally required. Where splashing is possible, wear safety glasses with sideshields.

Skin and Body Protection

: Wear suitable protective clothing.

Respiratory Protection

: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

Thermal Hazard Protection

: When working with hot material, use suitable thermally protective clothing.

Other Information

: When using, do not eat, drink, or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

| | |
|--|---|
| Physical State | : Liquid |
| Appearance | : Clear mobile liquid. Gasoline is colored with various dyes for specific type recognition. |
| Odor | : Characteristic odor recognizable at about 10 PPM in air. |
| Odor Threshold | : No data available |
| pH | : No data available |
| Evaporation Rate | : Slower than ether |
| Melting Point | : No data available |
| Freezing Point | : No data available |
| Boiling Point | : 70 - 435 °F (21.11 - 223.89 °C) |
| Flash Point | : -40 - -50 °F (-40 - -45.56 °C) |
| Auto-ignition Temperature | : No data available |
| Decomposition Temperature | : No data available |
| Flammability (solid, gas) | : No data available |
| Vapor Pressure | : 8 - 15 (Reid Vapor Pressure @ 100°F) |
| Relative Vapor Density | : 3 - 4 (AIR=1) |
| Relative Density | : No data available |
| Specific Gravity @ 60 °F | : .70 - .78 |
| Solubility | : Insoluble in water. |
| Partition Coefficient: N-Octanol/Water | : No data available |
| Viscosity | : No data available |
| Explosive Properties | : Product is not explosive, however, formation of explosive air-vapor mixture is possible. |

Unleaded Gasoline

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| | |
|--------------------------------|-----------------|
| Lower Flammable Limit | : 1.4 % |
| Upper Flammable Limit | : 7.6 % |
| Percent Volatile By Volume (%) | : 100 |
| Explosive Limits | : Lower to 1.4% |

9.2. Other Information No additional information available

SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Reacts with strong oxidants causing fire and explosion hazard. Hazardous reactions may occur on contact with certain chemicals. Refer to incompatible materials.
- 10.2. Chemical Stability:** Extremely flammable liquid and vapor. May form flammable/explosive vapor-air mixture.
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid:** Direct sunlight. Extremely high or low temperatures. Sources of ignition. Incompatible materials.
- 10.5. Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers. Chlorine. Permanganates. Chromates.
- 10.6. Hazardous Decomposition Products:** Thermal decomposition generates: May release flammable gases. Carbon oxides (CO, CO₂). Hydrocarbons.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity: Not classified

| | |
|---|--|
| Benzene (71-43-2) | |
| LD50 Oral Rat | 3306 mg/kg |
| LD50 Dermal Rabbit | > 8200 mg/kg |
| LC50 Inhalation Rat | 44.66 mg/l/4h |
| Cyclohexane (110-82-7) | |
| LD50 Oral Rat | 12705 mg/kg |
| LD50 Dermal Rabbit | > 2000 mg/kg |
| LC50 Inhalation Rat | 13.9 mg/l/4h |
| Ethylbenzene (100-41-4) | |
| LD50 Oral Rat | 3500 mg/kg |
| LD50 Dermal Rabbit | 15400 mg/kg |
| LC50 Inhalation Rat | 17.2 mg/l/4h (Exposure time: 4 h) |
| Hexane (110-54-3) | |
| LD50 Oral Rat | 25 g/kg |
| LD50 Dermal Rabbit | 3000 mg/kg |
| LC50 Inhalation Rat | 48000 ppm/4h |
| Naphthalene (91-20-3) | |
| LD50 Oral Rat | 533 - 710 mg/kg |
| LD50 Dermal Rabbit | 1120 mg/kg |
| LC50 Inhalation Rat | > 340 mg/m ³ (Exposure time: 1 h) |
| Toluene (108-88-3) | |
| LD50 Oral Rat | 5580 mg/kg |
| LD50 Dermal Rabbit | 12000 mg/kg |
| LC50 Inhalation Rat | 12.5 mg/l/4h |
| ATE (Vapors) | 25.70 mg/l/4h |
| Xylenes (o-, m-, p- isomers) (1330-20-7) | |
| LD50 Oral Rat | > 5000 mg/kg |
| LD50 Dermal Rabbit | > 4350 mg/kg |
| LC50 Inhalation Rat | 29.08 mg/l/4h |
| LC50 Inhalation Rat | 6247 ppm/4h (species: Sprague-Dawley) |
| ATE (Dermal) | 1,100.00 mg/kg body weight |
| ATE (Gases) | 6,247.00 ppmV/4h |
| ATE (Vapors) | 11.00 mg/l/4h |
| Gasoline, motor fuel (86290-81-5) | |
| LD50 Oral Rat | 92 g/kg |
| LD50 Dermal Rabbit | > 2000 mg/kg |
| LC50 Inhalation Rat | > 5.2 mg/l/4h |

Unleaded Gasoline

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Skin Corrosion/Irritation: Causes skin irritation.

Serious Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: May cause genetic defects.

Carcinogenicity: May cause cancer.

| | |
|--|---|
| Benzene (71-43-2) | |
| IARC group | 1 |
| National Toxicology Program (NTP) Status | Evidence of Carcinogenicity, Known Human Carcinogens. |
| OSHA Hazard Communication Carcinogen List | In OSHA Hazard Communication Carcinogen list. |
| OSHA Specifically Regulated Carcinogen List | In OSHA Specifically Regulated Carcinogen list. |
| Ethylbenzene (100-41-4) | |
| IARC group | 2B |
| National Toxicology Program (NTP) Status | Evidence of Carcinogenicity. |
| OSHA Hazard Communication Carcinogen List | In OSHA Hazard Communication Carcinogen list. |
| Naphthalene (91-20-3) | |
| IARC group | 2B |
| National Toxicology Program (NTP) Status | Evidence of Carcinogenicity, Reasonably anticipated to be Human Carcinogen. |
| OSHA Hazard Communication Carcinogen List | In OSHA Hazard Communication Carcinogen list. |
| Toluene (108-88-3) | |
| IARC group | 3 |
| Xylenes (o-, m-, p- isomers) (1330-20-7) | |
| IARC group | 3 |
| Gasoline, motor fuel (86290-81-5) | |
| IARC group | 2B |
| OSHA Hazard Communication Carcinogen List | In OSHA Hazard Communication Carcinogen list. |

Reproductive Toxicity: Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity (Single Exposure): Causes damage to organs. May cause drowsiness or dizziness.

Specific Target Organ Toxicity (Repeated Exposure): Causes damage to organs through prolonged or repeated exposure.

Aspiration Hazard: May be fatal if swallowed and enters airways.

Symptoms/Injuries After Inhalation: May cause drowsiness or dizziness. In high concentrations may cause narcotic effects.

Symptoms may include dizziness, headache, nausea and loss of co-ordination, and asphyxiation.

Symptoms/Injuries After Skin Contact: Causes skin irritation. Repeated or prolonged skin contact may cause dermatitis and defatting.

Symptoms/Injuries After Eye Contact: Can cause severe eye irritation. Redness, pain, swelling, itching, burning, tearing, and blurred vision.

Symptoms/Injuries After Ingestion: The major health threat of ingestion occurs from the danger of aspiration(breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.

Chronic Symptoms: May cause cancer. May cause genetic defects. Suspected of damaging fertility or the unborn child. Causes damage to organs. Causes damage to organs through prolonged or repeated exposure.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General : Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

| | |
|-------------------------------|--|
| Benzene (71-43-2) | |
| LC50 Fish 1 | 10.7 - 14.7 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |
| EC50 Daphnia 1 | 8.76 - 15.6 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static]) |
| LC 50 Fish 2 | 5.3 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through]) |
| EC50 Daphnia 2 | 10 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| Cyclohexane (110-82-7) | |
| LC50 Fish 1 | 3.96 - 5.18 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |
| EC50 Daphnia 1 | 0.9 mg/l |
| LC 50 Fish 2 | 23.03 - 42.07 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static]) |

Unleaded Gasoline

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| | |
|---|--|
| Ethylbenzene (100-41-4) | |
| LC50 Fish 1 | 11.0 - 18.0 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static]) |
| EC50 Daphnia 1 | 1.8 - 2.4 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| LC 50 Fish 2 | 4.2 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static]) |
| Hexane (110-54-3) | |
| LC50 Fish 1 | 2.1 - 2.98 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |
| EC50 Daphnia 1 | 3.88 mg/l |
| Naphthalene (91-20-3) | |
| LC50 Fish 1 | 5.74 - 6.44 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |
| EC50 Daphnia 1 | 2.16 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| LC 50 Fish 2 | 1.6 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through]) |
| EC50 Daphnia 2 | 1.96 mg/l (Exposure time: 48 h - Species: Daphnia magna [Flow through]) |
| Toluene (108-88-3) | |
| LC50 Fish 1 | 15.22 (15.22 - 19.05) mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |
| EC50 Daphnia 1 | 5.46 (5.46 - 9.83) mg/l (Exposure time: 48 h - Species: Daphnia magna [Static]) |
| LC 50 Fish 2 | 12.6 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static]) |
| EC50 Daphnia 2 | 11.5 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| NOEC chronic crustacea | 0.74 mg/l (Ceriodaphnia dubia) |
| Xylenes (o-, m-, p- isomers) (1330-20-7) | |
| LC50 Fish 1 | 3.3 mg/l |
| EC50 Daphnia 1 | 3.82 mg/l (Exposure time: 48 h - Species: water flea) |
| LC 50 Fish 2 | 2.661 (2.661 - 4.093) mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static]) |
| EC50 Daphnia 2 | 0.6 mg/l (Exposure time: 48 h - Species: Gammarus lacustris) |

12.2. Persistence and Degradability

| | |
|-------------------------------|------------------|
| Unleaded Gasoline | |
| Persistence and Degradability | Not established. |

12.3. Bioaccumulative Potential

| | |
|---|------------------|
| Unleaded Gasoline | |
| Bioaccumulative Potential | Not established. |
| Benzene (71-43-2) | |
| BCF fish 1 | 3.5 - 4.4 |
| Log Pow | 1.83 |
| Cyclohexane (110-82-7) | |
| Log Pow | 3.44 |
| Ethylbenzene (100-41-4) | |
| BCF fish 1 | 15 |
| Log Pow | 3.118 |
| Naphthalene (91-20-3) | |
| BCF fish 1 | 30 - 430 |
| Log Pow | 3.3 (at 20 °C) |
| Toluene (108-88-3) | |
| Log Pow | 2.65 |
| Xylenes (o-, m-, p- isomers) (1330-20-7) | |
| BCF fish 1 | 0.6 (0.6 - 15) |
| Log Pow | 2.77 - 3.15 |

12.4. Mobility in Soil

No additional information available

12.5. Other Adverse Effects

Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Sewage Disposal Recommendations: Do not empty into drains; dispose of this material and its container in a safe way.

Unleaded Gasoline

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.

Additional Information: EPA Hazardous Waste Number: D001 (Ignitability).

Ecology – Waste Materials: Hazardous waste due to toxicity.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT

Proper Shipping Name : GASOLINE includes gasoline mixed with ethyl alcohol, with not more than 10% alcohol
Hazard Class : 3
Identification Number : UN1203
Label Codes : 3
Packing Group : II
Marine Pollutant : Marine pollutant
ERG Number : 128



14.2. In Accordance with IMDG

Proper Shipping Name : GASOLINE includes gasoline mixed with ethyl alcohol, with not more than 10% alcohol
Hazard Class : 3
Identification Number : UN1203
Packing Group : II
Label Codes : 3
EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-E
Marine Pollutant : Marine pollutant



14.3. In Accordance with IATA

Proper Shipping Name : GASOLINE includes gasoline mixed with ethyl alcohol, with not more than 10% alcohol
Packing Group : II
Identification Number : UN1203
Hazard Class : 3
Label Codes : 3
ERG Code (IATA) : 3H



SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

| Unleaded Gasoline | |
|---|--|
| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard Delayed (chronic) health hazard Fire hazard |
| Benzene (71-43-2) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| RQ (Reportable quantity, section 304 of EPA's List of Lists) | 10 lb |
| SARA Section 311/312 Hazard Classes | Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard |
| SARA Section 313 - Emission Reporting | 0.1 % |
| Cyclohexane (110-82-7) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| EPA TSCA Regulatory Flag | T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA. |
| SARA Section 313 - Emission Reporting | 1.0 % |
| Ethylbenzene (100-41-4) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| RQ (Reportable quantity, section 304 of EPA's List of Lists) | 1000 lb |

Unleaded Gasoline

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| | |
|---|--|
| SARA Section 313 - Emission Reporting | 0.1 % |
| Hexane (110-54-3) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313 | |
| SARA Section 313 - Emission Reporting | 1.0 % |
| Naphthalene (91-20-3) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313 | |
| EPA TSCA Regulatory Flag | T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA. |
| RQ (Reportable quantity, section 304 of EPA's List of Lists) | 100 lb |
| SARA Section 313 - Emission Reporting | 0.1 % |
| Toluene (108-88-3) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313 | |
| RQ (Reportable quantity, section 304 of EPA's List of Lists) | 1000 lb |
| SARA Section 313 - Emission Reporting | 1.0 % |
| Xylenes (o-, m-, p- isomers) (1330-20-7) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313 | |
| RQ (Reportable quantity, section 304 of EPA's List of Lists) | 100 lb |
| SARA Section 311/312 Hazard Classes | Delayed (chronic) health hazard Fire hazard Immediate (acute) health hazard |
| SARA Section 313 - Emission Reporting | 1.0 % |

15.2 US State Regulations

| | |
|--|--|
| Benzene (71-43-2) | |
| U.S. - California - Proposition 65 - Carcinogens List | WARNING: This product contains chemicals known to the State of California to cause cancer. |
| U.S. - California - Proposition 65 - Developmental Toxicity | WARNING: This product contains chemicals known to the State of California to cause birth defects. |
| U.S. - California - Proposition 65 - Reproductive Toxicity - Male | WARNING: This product contains chemicals known to the State of California to cause (Male) reproductive harm. |
| Ethylbenzene (100-41-4) | |
| U.S. - California - Proposition 65 - Carcinogens List | WARNING: This product contains chemicals known to the State of California to cause cancer. |
| Naphthalene (91-20-3) | |
| U.S. - California - Proposition 65 - Carcinogens List | WARNING: This product contains chemicals known to the State of California to cause cancer. |
| Toluene (108-88-3) | |
| U.S. - California - Proposition 65 - Developmental Toxicity | WARNING: This product contains chemicals known to the State of California to cause birth defects. |
| U.S. - California - Proposition 65 - Reproductive Toxicity - Female | WARNING: This product contains chemicals known to the State of California to cause (Female) reproductive harm. |
| Benzene (71-43-2) | |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances U.S. - Pennsylvania - RTK (Right to Know) List | |
| Cyclohexane (110-82-7) | |
| U.S. - Massachusetts - Right To Know List | |

Unleaded Gasoline

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| |
|---|
| U.S. - New Jersey - Right to Know Hazardous Substance List |
| U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List |
| U.S. - Pennsylvania - RTK (Right to Know) List |
| Ethylbenzene (100-41-4) |
| U.S. - Massachusetts - Right To Know List |
| U.S. - New Jersey - Right to Know Hazardous Substance List |
| U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List |
| U.S. - Pennsylvania - RTK (Right to Know) List |
| Hexane (110-54-3) |
| U.S. - Massachusetts - Right To Know List |
| U.S. - New Jersey - Right to Know Hazardous Substance List |
| U.S. - Pennsylvania - RTK (Right to Know) List |
| Naphthalene (91-20-3) |
| U.S. - Massachusetts - Right To Know List |
| U.S. - New Jersey - Right to Know Hazardous Substance List |
| U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List |
| U.S. - Pennsylvania - RTK (Right to Know) List |
| Toluene (108-88-3) |
| U.S. - Massachusetts - Right To Know List |
| U.S. - New Jersey - Right to Know Hazardous Substance List |
| U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List |
| U.S. - Pennsylvania - RTK (Right to Know) List |
| Xylenes (o-, m-, p- isomers) (1330-20-7) |
| U.S. - Massachusetts - Right To Know List |
| U.S. - New Jersey - Right to Know Hazardous Substance List |
| U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List |
| U.S. - Pennsylvania - RTK (Right to Know) List |
| Gasoline, motor fuel (86290-81-5) |
| U.S. - Massachusetts - Right To Know List |
| U.S. - New Jersey - Right to Know Hazardous Substance List |
| U.S. - Pennsylvania - RTK (Right to Know) List |

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

| | |
|--------------------------|---|
| Revision Date | : 06/28/2016 |
| Other Information | : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200. This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200. |

GHS Full Text Phrases:

| | |
|---------------------------------|--|
| Acute Tox. 4 (Dermal) | Acute toxicity (dermal) Category 4 |
| Acute Tox. 4 (Inhalation:vapor) | Acute toxicity (inhalation:vapor) Category 4 |
| Acute Tox. 4 (Oral) | Acute toxicity (oral) Category 4 |
| Aquatic Acute 1 | Hazardous to the aquatic environment - Acute Hazard Category 1 |
| Aquatic Acute 2 | Hazardous to the aquatic environment - Acute Hazard Category 2 |
| Aquatic Chronic 1 | Hazardous to the aquatic environment - Chronic Hazard Category 1 |
| Aquatic Chronic 2 | Hazardous to the aquatic environment - Chronic Hazard Category 2 |
| Aquatic Chronic 3 | Hazardous to the aquatic environment - Chronic Hazard Category 3 |
| Asp. Tox. 1 | Aspiration hazard Category 1 |
| Carc. 1A | Carcinogenicity Category 1A |
| Carc. 1B | Carcinogenicity Category 1B |
| Carc. 2 | Carcinogenicity Category 2 |
| Eye Irrit. 2A | Serious eye damage/eye irritation Category 2A |
| Flam. Liq. 1 | Flammable liquids Category 1 |
| Flam. Liq. 2 | Flammable liquids Category 2 |

Unleaded Gasoline

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| | |
|---------------|---|
| Flam. Liq. 3 | Flammable liquids Category 3 |
| Flam. Sol. 2 | Flammable solids Category 2 |
| Muta. 1B | Germ cell mutagenicity Category 1B |
| Repr. 2 | Reproductive toxicity Category 2 |
| Skin Irrit. 2 | Skin corrosion/irritation Category 2 |
| STOT RE 1 | Specific target organ toxicity (repeated exposure) Category 1 |
| STOT RE 2 | Specific target organ toxicity (repeated exposure) Category 2 |
| STOT SE 1 | Specific target organ toxicity (single exposure) Category 1 |
| STOT SE 3 | Specific target organ toxicity (single exposure) Category 3 |
| H224 | Extremely flammable liquid and vapor |
| H225 | Highly flammable liquid and vapor |
| H226 | Flammable liquid and vapor |
| H228 | Flammable solid |
| H302 | Harmful if swallowed |
| H304 | May be fatal if swallowed and enters airways |
| H312 | Harmful in contact with skin |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| H332 | Harmful if inhaled |
| H336 | May cause drowsiness or dizziness |
| H340 | May cause genetic defects |
| H350 | May cause cancer |
| H351 | Suspected of causing cancer |
| H361 | Suspected of damaging fertility or the unborn child |
| H370 | Causes damage to organs |
| H372 | Causes damage to organs through prolonged or repeated exposure |
| H373 | May cause damage to organs through prolonged or repeated exposure |
| H400 | Very toxic to aquatic life |
| H401 | Toxic to aquatic life |
| H410 | Very toxic to aquatic life with long lasting effects |
| H411 | Toxic to aquatic life with long lasting effects |
| H412 | Harmful to aquatic life with long lasting effects |

NFPA Health Hazard

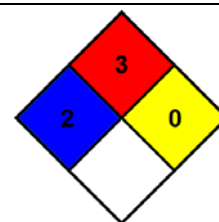
: 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA Fire Hazard

: 3 - Liquids and solids that can be ignited under almost all ambient conditions.

NFPA Reactivity

: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health

: 2 Moderate Hazard - Temporary or minor injury may occur

Flammability

: 3 Serious Hazard

Physical

: 0 Minimal Hazard

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)

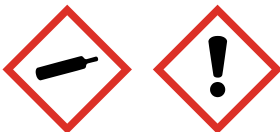
SAFETY DATA SHEET

Halocarbon R-12 (Dichlorodifluoromethane)

Section 1. Identification

| | |
|--------------------------------------|--|
| GHS product identifier | : Halocarbon R-12 (Dichlorodifluoromethane) |
| Chemical name | : dichlorodifluoromethane |
| Other means of identification | : ASPEN R-12, Methane, dichlorodifluoro-; Refrigerant 12; Propellant 12; Halon 122; Genetron 12; Freon 12; Fluorocarbon 12; Difluorodichloromethane; DICHLORODIFLUOROMETHANE (FC 12); CFC-12 |
| Product type | : Gas. |
| Product use | : Synthetic/Analytical chemistry. |
| Synonym | : ASPEN R-12, Methane, dichlorodifluoro-; Refrigerant 12; Propellant 12; Halon 122; Genetron 12; Freon 12; Fluorocarbon 12; Difluorodichloromethane; DICHLORODIFLUOROMETHANE (FC 12); CFC-12 |
| SDS # | : 001018 |
| Supplier's details | : Airgas USA, LLC and its affiliates 259 North Radnor-Chester Road Suite 100 Radnor, PA 19087-5283 1-610-687-5253 |
| 24-hour telephone | : 1-866-734-3438 |

Section 2. Hazards identification

| | |
|---|---|
| OSHA/HCS status | : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). |
| Classification of the substance or mixture | : GASES UNDER PRESSURE - Liquefied gas HAZARDOUS TO THE OZONE LAYER - Category 1 |
| GHS label elements | |
| Hazard pictograms | :  |
| Signal word | : Warning |
| Hazard statements | : Contains gas under pressure; may explode if heated. May displace oxygen and cause rapid suffocation. Harms public health and the environment by destroying ozone in the upper atmosphere. |
| Precautionary statements | |
| General | : Read and follow all Safety Data Sheets (SDS'S) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Always keep container in upright position. |
| Prevention | : Use and store only outdoors or in a well ventilated place. |
| Response | : Not applicable. |
| Storage | : Protect from sunlight. Store in a well-ventilated place. |
| Disposal | : Refer to manufacturer or supplier for information on recovery or recycling. |
| Hazards not otherwise classified | : In addition to any other important health or physical hazards, this product may displace oxygen and cause rapid suffocation. |

Section 3. Composition/information on ingredients

| | |
|--------------------------------------|--|
| Substance/mixture | : Substance |
| Chemical name | : dichlorodifluoromethane |
| Other means of identification | : ASPEN R-12, Methane, dichlorodifluoro-; Refrigerant 12; Propellant 12; Halon 122; Genetron 12; Freon 12; Fluorocarbon 12; Difluorodichloromethane; DICHLORODIFLUOROMETHANE (FC 12); CFC-12 |
| Product code | : 001018 |

CAS number/other identifiers

CAS number : 75-71-8

| Ingredient name | % | CAS number |
|----------------------------|----------|-------------------|
| Methane, dichlorodifluoro- | 100 | 75-71-8 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

| | |
|---------------------|--|
| Eye contact | : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs. |
| Inhalation | : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |
| Skin contact | : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse. |
| Ingestion | : As this product is a gas, refer to the inhalation section. |

Most important symptoms/effects, acute and delayed

Potential acute health effects

| | |
|---------------------|---|
| Eye contact | : No known significant effects or critical hazards. |
| Inhalation | : No known significant effects or critical hazards. |
| Skin contact | : No known significant effects or critical hazards. |
| Frostbite | : Try to warm up the frozen tissues and seek medical attention. |
| Ingestion | : As this product is a gas, refer to the inhalation section. |

Over-exposure signs/symptoms

| | |
|---------------------|---------------------|
| Eye contact | : No specific data. |
| Inhalation | : No specific data. |
| Skin contact | : No specific data. |
| Ingestion | : No specific data. |

Indication of immediate medical attention and special treatment needed, if necessary

| | |
|---------------------------|---|
| Notes to physician | : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |
|---------------------------|---|

Section 4. First aid measures

- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : Contains gas under pressure. In a fire or if heated, a pressure increase will occur and the container may burst or explode.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds
carbonyl halides

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

- Small spill** : Immediately contact emergency personnel. Stop leak if without risk.
- Large spill** : Immediately contact emergency personnel. Stop leak if without risk. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** :
- Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid breathing gas. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.
 - Avoid release to the environment. Refer to special instructions/safety data sheet.
 - Avoid contact with eyes, skin and clothing. Empty containers retain product residue and can be hazardous.

- Advice on general occupational hygiene** :
- Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** :
- Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F). Keep container tightly closed and sealed until ready for use. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|----------------------------|---|
| Methane, dichlorodifluoro- | <p>ACGIH TLV (United States, 3/2017). TWA: 4950 mg/m³ 8 hours. TWA: 1000 ppm 8 hours.</p> <p>NIOSH REL (United States, 10/2016). TWA: 4950 mg/m³ 10 hours. TWA: 1000 ppm 10 hours.</p> <p>OSHA PEL (United States, 6/2016). TWA: 4950 mg/m³ 8 hours. TWA: 1000 ppm 8 hours.</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 4950 mg/m³ 8 hours. TWA: 1000 ppm 8 hours.</p> |

- Appropriate engineering controls** :
- Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

- Environmental exposure controls** :
- Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** :
- Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 8. Exposure controls/personal protection

- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Gas. [Compressed gas.]
- Color** : Colorless.
- Odor** : Characteristic.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point** : -158°C (-252.4°F)
- Boiling point** : -29.8°C (-21.6°F)
- Critical temperature** : 111.85°C (233.3°F)
- Flash point** : [Product does not sustain combustion.]
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : 84.9 (psia)
- Vapor density** : 4.2 (Air = 1)
- Specific Volume (ft³/lb)** : 3.1746
- Gas Density (lb/ft³)** : 0.315
- Relative density** : Not applicable.
- Solubility** : Not available.
- Solubility in water** : 0.3 g/l
- Partition coefficient: n-octanol/water** : 2.16
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Not applicable.
- Flow time (ISO 2431)** : Not available.
- Molecular weight** : 120.91 g/mole

Section 10. Stability and reactivity

| | |
|---|--|
| Reactivity | : No specific test data related to reactivity available for this product or its ingredients. |
| Chemical stability | : The product is stable. |
| Possibility of hazardous reactions | : Under normal conditions of storage and use, hazardous reactions will not occur. |
| Conditions to avoid | : No specific data. |
| Incompatible materials | : No specific data. |
| Hazardous decomposition products | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| Hazardous polymerization | : Under normal conditions of storage and use, hazardous polymerization will not occur. |

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Not available.

Irritation/Corrosion

Not available.

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Section 11. Toxicological information

Ingestion : As this product is a gas, refer to the inhalation section.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Not available.

Persistence and degradability

Not available.

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|----------------------------|--------------------|------|-----------|
| Methane, dichlorodifluoro- | 2.16 | 6.17 | low |

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations






Disposal methods

: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty Airgas-owned pressure vessels should be returned to Airgas. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

United States - RCRA Toxic hazardous waste "U" List

| Ingredient | CAS # | Status | Reference number |
|---|---------|--------|------------------|
| Dichlorodifluoromethane; Methane, dichlorodifluoro- | 75-71-8 | Listed | U075 |

Section 14. Transport information

| | DOT | TDG | Mexico | IMDG | IATA |
|----------------------------|--|--|--|--|--|
| UN number | UN1028 | UN1028 | UN1028 | UN1028 | UN1028 |
| UN proper shipping name | DICHLORODIFLUOROMETHANE OR REFRIGERANT GAS R 12 | DICHLORODIFLUOROMETHANE; OR REFRIGERANT GAS R 12 | DICHLORODIFLUOROMETHANE OR REFRIGERANT GAS R 12 | DICHLORODIFLUOROMETHANE (REFRIGERANT GAS R 12) | DICHLORODIFLUOROMETHANE |
| Transport hazard class(es) | 2.2  | 2.2  | 2.2  | 2.2  | 2.2  |
| Packing group | - | - | - | - | - |
| Environmental hazards | No. | No. | No. | No. | No. |

“Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product.”

Additional information

DOT Classification

: **Reportable quantity** 5000 lbs / 2270 kg. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.
Limited quantity Yes.
Quantity limitation Passenger aircraft/rail: 75 kg. Cargo aircraft: 150 kg.
Special provisions T50

TDG Classification

: Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2).
Explosive Limit and Limited Quantity Index 0.125
Passenger Carrying Road or Rail Index 75

IATA

: **Quantity limitation** Passenger and Cargo Aircraft: 75 kg. Cargo Aircraft Only: 150 kg.

Special precautions for user

: **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 14. Transport information

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : TSCA 8(a) CDR Exempt/Partial exemption: Not determined

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Refer to Section 2: Hazards Identification of this SDS for classification of substance.

SARA 313

| | Product name | CAS number | % |
|--|-------------------------|------------|-----|
| Form R - Reporting requirements | dichlorodifluoromethane | 75-71-8 | 100 |
| Supplier notification | dichlorodifluoromethane | 75-71-8 | 100 |

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : This material is listed.

New York : This material is listed.

New Jersey : This material is listed.

Pennsylvania : This material is listed.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

| Ingredient name | Status |
|-----------------|------------------|
| CFC 11 | Annex A, Group I |

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Section 15. Regulatory information

Not listed.

Inventory list

| | |
|--------------------------|---|
| Australia | : This material is listed or exempted. |
| Canada | : This material is listed or exempted. |
| China | : This material is listed or exempted. |
| Europe | : This material is listed or exempted. |
| Japan | : Japan inventory (ENCS) : This material is listed or exempted. Japan inventory (ISHL) : Not determined. |
| Malaysia | : Not determined. |
| New Zealand | : This material is listed or exempted. |
| Philippines | : This material is listed or exempted. |
| Republic of Korea | : This material is listed or exempted. |
| Taiwan | : This material is listed or exempted. |
| Thailand | : Not determined. |
| Turkey | : Not determined. |
| United States | : This material is listed or exempted. |
| Viet Nam | : Not determined. |

Section 16. Other information

Hazardous Material Information System (U.S.A.)

| | | |
|------------------|---|---|
| Health | / | 1 |
| Flammability | | 0 |
| Physical hazards | | 3 |
| | | |

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

| Classification | Justification |
|---|--|
| GASES UNDER PRESSURE - Liquefied gas HAZARDOUS TO THE OZONE LAYER - Category 1 | Expert judgment On basis of test data |

Section 16. Other information

History

Date of printing : 3/18/2018

Date of issue/Date of revision : 3/18/2018

Date of previous issue : No previous validation

Version : 1

Key to abbreviations

: ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References : Not available.

Other special considerations : WARNING: Contains (Dichlorodifluoromethane), a substance which harms the public health and environment by destroying ozone in the upper atmosphere.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



SAFETY DATA SHEET

1. Identification

| | |
|--|--|
| Product identifier | Specialty Deicing Salt Products NaCl MgCl ₂ |
| Other means of identification | |
| SDS number | NS4 |
| Synonyms | Specialty Deicing Salt Products NaCl MgCl ₂ * Diamond Crystal® Jiffy Melt® Ice Melter * Diamond Crystal® Glacier Melt® Blended Ice Melter |
| Recommended use | Salt may be intended for food or animal feed (agricultural) as well as several industrial applications including deicing and water conditioning. |
| Recommended restrictions | None known. |
| Manufacturer/Importer/Supplier/Distributor information | |
| Manufacturer | |
| Company name | Cargill Incorporated |
| Address | Minneapolis, MN 55440 |
| Telephone | 1-888-385-7258 |
| Website | www.cargillsalt.com |
| Emergency telephone number | CHEMTREC (800) 424-9300 |

2. Hazard(s) identification

| | |
|---|--|
| Physical hazards | Not classified. |
| Health Hazards | Not classified. |
| OSHA defined hazards | Not classified. |
| Label elements | |
| Hazard symbol | None. |
| Signal word | None. |
| Hazard statement | The mixture does not meet the criteria for classification. |
| Precautionary statement | |
| Prevention | Observe good industrial hygiene practices. |
| Response | Wash hands after handling. |
| Storage | Store away from incompatible materials. |
| Disposal | Dispose of waste and residues in accordance with local authority requirements. |
| Hazard(s) not otherwise classified (HNOC) | None known. |

3. Composition/information on ingredients

Mixtures

| Chemical name | CAS number | % |
|--------------------------------|------------|-------|
| Sodium Chloride | 7647-14-5 | 85-95 |
| Magnesium chloride hexahydrate | 7791-18-6 | 5-15 |

4. First-aid measures

| | |
|--------------|---|
| Inhalation | If dust from the material is inhaled, remove the affected person immediately to fresh air. Call a physician if symptoms develop or persist. |
| Skin contact | Wash off with soap and water. Get medical attention if irritation develops and persists. |
| Eye contact | Rinse with water. Get medical attention if irritation develops and persists. |
| Ingestion | Give one or two glasses of water if patient is alert and able to swallow. Get medical attention if symptoms occur. |

| | |
|---|--|
| Most important symptoms/effects, acute and delayed | Direct contact with eyes may cause temporary irritation. |
| Indication of immediate medical attention and special treatment needed | Treat symptomatically. |
| General information | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |
| 5. Fire-fighting measures | |
| Suitable extinguishing media | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂). |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | During fire, gases hazardous to health may be formed. |
| Special protective equipment and precautions for firefighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| Fire fighting equipment/instructions | Use water spray to cool unopened containers. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. |
| General fire hazards | This product is not flammable or combustible. |
| 6. Accidental release measures | |
| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Avoid inhalation of dust from the spilled material. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. For personal protection, see section 8 of the SDS. |
| Methods and materials for containment and cleaning up | If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Collect dust using a vacuum cleaner equipped with HEPA filter. Minimize dust generation and accumulation. Avoid release to the environment. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS. |
| Environmental precautions | Avoid discharge into drains, water courses or onto the ground. |
| 7. Handling and storage | |
| Precautions for safe handling | Provide appropriate exhaust ventilation at places where dust is formed. Minimize dust generation and accumulation. Avoid breathing dust. Avoid contact with eyes. Avoid contact with water and moisture. Keep away from strong acids. May evolve chlorine gas when in contact with strong acids. Hydrogen chloride release above 1400°F. Under conditions of high heat, sodium chloride will react with lithium to yield elemental sodium, which will intensify fire conditions. Practice good housekeeping. |
| Conditions for safe storage, including any incompatibilities | Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Becomes hygroscopic at 70-75% relative humidity. Avoid humid or wet conditions as product will cake and become hard. |
| 8. Exposure controls/personal protection | |
| Occupational exposure limits | No exposure limits noted for ingredient(s). |
| Biological limit values | No biological exposure limits noted for the ingredient(s). |
| Appropriate engineering controls | Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing. |
| Individual protection measures, such as personal protective equipment | |
| Eye/face protection | Unvented, tight fitting goggles should be worn in dusty areas. |
| Skin protection | |
| Hand protection | Wear appropriate chemical resistant gloves. |
| Other | Wear suitable protective clothing. |
| Respiratory protection | Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. |
| Thermal hazards | Wear appropriate thermal protective clothing, when necessary. |

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance Clear to white crystals, slightly damp in appearance

Physical state Solid.

Form Mixture of white, gray or clear crystalline solids.

Color White, gray or clear.

Odor None.

Odor threshold Not available.

pH Not available.

Melting point/freezing point 1473.8 °F (801 °C)

Initial boiling point and boiling range Not available.

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure Not available.

Vapor density Not available.

Relative density 1.25 (H₂O = 1)

Solubility(ies)

Solubility (water) 35 g/100 cc

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity Not available.

Other information

Molecular formula NaCl

Molecular weight 58.44

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.

Conditions to avoid Contact with incompatible materials. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).

Incompatible materials Avoid contact with strong acids. Avoid contact with 2-furan percarboxylic acid. Will give off heat when in contact with water. Incompatible with alkaloids, lead acetate, antipyrine, chloral hydrate, resorcinol and pyrogallol.

Hazardous decomposition products Heating at high temperatures can produce toxic fumes. May evolve chlorine gas when in contact with strong acids.

11. Toxicological information

Information on likely routes of exposure

| | |
|---------------------|--|
| Inhalation | Inhalation of dusts may cause respiratory irritation. |
| Skin contact | Prolonged or repeated skin contact may cause irritation. If applied to damaged skin, absorption can occur with effects similar to those via ingestion. |
| Eye contact | Dust in the eyes will cause irritation. |
| Ingestion | Expected to be a low ingestion hazard. |

Symptoms related to the physical, chemical and toxicological characteristics

Eye and skin contact: Exposure may cause temporary irritation, redness, or discomfort. For ingestion, consuming less than a few grams would not be harmful. The following effects were observed after ingesting an excessive quantity: nausea and vomiting, diarrhea, cramps, restlessness, irritability, dehydration, water retention, nose bleed, gastrointestinal tract damage, fever, sweating, sunken eyes, high blood pressure, muscle weakness, dry mouth and nose, shock, cerebral edema (fluid on brain), pulmonary edema (fluid in lungs), blood cell shrinkage, and brain damage (due to dehydration of brain cells). Death is generally due to cardiovascular collapse or CNS damage.

Information on toxicological effects

| | |
|-----------------------|--|
| Acute toxicity | In some cases of confirmed hypertension, ingestion may result in elevated blood pressure. Ingestion of large amounts (greater than 0.1 pound) can cause gastrointestinal upset and irritation of the stomach. Rare cases of over exposure can lead to systemic toxicity related to the binding of ionized blood calcium. |
|-----------------------|--|

| Components | Species | Test Results |
|--|--|------------------------|
| Magnesium chloride hexahydrate (CAS 7791-18-6) | | |
| Acute | | |
| Dermal | | |
| LD50 | Rat | > 2000 mg/kg, 24 Hours |
| Other | | |
| LD50 | Mouse | 14 mg/kg |
| Sodium Chloride (CAS 7647-14-5) | | |
| Acute | | |
| Oral | | |
| LD50 | Mouse | 4000 mg/kg |
| | Rat | 3000 mg/kg |
| Other | | |
| LD50 | Mouse | 2602 mg/kg |
| Skin corrosion/irritation | Prolonged skin contact may cause temporary irritation. | |
| Serious eye damage/eye irritation | Dust in the eyes will cause irritation. | |
| Respiratory or skin sensitization | | |
| Respiratory sensitization | Not available. | |
| Skin sensitization | This product is not expected to cause skin sensitization. | |
| Germ cell mutagenicity | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. | |
| Carcinogenicity | This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. | |
| OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) | | |
| Not listed. | | |
| Reproductive toxicity | This product is not expected to cause reproductive or developmental effects. | |
| Specific target organ toxicity - single exposure | Not classified. | |
| Specific target organ toxicity - repeated exposure | Not classified. | |
| Aspiration hazard | Due to the physical form of the product it is not an aspiration hazard. | |

12. Ecological information

Ecotoxicity

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

| Components | | Species | Test Results |
|--|------|---|------------------------------|
| Magnesium chloride hexahydrate (CAS 7791-18-6) | | | |
| Aquatic | | | |
| Crustacea | EC50 | Calanoid copepod (Eudiaptomus padanus padanus) | 95 - 342 mg/l, 48 hours |
| Fish | LC50 | Fathead minnow (Pimephales promelas) | 1580 - 2740 mg/l, 96 hours |
| Sodium Chloride (CAS 7647-14-5) | | | |
| Aquatic | | | |
| Crustacea | EC50 | Water flea (Daphnia magna) | 340.7 - 469.2 mg/l, 48 hours |
| Fish | LC50 | Rainbow trout,donaldson trout (Oncorhynchus mykiss) | 4747 - 7824 mg/l, 96 hours |

Persistence and degradability

No data is available on the degradability of this product.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

Other adverse effects

None known.

13. Disposal considerations

Disposal instructions

Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations

Dispose in accordance with all applicable regulations.

Hazardous waste code

The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

15. Regulatory information

US federal regulations

All components are on the U.S. EPA TSCA Inventory List.
This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations**US. Massachusetts RTK - Substance List**

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|--|------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | Yes |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | Yes |
| Korea | Existing Chemicals List (ECL) | Yes |
| New Zealand | New Zealand Inventory | Yes |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 09-October-2014

Revision date 09-October-2014

Version # 02

HMIS® ratings

Health: 1
Flammability: 0
Physical hazard: 0
Personal protection: A

Disclaimer

All statements, technical information and recommendations contained herein are, the best of our knowledge, reliable and accurate; however no warranty, either expressed or implied is made with respect thereto, nor will any liability be assumed for damages resultant from the use of the material described.

It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. It is also the responsibility of the user to maintain a safe workplace. The user should consider the health hazards and safety information provided herein as a guide and should take the necessary steps to instruct employees and to develop work practice procedures to ensure a safe work environment.

This information is not intended as a license to operate under, or a recommendation to practice or infringe upon any patent of this Company or others covering any process, composition of matter or use.

Safety Data Sheet

Printing date 12/19/2016

Revised On 12/19/2016

1 Identification of the substance and manufacturer

Trade name: 1509224 GLOSS BLACK
Product category: PC9a Paints and coatings.
Manufacturer/Supplier: Lawson Products, Inc.
 8770 W. Bryn Mawr Avenue
 Chicago, IL 60631
 USA
 phone: 773-304-5050
Emergency telephone number: 888-426-4851

2 Hazard(s) identification

Classification of the substance or mixture

Flam. Aerosol 1 H222 Extremely flammable aerosol.
 Press. Gas H280 Contains gas under pressure; may explode if heated.
 Eye Irrit. 2A H319 Causes serious eye irritation.
 STOT SE 3 H336 May cause drowsiness or dizziness.
 STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

GHS Hazard pictograms



GHS02 GHS04 GHS07 GHS08

Signal word

Hazard statements

Danger
 Extremely flammable aerosol.
 Contains gas under pressure; may explode if heated.
 Causes serious eye irritation.

Precautionary statements

May cause drowsiness or dizziness.
 May cause damage to organs through prolonged or repeated exposure.
 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
 Do not spray on an open flame or other ignition source.
 Do not pierce or burn, even after use.
 Wash hands thoroughly after handling.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves/protective clothing/eye protection/face protection.
 Do not breathe dust/fume/gas/mist/vapors/spray.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Call a POISON CENTER/doctor if you feel unwell.
 If eye irritation persists: Get medical advice/attention.
 Store locked up.
 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
 Protect from sunlight. Store in a well-ventilated place.
 Store in a well-ventilated place. Keep container tightly closed.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical characterization: Mixtures

Chemical Description: This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:

| | | |
|-----------|-------------------------|--------|
| 67-64-1 | Acetone | 21.59% |
| 74-98-6 | propane | 15.74% |
| 106-97-8 | n-butane | 9.24% |
| 7727-43-7 | barium sulfate, natural | 9.17% |
| 2807-30-9 | Glycol Ether EP | 6.88% |
| 110-19-0 | Isobutyl Acetate | 6.82% |
| 123-86-4 | n-butyl acetate | 3.78% |
| 107-87-9 | Methyl Propyl Ketone | 1.47% |

4 First-aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact: Remove contaminated clothing. Wash exposed area with soap and water.
After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
After swallowing: Rinse mouth with water. Do not induce vomiting.
Most important symptoms and effects: Dizziness
Indication of any immediate medical attention needed: No further relevant information available.

5 Fire-fighting measures

Extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray.
Special hazards: Can form explosive gas-air mixtures.

(Contd. on page 2)

Safety Data Sheet

Printing date 12/19/2016

Revised On 12/19/2016

Trade name: 1509224 GLOSS BLACK

(Contd. of page 1)

Protective equipment for firefighters:

A respiratory protective device may be necessary.

6 Accidental release measures**Personal precautions, protective equipment and emergency procedures:**

Use respiratory protective device against the effects of fumes/dust/aerosol.

Methods and material for containment and cleaning up:

Absorb liquid components with liquid-binding material.

7 Handling and storage**Precautions for safe handling**

Use only in well ventilated areas.

Storage requirements:

Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions. Store locked up.

8 Exposure controls/personal protection**Components with limit values that require monitoring at the workplace:****67-64-1 Acetone**

| | |
|-------------------------|--|
| REL (United States GHS) | Long-term value: 2400 mg/m ³ , 1000 ppm |
| REL (United States GHS) | Long-term value: 590 mg/m ³ , 250 ppm |
| TLV (United States GHS) | Short-term value: 1187 mg/m ³ , 500 ppm |
| | Long-term value: 594 mg/m ³ , 250 ppm |
| | BEI |

74-98-6 propane

| | |
|-------------------------|--|
| REL (United States GHS) | Long-term value: 1800 mg/m ³ , 1000 ppm |
| REL (United States GHS) | Long-term value: 1800 mg/m ³ , 1000 ppm |
| TLV (United States GHS) | refer to Appendix F in TLVs&BEIs book; NIC-EX |

106-97-8 n-butane

| | |
|-------------------------|---|
| REL (United States GHS) | Long-term value: 1900 mg/m ³ , 800 ppm |
| TLV (United States GHS) | Short-term value: (2370) mg/m ³ , (1000) ppm |
| | NIC-EX |

7727-43-7 barium sulfate, natural

| | |
|-------------------------|--|
| REL (United States GHS) | Long-term value: 15* 5** mg/m ³ |
| | *total dust **respirable fraction |
| REL (United States GHS) | Long-term value: 10* 5** mg/m ³ |
| | *total dust **respirable fraction |
| TLV (United States GHS) | Long-term value: 5* mg/m ³ |
| | *inhalable fraction; E |

110-19-0 Isobutyl Acetate

| | |
|-------------------------|---|
| REL (United States GHS) | Long-term value: 700 mg/m ³ , 150 ppm |
| REL (United States GHS) | Long-term value: 700 mg/m ³ , 150 ppm |
| TLV (United States GHS) | Short-term value: 172 mg/m ³ , 150 ppm |
| | Long-term value: 238 mg/m ³ , 50 ppm |

123-86-4 n-butyl acetate

| | |
|-------------------------|---|
| REL (United States GHS) | Long-term value: 710 mg/m ³ , 150 ppm |
| REL (United States GHS) | Short-term value: 950 mg/m ³ , 200 ppm |
| | Long-term value: 710 mg/m ³ , 150 ppm |
| TLV (United States GHS) | Short-term value: 712 mg/m ³ , 150 ppm |
| | Long-term value: 238 mg/m ³ , 50 ppm |

107-87-9 Methyl Propyl Ketone

| | |
|-------------------------|---|
| REL (United States GHS) | Long-term value: 700 mg/m ³ , 200 ppm |
| REL (United States GHS) | Long-term value: 530 mg/m ³ , 150 ppm |
| TLV (United States GHS) | Short-term value: 529 mg/m ³ , 150 ppm |

Ingredients with biological limit values:**67-64-1 Acetone**

| | |
|-------------------------|----------------------------------|
| BEI (United States GHS) | 50 mg/L |
| | Medium: urine |
| | Time: end of shift |
| | Parameter: Acetone (nonspecific) |

Breathing equipment: A respirator is generally not necessary when using this product outdoors or in large open areas. In cases where short and/or long term overexposure exists, a charcoal filter respirator should be worn. If you suspect overexposure conditions exist, please consult an authority on chemical hygiene.**Hand protection:** Nitrile gloves.
Protective gloves. The glove material must be impermeable and resistant to the substance.**Eye protection:** Tightly sealed goggles

(Contd. on page 3)

Safety Data Sheet

Printing date 12/19/2016

Revised On 12/19/2016

Trade name: 1509224 GLOSS BLACK

(Contd. of page 2)

9 Physical and chemical properties

| | |
|---|--|
| Appearance: | Aerosol. |
| Odor: | Aromatic |
| Odor threshold: | Not determined. |
| pH-value: | Not determined. |
| Melting point/Melting range | Undetermined. |
| Boiling point: | -44 °C (-47 °F) |
| Flash point: | -19 °C (-2 °F) |
| Flammability (solid, gas): | Extremely flammable. |
| Decomposition temperature: | Not determined. |
| Auto igniting: | Product is not self-igniting. |
| Danger of explosion: | In use, may form flammable/explosive vapour-air mixture. |
| Lower Explosion Limit: | 1.7 Vol % |
| Upper Explosion Limit: | 10.9 Vol % |
| Vapor pressure: | Not determined. |
| Relative Density: | Between 0.77 and 0.85 (Water equals 1.00) |
| Vapor density | Not determined. |
| Evaporation rate | Not applicable. |
| Partition coefficient: n-octonal/water: | Not determined. |
| Solubility: | Not determined. |
| Viscosity: | Not determined. |
| VOC content (less exempt solvents): | 46.0 % |
| MIR Value: | 0.82 |
| Solids content: | 30.2 % |

10 Stability and reactivity

| | |
|-------------------------------------|--|
| Reactivity: | Stable at normal temperatures. |
| Conditions to avoid: | Do not allow can to exceed 120 degrees Fahrenheit. Do not warehouse in subfreezing temperatures. |
| Chemical stability: | Not fully evaluated. |
| Possibility of hazardous reactions: | No dangerous reactions known. |
| Incompatible materials: | No further relevant information available. |
| Hazardous decomposition: | No dangerous decomposition products known. |

11 Toxicological information

LD/LC50 values that are relevant for classification:

106-97-8 n-butane

Inhalative LC50/4 h 658 mg/l (rat)

110-19-0 Isobutyl Acetate

Oral LD50 4763 mg/kg (rbt)

123-86-4 n-butyl acetate

Oral LD50 14000 mg/kg (rat)

Inhalative LC50/4 h >21.0 mg/l (rat)

Information on toxicological effects: No data available.

Skin effects: No irritant effect.

Eye effects: Irritating effect.

Sensitization: No sensitizing effects known.

Carcinogenic categories

IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

NTP (National Toxicology Program)

None of the ingredients is listed.

12 Ecological information

| | |
|--------------------------------|---|
| Aquatic toxicity: | Hazardous for water, do not empty into drains. |
| Persistence and degradability: | The product is degradable after prolonged exposure to natural weathering processes. |
| Bioaccumulative potential: | No further relevant information available. |
| Mobility in soil: | No further relevant information available. |
| Other adverse effects: | No further relevant information available. |

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.

Recommendation: Completely empty cans should be recycled.

14 Transport information

UN-Number UN1950

(Contd. on page 4)

Safety Data Sheet

Printing date 12/19/2016

Revised On 12/19/2016

Trade name: 1509224 GLOSS BLACK

(Contd. of page 3)

| | |
|--------------------------------------|--|
| DOT | N/A |
| DOT | Consumer Commodity ORM-D |
| ADR | Aerosols, flammable |
| Transport hazard class(es): | 1950 Aerosols |
| Class | 2.1 |
| Special precautions for user: | Warning: Gases |
| EMS Number: | F-D,S-U |
| Stowage Code | SW1 Protected from sources of heat. SW22 For AEROSOLS with a maximum capacity of 1 litre: Category A. For AEROSOLS with a capacity above 1 litre: Category B. For WASTE AEROSOLS: Category C, Clear of living quarters. |
| Segregation Code | SG69 For AEROSOLS with a maximum capacity of 1 litre: Segregation as for class 9. Stow "separated from" class 1 except for division 1.4. For AEROSOLS with a capacity above 1 litre: Segregation as for the appropriate subdivision of class 2. For WASTE AEROSOLS: Segregation as for the appropriate subdivision of class 2. |
| Quantity limitations | On passenger aircraft/rail: 75 kg On cargo aircraft only: 150 kg |
| ADR | |
| Excepted quantities (EQ) | Code: E0 Not permitted as Excepted Quantity |
| IMDG | |
| Limited quantities (LQ) | 1L |
| Excepted quantities (EQ) | Code: E0 Not permitted as Excepted Quantity |
| Packaging Group: | -- |
| UN "Model Regulation": | UN 1950 AEROSOLS, 2.1 |

15 Regulatory information

SARA Section 355 (extremely hazardous substances):

None of the ingredients in this product are listed.

SARA Section 313 (Specific toxic chemical listings):

7727-43-7 barium sulfate, natural

CPSC: This product complies with 16 CFR 1303 and does not contain more than 90 ppm of lead.

California Proposition 65 chemicals known to cause cancer:

108-10-1 methyl isobutyl ketone

1333-86-4 Carbon black

100-41-4 ethyl benzene

CANADIAN ENVIRONMENTAL

PROTECTION ACT:

WHMIS Symbols for Canada:

All hazardous ingredients for this product appear on the Canadian Domestic Substance List.

A - Compressed gas

D2B - Toxic material causing other toxic effects



EPA:

| | | |
|-----------|-------------------------|-----------------------|
| 67-64-1 | Acetone | I |
| 7727-43-7 | barium sulfate, natural | D, CBD(inh), NL(oral) |
| 110-19-0 | Isobutyl Acetate | D |

16 Other information

Contact: Regulatory Affairs
Date of preparation / last revision 12/19/2016 / -

1. IDENTIFICATION

PRODUCT NAME: STAINLESS STEEL CLEANER (WATER BASED)
RECOMMENDED USE: STAINLESS STEEL CLEANER (WATER BASED)
RESTRICTIONS ON USE: DO NOT USE IN A MANNER INCONSISTENT WITH THE LABEL.
LABEL BRAND: IND/COM
SDS 064162 CODE 064162

U S CHEMICAL 316 HART STREET WATERTOWN, WI 53094 USA
MEDICAL EMERGENCY: 1-866-836-8855 USA
SPILL EMERGENCY: 1-800-424-9300 USA
PRODUCT INFORMATION: 1-800-558-9566 USA (8 A.M. TO 5 P.M. CST MONDAY TO FRIDAY)
INTERNET ADDRESS: WWW.USCHEMICAL.COM

2. HAZARD(S) IDENTIFICATION

CLASSIFICATION: FLAMMABLE AEROSOLS (CATEGORY 1),
 ASPIRATION HAZARD (CATEGORY 1), EYE IRRITATION (CATEGORY 2B)

LABEL ELEMENTS

SIGNAL WORD: DANGER

PICTOGRAMS: FLAME, HEALTH HAZARD



HAZARD STATEMENTS: EXTREMELY FLAMMABLE AEROSOL.

MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS. CAUSES EYE IRRITATION.

PRECAUTIONARY STATEMENTS: Avoid contact with eyes, skin, and clothing. Wash hands and affected areas thoroughly after handling. Keep away from heat, sparks, open flames and hot surfaces. No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use.

FIRST AID: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical attention. **IF ON SKIN:** Wash with plenty of water. If skin irritation occurs and persists, get medical attention. **IF SWALLOWED:** Immediately call a poison center or physician. **Do Not** induce vomiting. **IF INHALED:** Remove person to fresh air and keep comfortable for breathing.

EMERGENCY TELEPHONE: 1-866-836-8855

Storage: Protect from sunlight. Do not expose to temperatures exceeding 50°C (122°F). Store in a well-ventilated place. Store locked up.

Disposal: Dispose of contents in accordance with all federal, state and local applicable laws and regulations.

KEEP OUT OF REACH OF CHILDREN. FOR COMMERCIAL AND INDUSTRIAL USE ONLY.

HAZARDS NOT OTHERWISE CLASSIFIED: Not applicable.

3. COMPOSITION / INFORMATION ON INGREDIENTS

| HAZARDOUS INGREDIENT(S) | CAS # | WEIGHT % |
|---|------------|-----------|
| DISTILLATES (PETROLEUM) HYDROTREATED LIGHT | 64742-47-8 | 10.0-20.0 |
| WHITE MINERAL OIL | 8042-47-5 | 2.5-10.0 |
| POLYDIMETHYLSILOXANE | 63148-62-9 | 1.0-2.5 |
| LIQUEFIED PETROLEUM GAS | 68476-86-8 | 10.0-20.0 |
| EXACT PERCENTAGES ARE BEING WITHHELD AS TRADE SECRET INFORMATION. | | |
| STATE RIGHT TO KNOW: SEE SECTION 15 FOR STATE RTK CHEMICAL NAMES IN MIXTURE. | | |

4. FIRST-AID MEASURES

Page 2 of 4

IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. CONTINUE RINSING FOR AT LEAST 15 MINUTES. IF EYE IRRITATION PERSISTS, GET MEDICAL ATTENTION. **IF ON SKIN:** WASH WITH PLENTY OF WATER. IF SKIN IRRITATION OCCURS AND PERSISTS, GET MEDICAL ATTENTION. **IF SWALLOWED:** IMMEDIATELY CALL A POISON CENTER OR PHYSICIAN. **DO NOT** INDUCE VOMITING. **IF INHALED:** REMOVE PERSON TO FRESH AIR AND KEEP COMFORTABLE FOR BREATHING. **EMERGENCY TELEPHONE: 1-866-836-8855**

MOST IMPORTANT SYMPTOMS / EFFECTS: MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS. CAUSES EYE IRRITATION.

MEDICAL CONDITIONS AGGRAVATED: NONE KNOWN.

NOTE TO PHYSICIAN: CALL 1-866-836-8855 FOR EXPOSURE MANAGEMENT ASSISTANCE.

5. FIRE-FIGHTING MEASURES

CHEMICAL HAZARDS: EXTREMELY FLAMMABLE AEROSOL. ASPIRATION HAZARD. CAUSES EYE IRRITATION. PRESSURIZED CONTAINER MAY EXPLODE WHEN EXPOSED TO HEAT OR FLAME.

COMBUSTION PRODUCT HAZARDS: OXIDES OF CARBON AND OTHER FUMES.

METHODS: SELECT EXTINGUISHER AND METHODS BASED ON FIRE SIZE AND TYPE. COOL CONTAINERS EXPOSED TO HEAT WITH WATER SPRAY AND REMOVE CONTAINER IF NO RISK IS INVOLVED.

EQUIPMENT: WEAR SCBA AND FULL PROTECTIVE GEAR AS CONDITIONS WARRANT.

NFPA RATING: HEALTH-2/FLAMMABILITY-2/ INSTABILITY-0/SPECIAL HAZARD-N.AP.

SUITABLE EXTINGUISHERS: WATER FOG OR MIST SUITABLE FOR FIRE.

UNSUITABLE EXTINGUISHERS: DO NOT USE WATER JET AS THIS WILL SPREAD FIRE.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: EVACUATE UNPROTECTED PERSONNEL FROM AREA. WEAR PERSONAL PROTECTION INCLUDING RUBBER BOOTS. SEE SECTION 8. VENTILATE AREA IF NEEDED. BE CAREFUL NOT TO SLIP. WASH THOROUGHLY AFTER CLEAN-UP.

ENVIRONMENTAL PRECAUTIONS: PREVENT SPILL FROM ENTERING DRAIN, STORM SEWER OR SURFACE WATERWAY. PREVENT WATER AND SOIL CONTAMINATION.

CLEAN-UP METHODS: REMOVE ALL IGNITION SOURCES. IF CONTAINERS BEGIN TO LEAK THROUGH PUNCTURE OR DEFECTIVE PACKAGING, ALLOW IT TO DISCHARGE COMPLETELY IN A WELL VENTILATED AREA. SMALL SPILLS MAY BE WIPED UP AND RINSED WITH WATER. FOR LARGER SPILLS, DIKE TO CONTAIN. PUMP TO LABELED CONTAINER OR ABSORB SPILLAGE AND SCOOP UP WITH INERT ABSORBENT MATERIAL. AFTER SPILL COLLECTION, RINSE AREA WITH WATER AND FOLLOW WITH NORMAL CLEAN-UP PROCEDURES.

7. HANDLING AND STORAGE

HANDLING: PRESSURIZED CONTAINER. DO NOT PIERCE OR BURN EVEN AFTER USE. DO NOT USE IF SPRAY BUTTON IS MISSING OR DEFECTIVE. INSTRUCT PERSONNEL ABOUT PROPER USE, HAZARDS, PRECAUTIONS, AND FIRST AID MEASURES. AVOID INHALATION, INGESTION, AND CONTACT WITH EYES, SKIN AND CLOTHING. INTENTIONAL MISUSE BY CONCENTRATING AND INHALING THE PRODUCT CAN BE HARMFUL OR FATAL. USE IN A WELL-VENTILATED PLACE. AVOID SPRAYING TOWARDS FACE. AVOID OVERSPRAY DURING USE. HANDLE CAREFULLY TO AVOID DAMAGING CONTAINER.

STORAGE: PRESSURIZED CONTAINER. PROTECT FROM SUNLIGHT. DO NOT EXPOSE TO TEMPERATURES EXCEEDING 50°C (122°F). STORE IN A WELL-VENTILATED PLACE. STORE LOCKED UP. DO NOT PUNCTURE, INCINERATE OR CRUSH. KEEP AWAY FROM INCOMPATIBLE MATERIALS. KEEP FROM FREEZING. STORE AS LEVEL 1 AEROSOL (NFPA 30B).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Page 3 of 4

EXPOSURE LIMITS: DISTILLATES (PETROLEUM) HYDROTREATED LIGHT = NONE

WHITE MINERAL OIL = NONE

POLYDIMETHYLSILOXANE = NONE

LIQUEFIED PETROLEUM GAS = 1000 PPM TWA (ACGIH/OSHA)

ENGINEERING CONTROLS: NONE REQUIRED. GENERAL ROOM VENTILATION IS TYPICALLY ADEQUATE.**PERSONAL PROTECTION****EYES:** NONE REQUIRED WITH NORMAL USE.**HANDS:** NONE REQUIRED WITH NORMAL USE.**RESPIRATORY:** SUITABLE RESPIRATOR IF MISTS/VAPORS ARE NOT CONTROLLED BY VENTILATION.**FEET / BODY:** NONE REQUIRED WITH NORMAL USE.**9. PHYSICAL AND CHEMICAL PROPERTIES****APPEARANCE:** MILKY WHITE LIQUID**ODOR:** LEMON**pH CONCENTRATE:** 6.0**pH @ 2500 PPM SOLUTION:** N.AV.**pH @ USE DILUTION:** N.AV.**PHYSICAL STATE:** LIQUID+GAS (AEROSOL)**RELATIVE DENSITY (WATER):** 0.905**SOLUBILITY (WATER):** COMPLETE**VAPOR PRESSURE:** 35 to 50 PSIG @70°F**VAPOR DENSITY:** N. AV.**VISCOSITY:** VISCOUS**AUTO-IGNITION TEMPERATURE:** N.AV.**DECOMPOSITION TEMPERATURE:** N.AV.**EXPLOSIVE LIMITS (LEL/UEL):** NONE**EVAPORATION RATE:** N.AV.**FLAMMABILITY (SOLID, GAS):** N.AP.**FLASH POINT:** -156°F(-104.4°C) LPG ESTIMATED**INITIAL BOILING POINT/RANGE:** N.AV.**MELTING POINT/FREEZING POINT:** N.AV.**ODOR THRESHOLD:** N.AV.**PARTITION COEFF. (N-OCTANOL/WATER):** N.AV.**OTHER:** *LIQUID AND GAS IN AEROSOL CAN**AEROSOL SPRAY ENCLOSED SPACE DEFLAGRATION DENSITY:** NOT AVAILABLE**AEROSOL SPRAY IGNITION DISTANCE:** NOT AVAILABLE**10. STABILITY AND REACTIVITY****CHEMICAL STABILITY:** STABLE.**REACTIVITY:** NO HAZARD.**POSSIBILITY OF HAZARDOUS REACTIONS:** NONE KNOWN. WILL NOT POLYMERIZE.**CONDITIONS TO AVOID:** DO NOT STORE ABOVE 49°C OR 120°F. KEEP AWAY FROM HEAT, DIRECT SUNLIGHT, OPEN FLAMES OR SPARKS. AVOID SPRAYING ON HOT SURFACES.

FIRE, INTENSE HEAT OR DROPPING MAY CAUSE VIOLENT RUPTURE OF AEROSOL CAN.

MATERIALS TO AVOID: AVOID CONTACT WITH OTHER CLEANING PRODUCTS.**HAZARDOUS DECOMPOSITION PRODUCTS:** NONE UNDER NORMAL CONDITIONS.**11. TOXICOLOGICAL INFORMATION****ROUTES OF EXPOSURE:** EYES, SKIN, INGESTION, INHALATION.**INFORMATION ON ROUTES OF EXPOSURE:** NO LC50/LD50 TEST DATA ON MIXTURE.**ACUTE EFFECTS /SYMPTOMS****EYES:** CAUSES EYE IRRITATION. MAY CAUSE DISCOMFORT, REDNESS AND WATERING.**SKIN:** MAY BE MILDLY IRRITATING TO SENSITIVE SKIN. MAY CAUSE DRY SKIN.**INGESTION:** ASPIRATION INTO LUNGS BY INGESTION MAY CAUSE SERIOUS PNEUMONIA.**INHALATION:** SEE ASPIRATION HAZARD. NO ADVERSE EFFECTS WITH NORMAL USE.**ASPIRATION HAZARD:** MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS.**CHRONIC / OTHER EFFECTS:** NO REPORTABLE GERM CELL MUTAGENS, SKIN SENSITIZERS, RESPIRATORY SENSITIZERS OR REPRODUCTIVE TOXINS.**SPECIFIC TARGET ORGANS (SINGLE/REPEATED):** NONE KNOWN.**NUMERICAL MEASURES OF TOXICITY:** ATEmix (ORAL-RAT) = ABOVE 2000 MG / KG**CARCINOGENS:** NO REPORTABLE ACGIH, IARC, NTP, OR OSHA CARCINOGENS.

12. ECOLOGICAL INFORMATION

Page 4 of 4

ECOTOXICITY / CHEMICAL FATE: NOT AVAILABLE.**13. DISPOSAL CONSIDERATIONS**

DISPOSAL METHOD: IGNITABLE WASTE (RCRA CLASS D001). DISPOSE OF CONTENTS IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL APPLICABLE LAWS AND REGULATIONS. CONSULT STATE AND LOCAL AUTHORITIES FOR RESTRICTIONS ON DISPOSAL OF CHEMICAL WASTE. MANAGE CHEMICAL WASTES THROUGH AN APPROVED WASTE TREATMENT FACILITY. PRESSURIZED CONTAINER: DO NOT PIERCE OR BURN, EVEN AFTER USE. DO NOT INCINERATE. WHEN CONTENTS ARE DEPLETED CONTINUE TO DEPRESS BUTTON UNTIL ALL GAS IS EXPELLED. AEROSOL CYLINDER IS NOT REFILLABLE. GIVE TO A DISPOSAL SERVICE EQUIPPED TO SAFELY DISPOSE OF PRESSURIZED CONTAINERS. PLEASE RECYCLE PACKAGING WHENEVER POSSIBLE.

14. TRANSPORT INFORMATION**DOT / IMDG / TDG:** UN1950, AEROSOLS, 2.1, LTD. QTY.**15. REGULATORY INFORMATION**

EPA CERCLA RQ: NO
EPA REGISTERED: NO
OSHA HAZARDOUS: YES
PHOSPHORUS CONTENT: 0.00%
PROPOSITION 65: NO
SARA 311/312 HAZARDS: ACUTE, FIRE, PRESSURE
SARA 313 CHEMICALS: NO
STATE RIGHT TO KNOW: WATER/7732-18-5, DISTILLATES (PETROLEUM) HYDROTREATED LIGHT/64742-47-8, WHITE MINERAL OIL/8042-47-5, POLYDIMETHYLSILOXANE/63148-62-9, LIQUEFIED PETROLEUM GAS/68476-86-8
TSCA INVENTORY STATUS: ALL COMPONENTS ARE LISTED ON THE INVENTORY.
VOC: 14.40% CALCULATION METHOD USED IS BASED ON CALIFORNIA ARB STANDARD.

16. OTHER INFORMATION

PREPARATION DATE: 1-15-15 **PREPARED BY:** RC **REVISED SECTION:** 16
ABBREVIATIONS: N.AV. = NOT AVAILABLE N.AP. = NOT APPLICABLE

NOTICE TO READER

THIS DOCUMENT HAS BEEN PREPARED USING DATA FROM SOURCES CONSIDERED TECHNICALLY RELIABLE. IT DOES NOT CONSTITUTE A WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY OF THE INFORMATION CONTAINED WITHIN. ACTUAL CONDITIONS OF USE AND HANDLING ARE BEYOND SELLER'S CONTROL. USER IS RESPONSIBLE FOR EVALUATING ALL AVAILABLE INFORMATION WHEN USING PRODUCT FOR ANY PARTICULAR USE AND TO COMPLY WITH ALL FEDERAL, STATE, PROVINCIAL AND LOCAL LAWS AND REGULATIONS.

SECTION 1 - IDENTIFICATION**Product Identifier:** EnvirOx™ Mineral Shock Concentrate**Product Number:** 141**Recommended use of the chemical and restrictions on use:**
Descalant**Manufacturer/Supplier:**EnvirOx LLC P.O. Box 2327, 1938 E. Fairchild St., Danville, IL
61834-2327 USA Tel 1-217-442-8596**Emergency Phone Number:**

ChemTel Inc. 800-255-3924, +1-813-248-0585

SECTION 2 –HAZARD(S) IDENTIFICATION**Classification of the substance or mixture:**

Skin Irritation 2

Eye Irritation 2A

Signal Word – Warning**Hazard statements:**

H315 Causes skin irritation.

H319 Causes serious eye irritation.

Precautionary statements:

P264 Wash thoroughly after handling.

P280 Wear gloves and eye protection.

P302+P352 If on skin: Wash with plenty of water.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P332+P313 If skin irritation occurs: Get medical advice/attention

P337+P313 IF eye irritation persists: Get medical advice/attention.

Other hazards: None**Ingredients with Unknown Acute Toxicity:** None**SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS****Chemical characterization:** Mixture**Hazardous components:**

| Ingredient | CAS Number | Percent |
|---|-------------|-------------|
| Urea Hydrochloride | 506-89-8 | 25-50 |
| N-Dodecanoyl-N-methylglycine, sodium salt | 137-16-6 | 2.5-10 |
| Proprietary Organic Salt Additive | Proprietary | <=2.5 |
| Dipropylene glycol monomethyl ether | 34590-94-8 | 5.00 – 7.00 |

SECTION 4 - FIRST-AID MEASURES

Exact percentages and identities are withheld as trade secrets.

Description of necessary measures:**After inhalation:** Supply fresh air. In case of irregular breathing or respiratory arrest provide artificial respiration. Seek medical treatment in case of complaints.**After skin contact:** Immediately rinse with water. If skin irritation continues, consult a doctor. Seek immediate medical help for blistering or open wounds. Immediately remove any clothing soiled by the product.**After eye contact:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then, continue rinsing eye. Call a poison control center or doctor for treatment advice.**After swallowing:** Rinse out mouth and then drink plenty of water. Do not induce vomiting; call for medical help immediately.**Most important symptoms and effects, both acute and delayed:** Breathing difficulty, coughing, cramp, nausea, acidosis, disorientation. Danger of gastric perforation. Danger of pulmonary edema. Danger of impaired breathing. Danger of disturbed cardiac rhythm.

Indication of any immediate medical attention and special treatment needed: Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident. If necessary oxygen respiration treatment. Later observation for pneumonia and pulmonary edema. In cases of irritation to the lungs, initial treatment with cortical steroid inhalants.

SECTION 5 - FIRE-FIGHTING MEASURES

Suitable extinguishing media: : CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Unsuitable extinguishing media: None. **Special hazards arising from the substance or mixture:** During heating or in case of fire poisonous gases are produced. Hydrogen chloride (HCl). In certain fire conditions, traces of other toxic gases cannot be excluded.

Special protective equipment and precautions for fire-fighters: Wear self-contained respiratory protective device. Wear fully protective suit. Cool endangered receptacles with water spray.

SECTION 6 - ACCIDENTAL RELEASE MEASURES:

Personal precautions, protective equipment and emergency procedures: Use respiratory protective device against the effects of fumes/dust/aerosol. Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation. Particular danger of slipping on leaked/spilled product. **Methods and material for containment and cleaning up:** Use limestone to neutralize and absorb spill. Dispose contaminated material as waste according to item 13. Clean the affected area carefully; suitable cleaners are: Warm water.

SECTION 7 - HANDLING AND STORAGE

Precautions for safe handling: Ensure good ventilation/exhaustion at the workplace. Prevent formation of aerosols. Avoid splashes or spray in enclosed areas. **Conditions for safe storage, including any incompatibilities:** Store in a cool location. Avoid storage near extreme heat, ignition sources or open flame. Unsuitable material for receptacle: steel. Unsuitable material for receptacle: aluminum. Store only in the original receptacle. Store away from foodstuffs. Do not store together with alkalis (caustic solutions). Store away from metals. Store in cool, dry conditions in well-sealed receptacles. Store receptacle in a well ventilated area. Keep receptacle tightly sealed.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters:. The following limits apply:

| Chemical Name | ACGIH | OSHA PEL |
|-------------------------------------|------------------------|----------|
| Dipropylene glycol monomethyl ether | 100 ppm 8 hour TLV | 100 ppm |
| | 150 ppm 15 minute STEL | |

Appropriate engineering controls: No further information available. Personal protective equipment: **Respiratory protection:** Not necessary if room is well-ventilated. Use suitable respiratory protective device when aerosol or mist is formed. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device in case of insufficient ventilation. For spills, respiratory protection may be advisable. **Protection of hands:** Protective gloves, Butyl rubber or Neoprene gloves Eye protection: Safety glasses. Avoid contact with eyes.

Body protection: Acid resistant protective work clothing.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|--------------------------------|------------------------------|--|----------------------------------|
| Appearance: | Form: Liquid Color: Clear | Explosive Limits | Upper: Not Determined |
| Odor: | Light | Vapor pressure: | 23 hPa (17 mm Hg) |
| Odor threshold: | Not determined | Vapor density: | Not determined |
| pH value at 20 °C (68 °F): | <1 | Relative Density: | 1.100 |
| Melting point/Melting range: | Undetermined | Solubility: | Fully miscible |
| Boiling point/Boiling range: | 212 °F / 100 °C | Partition coefficient (noctanol/water): | Not determined |
| Flash point: | Not applicable | Auto-ignition temperature: | >500 °F / >260 °C (Estimated) |
| Evaporation rate: | Not determined | Decomposition temperature: | Not determined |
| Flammability (solid, gaseous): | Not applicable | Viscosity: | Not determined |
| Explosive Limits | Lower: Not Determined | | |

SECTION 10 - STABILITY AND REACTIVITY

Reactivity: No further relevant information available. **Chemical stability:** No decomposition if used and stored according to specifications. **Possibility of hazardous reactions:** Toxic fumes may be released if heated above the decomposition point. Corrosive action on metals. Possible development of hydrochloric acid in humid air. Violent reaction with concentrated alkali and oxidizing

agents. **Incompatible materials:** Caution! Do not use in conjunction with other products. Dangerous gases (chlorine) may be given off. **Hazardous decomposition products:** Hydrogen chloride (HCl), chlorine, carbon monoxide and carbon dioxide, nitrogen oxides

SECTION 11 - TOXICOLOGICAL INFORMATION

Information on likely routes of exposure: **Inhalation:** Slight irritant effect on mucous membranes. **Ingestion:** Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach. **Skin contact:** Irritant effect on skin and mucous membranes. **Eye Contact:** Irritating effect. **Symptoms related to the physical, chemical and toxicological characteristics:** No further information available. **Delayed and immediate effects and also chronic effects from short and long term exposure:** No further information available. **Measures of toxicity:** 506-89-8 Urea Hydrochloride - Oral LD50 1100 mg/kg (rat)

Carcinogenic categories:

| | |
|--|-------------------------------------|
| NTP(National ToxicologyProgram): | None of the ingredients are listed. |
| IARC (International Agency for Research on Cancer): | None of the ingredients are listed. |
| OSHA(Occupational Safety and Health Administration): | None of the ingredients are listed. |

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:

Aquatic toxicity: 506-89-8 Urea Hydrochloride - EC50 70-100 mg/kg (daphnia) **Terrestrial toxicity:** No further relevant information available. **Persistence and degradability:** No further relevant information available.

Bioaccumulative potential: No further relevant information available. **Mobility in soil:** No further relevant information available. **Other adverse effects:** Harmful to fish. Must not reach bodies of water or drainage ditch undiluted or unneutralized. Harmful to aquatic organisms

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste disposal methods: Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations. Can be disposed of with household garbage with prior chemical-physical or biological treatment following consultation with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations. **Contaminated packaging:** Disposal must be made according to official regulations. **Recommended cleansing agents:** Water only.

SECTION 14 - TRANSPORT INFORMATION

This product is not regulated when shipped according to DOT rules in the US.

| | |
|--|-----------------|
| UN number (DOT, IMDG, IATA): | Not applicable |
| UN proper shipping name (DOT, IMDG, IATA): | Not applicable |
| Transport hazard class(es) (DOT, IMDG, IATA): | Not applicable |
| Packing group (DOT, IMDG, IATA): | Not applicable |
| Environmental hazards: Marine pollutant (Yes/No): | No |
| Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: | Not applicable. |
| Special precautions for user: | Not applicable. |

SECTION 15 - REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture: United States (USA) SARA

| | |
|---|-------------------------------------|
| Section 355 (extremely hazardous substances): | None of the ingredients are listed. |
| Section 313 (specific toxic chemical listings): | None of the ingredients are listed. |
| TSCA (Toxic Substances Control Act): | All ingredients are listed. |

Proposition 65 (California):

| | |
|---|-------------------------------------|
| Chemicals known to cause cancer: | None of the ingredients are listed. |
| Chemicals known to cause reproductive toxicity for females: | None of the ingredients are listed. |
| Chemicals known to cause reproductive toxicity for males: | None of the ingredients are listed. |
| Chemicals known to cause developmental toxicity | None of the ingredients are listed. |

Carcinogenic Categories:

| | |
|---------------------------------------|-------------------------------------|
| EPA(Environmental Protection Agency): | None of the ingredients are listed. |
|---------------------------------------|-------------------------------------|

Chemical safety assessment: A chemical safety assessment has not been carried out.

SECTION 16 - OTHER INFORMATION

Disclaimer: EnvirOx LLC cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.



SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION

Product Identifier: EnvirOx™ Glass & General Surface Cleaner RTU (Formerly Glass Safe)

Product Number: 140

Recommended use of the chemical and restrictions on use:
Glass Cleaner

Manufacturer/Supplier:

EnvirOx LLC P.O. Box 2327, 1938 E. Fairchild St., Danville, IL 61834-2327 USA Tel 1-217-442-8596

Emergency Phone Number:

ChemTel Inc. 800-255-3924, +1-813-248-0585

SECTION 2 –HAZARD(S) IDENTIFICATION

Classification of the substance or mixture:

The product is not classified according to OSHA GHS regulations within the United States

Signal Word – Not Regulated.

Hazard statements: Not Regulated.

Precautionary statements: Not Regulated.

Other hazards: None

Ingredients with Unknown Acute Toxicity: None

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization: Mixture

Hazardous components: None in reportable quantities.

SECTION 4 - FIRST-AID MEASURES

Description of necessary measures:

After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact: Clean with water and soap. If skin irritation continues, consult a doctor.

After eye contact: Remove contact lenses if worn. Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing: Rinse out mouth and then drink plenty of water. Do not induce vomiting; call for medical help immediately.

Most important symptoms and effects, both acute and delayed: Gastric or intestinal disorders.

Indication of any immediate medical attention and special treatment needed: No special measures required. .

SECTION 5 - FIRE-FIGHTING MEASURES

Suitable extinguishing media: CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Unsuitable extinguishing media: None.

Special hazards arising from the substance or mixture: None.

Special protective equipment and precautions for fire-fighters: No special measures required.

SECTION 6 - ACCIDENTAL RELEASE MEASURES:

Personal precautions, protective equipment and emergency procedures: No special measures required.

Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Clean the affected area carefully; suitable cleaners are: Warm water.

SECTION 7 - HANDLING AND STORAGE

Precautions for safe handling: No special measures required.

Conditions for safe storage, including any incompatibilities: Avoid storage near extreme heat, ignition sources or open flame. Store in cool, dry conditions in well-sealed receptacles. Protect from frost.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Appropriate engineering controls: No further relevant information available.

Personal protective equipment:

Respiratory protection: Not required under normal conditions of use. **Protection of hands:** Not required under normal conditions of use.

Eye protection: Safety glasses.

Body protection: Not required under normal conditions of use.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|--------------------------------|------------------------------|--|-----------------------|
| Appearance: | Form: Liquid Color: Clear | Explosive Limits | Upper: Not Determined |
| Odor: | Odorless | Vapor pressure: | 23 hPa (17 mm Hg) |
| Odor threshold: | Not determined | Vapor density: | Not determined |
| pH value at 20 °C (68 °F): | 4.4 ± 0.5 | Relative Density: | 0.993 |
| Melting point/Melting range: | Undetermined | Solubility: | Fully miscible |
| Boiling point/Boiling range: | 212 °F / 100 °C | Partition coefficient (noctanol/water): | Not determined |
| Flash point: | Not applicable | Auto-ignition temperature: | Not determined |
| Evaporation rate: | Not determined | Decomposition temperature: | Not determined |
| Flammability (solid, gaseous): | Not applicable | Viscosity: | Not determined |
| Explosive Limits | Lower: Not Determined | | |

SECTION 10 - STABILITY AND REACTIVITY

Reactivity: No further relevant information available.

Chemical stability: No decomposition if used and stored according to specifications.

Possibility of hazardous reactions: No dangerous reactions known.

Conditions to avoid: No further relevant information available.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: Possible in traces.

SECTION 11 - TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Inhalation: No irritant effect on mucous membranes.

Ingestion: None under normal use.

Skin contact: No irritant effect on skin.

Eye Contact: Slight irritant effect on eyes.

Symptoms related to the physical, chemical and toxicological characteristics: No further relevant information available.

Delayed and immediate effects and also chronic effects from short and long term exposure: Long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent. Repeated exposure may cause skin dryness or cracking.

Measures of toxicity: No further relevant information available.

Carcinogenic categories:

| | |
|--|-------------------------------------|
| NTP(National ToxicologyProgram): | None of the ingredients are listed. |
| IARC (International Agency for Research on Cancer): | None of the ingredients are listed. |
| OSHA(Occupational Safety and Health Administration): | None of the ingredients are listed. |

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:

Aquatic toxicity: No further relevant information available.

Terrestrial toxicity: No further relevant information available.

Persistence and degradability: No further relevant information available.

Bioaccumulative potential: No further relevant information available.

Mobility in soil: No further relevant information available.

Other adverse effects: No further relevant information available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste disposal methods: Can be disposed of with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.

Contaminated packaging: Disposal must be made according to official regulations.

Recommended cleansing agents: Water only

SECTION 14 - TRANSPORT INFORMATION

| | |
|--|-----------------|
| UN number (DOT, IMDG, IATA): | Not Regulated. |
| UN proper shipping name (DOT, IMDG, IATA): | Not Regulated. |
| Transport hazard class(es) (DOT, IMDG, IATA): | Not Regulated. |
| Packing group (DOT, IMDG, IATA): | Not Regulated. |
| Environmental hazards: Marine pollutant (Yes/No): | No |
| Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: | Not applicable. |
| Special precautions for user: | Not applicable. |

SECTION 15 - REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture:

United States (USA) SARA

| | |
|---|-------------------------------------|
| Section 355 (extremely hazardous substances): | None of the ingredients are listed. |
| Section 313 (specific toxic chemical listings): | None of the ingredients are listed. |
| TSCA (Toxic Substances Control Act): | All ingredients are listed. |

Proposition 65 (California):

| | |
|---|-------------------------------------|
| Chemicals known to cause cancer: | None of the ingredients are listed. |
| Chemicals known to cause reproductive toxicity for females: | None of the ingredients are listed. |
| Chemicals known to cause reproductive toxicity for males: | None of the ingredients are listed. |
| Chemicals known to cause developmental toxicity | None of the ingredients are listed. |

Carcinogenic Categories:

| | |
|---------------------------------------|-------------------------------------|
| EPA(Environmental Protection Agency): | None of the ingredients are listed. |
|---------------------------------------|-------------------------------------|

Chemical safety assessment: A chemical safety assessment has not been carried out.

SECTION 16 - OTHER INFORMATION

Revision Date 15 – February – 2016

Disclaimer: EnvirOx LLC cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.



SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION

Product Identifier: EnvirOx H2Orange2 Concentrate 117

Other means of identification

Product code: 117

Product registration number: 69268-2

Recommended use: Oxidizing Multipurpose Cleaner, Degreaser and Sanitizer (Non-Food Contact Surfaces), Virucide and Deodorizer for Hard, Non-Porous Surfaces

Recommended restrictions: None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer/Supplier EnvirOx LLC

Address P.O. Box 2327

1938 E. Fairchild St.

Danville, IL 61834-2327 USA

Telephone 1-217-442-8596

Emergency Phone Number: ChemTel Inc. 800-255-3924, +1-813-248-0585

SECTION 2 –HAZARD(S) IDENTIFICATION

Physical hazards: Not classified.

OSHA defined hazards: Not classified.

Classification of the substance or mixture:



Eye Irritation Category 2A

Signal Word – Warning

Hazard statement: Causes serious eye irritation.

Precautionary statements:

Prevention: Wash thoroughly after handling. Wear eye/face protection.

Response: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Storage: Store away from incompatible materials.

Disposal: Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC): Repeat or prolonged use may result in contact dermatitis in sensitive individuals.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures

| Chemical Name | CAS Number | % |
|-------------------|------------|------------|
| Hydrogen peroxide | 7722-84-1 | 3.75-4.15% |
| Orange Oil | 8008-57-9 | <2% |

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

SECTION 4 - FIRST-AID MEASURES

Inhalation: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then, give artificial respiration, preferably mouth-to-mouth. Call a poison control center or doctor for further treatment advice.

Skin contact: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

Eye contact: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then, continue rinsing eye. Call a poison control center or doctor for treatment advice.

Ingestion: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Most important symptoms/effects, acute and delayed: Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Indication of immediate medical attention and special treatment needed: Probable mucosal damage may contraindicate the use of gastric lavage.

General information: Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

SECTION 5 - FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions: Move containers from fire area if you can do so without risk.

Specific methods: Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards: No unusual fire or explosion hazards noted.

SECTION 6 - ACCIDENTAL RELEASE MEASURES:

Personal precautions, protective equipment and emergency procedures: Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up: To clean up spill, flood area with large quantities of water. Product or rinsates that cannot be used should be diluted with water before disposal in a sanitary sewer.

Environmental precautions: Avoid discharge into drains, water courses or onto the ground.

SECTION 7 - HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with eyes. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Use care in handling/storage.

Conditions for safe storage, including any incompatibilities: Store this product in a cool dry area, away from direct sunlight and heat to avoid deterioration. Avoid freezing conditions. Avoid high temperatures. Do not exceed storage temperatures of 95°F. Best storage temperatures are between 35°F and 85°F. Overheating in storage may result in increased degradation of product, which will decrease product effectiveness. Keep concentrate away from incompatible materials. Refillable container: Refill this container with pesticide only. Do not reuse this container for any other purpose.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| Components | Type | Value |
|-----------------------------------|------|--------------------------------|
| Hydrogen peroxide (CAS 7722-84-1) | PEL | 1.4 mg/m ³ 1 ppm |

US. ACGIH Threshold Limit Values

| Components | Type | Value |
|-----------------------------------|------|-------|
| Hydrogen peroxide (CAS 7722-84-1) | TWA | 1 ppm |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value |
|-----------------------------------|------|--------------------------------|
| Hydrogen peroxide (CAS 7722-84-1) | TWA | 1.4 mg/m ³ 1 ppm |

Biological limit values: No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls: No further information available.

Individual protection measures, such as personal protective equipment

Eye/face protection: Safety glasses.

Skin protection

Hand protection: Rubber gloves, Butyl rubber, Nitrile rubber, or Neoprene gloves.

Other: Protective work clothing.

Respiratory protection: Not required under normal conditions of handling. Use suitable respiratory protective device when aerosol or mist is formed.

Thermal hazards: Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|--------------------------------|---|---|----------------|
| Appearance: | Physical State: Liquid Form: Liquid Color: Clear | Flammability limit – upper (%) | Not available. |
| Odor: | Citrus | Explosive limit - lower (%) | Not available. |
| Odor threshold: | Not determined | Explosive limit - upper (%) | Not available. |
| pH | 4.4 (20°C) | Vapor pressure: | Not available. |
| Melting point/Melting range: | Undetermined | Vapor density: | Not available. |
| Boiling point/Boiling range: | 212 °F / 100 °C | Relative Density: | Not available. |
| Flash point: | Not applicable | Solubility: | Fully miscible |
| Evaporation rate: | Not available. | Partition coefficient (n-octanol/water): | Not available. |
| Flammability (solid, gaseous): | Not applicable | Auto-ignition temperature: | Not available. |
| Flammability limit – lower (%) | Not available. | Decomposition temperature: | Not available. |
| | | Viscosity: | Not available. |

SECTION 10 - STABILITY AND REACTIVITY

Reactivity: The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability: Material is stable under normal conditions.

Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use.

Conditions to avoid: Contact with incompatible materials.

Incompatible materials: Strong oxidizing agents.

Hazardous decomposition products: No hazardous decomposition products are known.

SECTION 11 - TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Inhalation: Prolonged inhalation may be harmful.

Skin contact: No adverse effects due to skin contact are expected.

Eye Contact: Causes serious eye irritation.

Ingestion: Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics: Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Information on toxicological effect: Acute toxicity

| Components | Species | Test Results |
|-----------------------------------|---------|-----------------|
| Hydrogen peroxide (CAS 7722-84-1) | | |
| Acute | | |
| <i>Dermal</i> | | |
| LD50 | Rabbit | > 2000 mg/kg |
| <i>Inhalation</i> | | |
| LC50 | Rat | 2 mg/l, 4 Hours |
| <i>Oral</i> | | |
| LD50 | Rat | 376 mg/kg |

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

RESPIRATORY OR SKIN SENSITIZATION

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Hydrogen peroxide (CAS 7722-84-1) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

| Components | Species | Test Results |
|-----------------------------------|--|---------------------|
| Hydrogen peroxide (CAS 7722-84-1) | | |
| Aquatic | | |
| Crustacea LC50 | Daphnia | 24 mg/l, 48 hours |
| Fish LC50 | Bluegill (Lepomis macrochirus) | 26.7 mg/l, 96 Hours |
| | Chameleon goby (Tridentiger trigonocephalus) | 155 mg/l, 24 Hours |
| | Jack Mackerel (Trachurus japonicus) | 89 mg/l, 24 Hours |
| | Rainbow trout,donaldson trout | 22 mg/l, 96 Hours |

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal instructions PESTICIDE DISPOSAL: Do not contaminate food or feed by storage, disposal or cleaning of equipment. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging CONTAINER HANDLING: If Empty: Do not reuse container. Place in trash or offer for recycling if available. If Partially Filled: Call your local solid waste for disposal instructions. Never place unused product down any indoor or outdoor drain. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with waterand recap. Shake for 10 seconds. Pour rinsate into application or a mix procedure two more times. Refillable containers - cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. If in plastic bag with original box, discard in trash, sanitary landfill or by incineration, or if allowed by State and Local Authorities, by burning. If burning, stay out of smoke.

SECTION 14 - TRANSPORT INFORMATION

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not Established

SECTION 15 - REGULATORY INFORMATION

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard Categories

Immediate Hazard – Yes
Delayed Hazard – No
Fire Hazard – No
Pressure Hazard – No
Reactivity Hazard – No

SARA 302 Extremely hazardous substance

| Chemical name | CAS number | Reportable quantity (pounds) | Threshold planning quantity (pounds) | Threshold planning quantity, lower value (pounds) | Threshold planning quantity, upper value (pounds) |
|-------------------|------------|---------------------------------|--|---|---|
| Hydrogen peroxide | 7722-84-1 | 1000 | 1000 | | |

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting) Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

FIFRA Information

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

Signal word CAUTION

Hazard statement

PRECAUTIONARY STATEMENTS - HAZARDS TO HUMAN AND DOMESTIC ANIMALS

Causes moderate eye damage. Harmful if swallowed, absorbed through the skin, or inhaled. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling.

After product is diluted in accordance with directions for use, safety glasses or other eye protection are not required. Product after dilution according to directions, is non-irritating.

US state regulations

US. Massachusetts RTK - Substance List

Hydrogen peroxide (CAS 7722-84-1)

US. New Jersey Worker and Community Right-to-Know Act

Hydrogen peroxide (CAS 7722-84-1)

US. Pennsylvania Worker and Community Right-to-Know Law

Hydrogen peroxide (CAS 7722-84-1)

US. Rhode Island RTK

Hydrogen peroxide (CAS 7722-84-1)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

SECTION 16 - OTHER INFORMATION

Revision Date

15 – February – 2016

Disclaimer: EnvirOx LLC cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

SECTION 1 - IDENTIFICATION

Product Identifier: EnviroX™ Green Certified: H2O2 Orange Tile and Grout Renovator (Formerly Grout Safe)

Product Number: 130

Recommended use of the chemical and restrictions on use:
Cleaning agent / Cleaner

Manufacturer/Supplier:

EnviroX LLC P.O. Box 2327, 1938 E. Fairchild St., Danville, IL 61834-2327 USA Tel 1-217-442-8596

Emergency Phone Number:

ChemTel Inc. 800-255-3924, +1-813-248-0585

SECTION 2 –HAZARD(S) IDENTIFICATION

Classification of the substance or mixture:



Eye Damage Category 1

Signal Word – Danger

Hazard statements:

H319 Causes serious eye damage.

Precautionary statements:

P264 Wash thoroughly after handling.

P280 Wear protective gloves / eye protection.

P302+P352 IF ON SKIN: Wash with plenty of water.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards: None

Ingredients with Unknown Acute Toxicity: None

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization: Mixture

Hazardous components:

| Ingredient | CAS Number | Percent |
|---|------------|---------|
| Hydrogen peroxide | 7722-84-1 | 2.5-10 |
| Isopropylamine Dodecylbenzene Sulfonate | 68584-24-7 | 2.5-10 |
| Orange oil | 8008-57-9 | <=2.5 |

Exact percentages and identities are withheld as trade secrets.

SECTION 4 - FIRST-AID MEASURES

Description of necessary measures:

After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact: Immediately remove any clothing soiled by the product. Immediately wash with water and soap and rinse thoroughly. If skin irritation continues, consult a doctor.

After eye contact: Remove contact lenses if worn. Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing: Rinse out mouth and then drink plenty of water. Do not induce vomiting; call for medical help immediately.

Most important symptoms and effects, both acute and delayed: Allergic reactions. Irritant to eyes. Causes mild skin irritation.

Indication of any immediate medical attention and special treatment needed: Treat skin and mucous membrane with

SECTION 5 - FIRE-FIGHTING MEASURES

antihistamine and corticoid preparations. Contains Orange oil. May produce an allergic reaction.

Suitable extinguishing media: : Use firefighting measures that suit the environment.

Unsuitable extinguishing media: None.

Special hazards arising from the substance or mixture: Formation of toxic gases is possible during heating or in case of fire.

Special protective equipment and precautions for fire-fighters: Wear self-contained respiratory protective device. Wear fully protective suit.

SECTION 6 - ACCIDENTAL RELEASE MEASURES:

Personal precautions, protective equipment and emergency procedures: Wear protective equipment. Keep unprotected persons away. For large spills, use respiratory protective device against the effects of fumes/dust/aerosol. Ensure adequate ventilation. Particular danger of slipping on leaked/spilled product.

Methods and material for containment and cleaning up: Absorb liquid components with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Ensure adequate ventilation. Send for recovery or disposal in suitable receptacles.

SECTION 7 - HANDLING AND STORAGE

Precautions for safe handling: Prevent formation of aerosols. Avoid splashes or spray in enclosed areas. Use only in well ventilated areas.

Conditions for safe storage, including any incompatibilities: Store away from foodstuffs. Do not store together with alkalis (caustic solutions). Store in cool, dry conditions in well-sealed receptacles. Protect from frost.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters:

| Component | OSHA PEL | ACGIH TLV | WEEL (USA) |
|----------------------------------|----------|-----------|----------------------|
| CAS: 7722-84-1 hydrogen peroxide | 1 ppm | 1ppm | |
| CAS: 57-55-6 Propylene Glycol | | | 10 mg/m ³ |

Appropriate engineering controls: No further information available.

Personal protective equipment:

Respiratory protection: Not required under normal conditions of use. Use suitable respiratory protective device when aerosol or mist is formed. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable. **Protection of hands:** Protective gloves. Wash hands before breaks and at the end of work **Eye protection:** Safety glasses **Body protection:** Protective work clothing.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|--------------------------------|-------------------------------|--|-----------------------|
| Appearance: | Form: Liquid Color: Orange | Explosive Limits | Upper: Not Determined |
| Odor: | Citrus; fragrance added | Vapor pressure: | 23 hPa (17 mm Hg) |
| Odor threshold: | Not determined | Vapor density: | Not determined |
| pH value at 20 °C (68 °F): | 4.1 ± 0.5 | Relative Density: | 1.015 |
| Melting point/Melting range: | Undetermined | Solubility: | Fully miscible |
| Boiling point/Boiling range: | 212 °F / 100 °C | Partition coefficient (noctanol/water): | Not determined |
| Flash point: | Not applicable | Auto-ignition temperature: | Not determined |
| Evaporation rate: | Not determined | Decomposition temperature: | Not determined |
| Flammability (solid, gaseous): | Not applicable | Viscosity: | Not determined |
| Explosive Limits | Lower: Not Determined | | |

SECTION 10 - STABILITY AND REACTIVITY

Reactivity: No further relevant information available. **Chemical stability:** No decomposition if used and stored according to specifications. **Possibility of hazardous reactions:** Reacts with strong acids. Reacts with strong oxidizing agents. Reacts with reducing agents. Reacts with strong alkali. **Conditions to avoid:** No further relevant information available. **Incompatible materials:** No further relevant information available. **Hazardous decomposition products:** Carbon monoxide and carbon dioxide, Sulfur oxides (SO_x).

SECTION 11 - TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Inhalation: No irritant effect. **Ingestion:** None under normal use. **Skin contact:** No irritant effect. Sensitization possible through skin contact. **Eye Contact:** Irritating effect. **Symptoms related to the physical, chemical and toxicological characteristics:** No further relevant information available. **Delayed and immediate effects and also chronic effects from short and long term exposure:** Danger through skin absorption. Toxic and/or corrosive effects may be delayed up to 48 hours.

Measures of toxicity: 7722-84-1 Hydrogen Peroxide - Oral LD50 376 mg/kg (rat) - Inhalative LC50/4h 2.0 mg/l (rat)

Carcinogenic categories:

| | |
|----------------------------------|-------------------------------------|
| NTP(National ToxicologyProgram): | None of the ingredients are listed. |
|----------------------------------|-------------------------------------|

| | |
|--|-------------------------------------|
| IARC (International Agency for Research on Cancer): | None of the ingredients are listed. |
| OSHA(Occupational Safety and Health Administration): | None of the ingredients are listed. |

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:

Aquatic toxicity: No further relevant information available. **Terrestrial toxicity:** No further relevant information available.

Persistence and degradability: No further relevant information available. **Bioaccumulative potential:** No further relevant information available. **Mobility in soil:** No further relevant information available. **Other adverse effects:** Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste disposal methods: Small amounts may be diluted with plenty of water and washed away. Dispose of bigger amounts in accordance with Local Authority requirements. Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations. The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

Contaminated packaging: Disposal must be made according to official regulations.

Recommended cleansing agents: Water, if necessary with cleansing agents.

SECTION 14 - TRANSPORT INFORMATION

| | |
|--|-----------------|
| UN number (DOT, IMDG, IATA): | Not Regulated. |
| UN proper shipping name (DOT, IMDG, IATA): | Not Regulated. |
| Transport hazard class(es) (DOT, IMDG, IATA): | Not Regulated. |
| Packing group (DOT, IMDG, IATA): | Not Regulated. |
| Environmental hazards: Marine pollutant (Yes/No): | No |
| Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: | Not applicable. |
| Special precautions for user: | Not applicable. |

SECTION 15 - REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture: United States (USA) SARA

| | |
|---|-------------------------------------|
| Section 355 (extremely hazardous substances): | None of the ingredients are listed. |
| Section 313 (specific toxic chemical listings): | None of the ingredients are listed. |
| TSCA (Toxic Substances Control Act): | All ingredients are listed. |

Proposition 65 (California):

| | |
|---|-------------------------------------|
| Chemicals known to cause cancer: | None of the ingredients are listed. |
| Chemicals known to cause reproductive toxicity for females: | None of the ingredients are listed. |
| Chemicals known to cause reproductive toxicity for males: | None of the ingredients are listed. |
| Chemicals known to cause developmental toxicity | None of the ingredients are listed. |

Carcinogenic Categories:

| | |
|---------------------------------------|-------------------------------------|
| EPA(Environmental Protection Agency): | None of the ingredients are listed. |
|---------------------------------------|-------------------------------------|

Chemical safety assessment: A chemical safety assessment has not been carried out.

SECTION 16 - OTHER INFORMATION

Revision Date 15 – February – 2016

Disclaimer: EnvirOx LLC cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.



SAFETY DATA SHEET

1. Identification

Product identifier HERCULES Johni Rings

Other means of identification

Product code 7620E

Synonyms Johni Ring and Johni Ring Plus

Recommended use Sealing toilet bowl to flange

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company Name HCC Holdings, Inc. an Oatey Affiliate

Address 4700 West 160th Street
Cleveland, OH 44135

Telephone 216-267-7100

E-mail info@oatey.com

Transport Emergency Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887)

Emergency First Aid 1-877-740-5015

Contact person MSDS Coordinator

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

3. Composition/information on ingredients

Mixtures

| Chemical name | CAS number | % |
|---------------|------------|--------|
| Slack Wax | 64742-61-6 | 90-100 |

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Rinse with water. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

| | |
|---|---|
| Most important symptoms/effects, acute and delayed | Direct contact with eyes may cause temporary irritation. |
| Indication of immediate medical attention and special treatment needed | Treat symptomatically. |
| General information | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |
| 5. Fire-fighting measures | |
| Suitable extinguishing media | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂). |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | During fire, gases hazardous to health may be formed. |
| Special protective equipment and precautions for firefighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| Fire fighting equipment/instructions | Use water spray to cool unopened containers. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. |
| General fire hazards | No unusual fire or explosion hazards noted. |
| 6. Accidental release measures | |
| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. For personal protection, see section 8 of the SDS. |
| Methods and materials for containment and cleaning up | Stop the flow of material, if this is without risk. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS. |
| Environmental precautions | Avoid discharge into drains, water courses or onto the ground. |
| 7. Handling and storage | |
| Precautions for safe handling | Observe good industrial hygiene practices. |
| Conditions for safe storage, including any incompatibilities | Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). |
| 8. Exposure controls/personal protection | |
| Occupational exposure limits | No exposure limits noted for ingredient(s). |
| Biological limit values | No biological exposure limits noted for the ingredient(s). |
| Appropriate engineering controls | Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. |
| Individual protection measures, such as personal protective equipment | |
| Eye/face protection | Wear safety glasses with side shields (or goggles). |
| Skin protection | |
| Hand protection | Wear appropriate chemical resistant gloves. |
| Other | Wear suitable protective clothing. |
| Respiratory protection | In case of insufficient ventilation, wear suitable respiratory equipment. |
| Thermal hazards | Wear appropriate thermal protective clothing, when necessary. |
| General hygiene considerations | Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. |

9. Physical and chemical properties

Appearance

| | |
|-----------------------|--------|
| Physical state | Solid. |
| Form | Solid. |
| Color | Tan. |

| | |
|---|-------------------------|
| Odor | None. |
| Odor threshold | Not available. |
| pH | Not available. |
| Melting point/freezing point | Not available. |
| Initial boiling point and boiling range | Not determined |
| Flash point | > 212.0 °F (> 100.0 °C) |
| Evaporation rate | Not available. |
| Flammability (solid, gas) | Not available. |
| Upper/lower flammability or explosive limits | |
| Flammability limit - lower (%) | Not available. |
| Flammability limit - upper (%) | Not available. |
| Explosive limit - lower (%) | Not available. |
| Explosive limit - upper (%) | Not available. |
| Vapor pressure | Not available. |
| Vapor density | Not available. |
| Relative density | 0.84 +/- 0.05 |
| Solubility(ies) | |
| Solubility (water) | Not available. |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |
| Other information | |
| VOC (Weight %) | 0 g/l |

10. Stability and reactivity

| | |
|---|---|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. |
| Conditions to avoid | Contact with incompatible materials. |
| Incompatible materials | Strong oxidizing agents. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information

Information on likely routes of exposure

| | |
|---|--|
| Inhalation | No adverse effects due to inhalation are expected. |
| Skin contact | No adverse effects due to skin contact are expected. |
| Eye contact | Direct contact with eyes may cause temporary irritation. |
| Ingestion | Expected to be a low ingestion hazard. |
| Symptoms related to the physical, chemical and toxicological characteristics | Direct contact with eyes may cause temporary irritation. |

Information on toxicological effects

| | |
|--|--|
| Acute toxicity | Not available. |
| Skin corrosion/irritation | Prolonged skin contact may cause temporary irritation. |
| Serious eye damage/eye irritation | Direct contact with eyes may cause temporary irritation. |

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US federal regulations This product is an article pursuant to 29 CFR 1910.1200 and, as such, is not subject to the OSHA Hazard Communication Standard.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|---|------------------------|
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 23-April-2015
Revision date -
Version # 01
HMIS® ratings Health: 0
Flammability: 0
Physical hazard: 0

NFPA ratings



Disclaimer

HCC Holdings Inc. an Oatey Affiliate cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

1. Identification

Product identifier PROTECTIVE COATING

Other means of identification

Product code HIL00291

Recommended use Floor Finish

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Manufacturer

Company name HILLYARD INDUSTRIES

Address 302 North Fourth St.
St. Joseph, MO 64501

Contact person Regulatory Affairs

Telephone number (816) 233-1321 (Ext. 8285)

Fax (816) 383-8485

E-mail regulatoryaffairs@hillyard.com

Emergency telephone # (800) 424-9300

(Only in the event of chemical emergency involving a spill, leak, fire, exposure, or accident involving chemicals.)

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

Environmental hazards Hazardous to the aquatic environment, acute Category 3 hazard

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement Harmful to aquatic life.

Precautionary statement

Prevention Avoid release to the environment.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law in compliance with applicable federal, state and local requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

| Chemical name | Common name and synonyms | CAS number | % |
|--|--------------------------|------------|----------|
| Dipropylene glycol monomethyl ether | | 34590-94-8 | 3 - < 5 |
| 2-(2-ethoxyethoxy)ethanol | | 111-90-0 | 1 - < 3 |
| Tributoxyethyl Phosphate | | 78-51-3 | 1 - < 3 |
| Other components below reportable levels | | | 90 - 100 |

Material name: PROTECTIVE COATING

HIL00291 Version #: 01 Issue date: 03-05-2015

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

| | |
|---|---|
| Inhalation | Move to fresh air. Call a physician if symptoms develop or persist. |
| Skin contact | Wash off with soap and water. Get medical attention if irritation develops and persists. |
| Eye contact | Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Continue rinsing. |
| Ingestion | Drink water as a precaution. Get medical attention if any discomfort continues. |
| Most important symptoms/effects, acute and delayed | Direct contact with eyes may cause temporary irritation. |
| Indication of immediate medical attention and special treatment needed | Treat symptomatically. |
| General information | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |

5. Fire-fighting measures

| | |
|--|---|
| Suitable extinguishing media | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂). |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | During fire, gases hazardous to health may be formed. |
| Special protective equipment and precautions for firefighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| Fire fighting equipment/instructions | Move containers from fire area if you can do so without risk. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. |
| General fire hazards | No unusual fire or explosion hazards noted. |

6. Accidental release measures

| | |
|--|--|
| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Material can be slippery when wet. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. Follow precautions for safe handling described in this safety data sheet. For personal protection, see section 8 of the SDS. |
| Methods and materials for containment and cleaning up | <p>This product is miscible in water.</p> <p>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent product from entering drains. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.</p> |
| Environmental precautions | Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases. |

7. Handling and storage

| | |
|---|--|
| Precautions for safe handling | Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices. |
| Conditions for safe storage, including any incompatibilities | Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). |

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| Components | Type | Value |
|--|------|-----------|
| Dipropylene glycol monomethyl ether (CAS 34590-94-8) | PEL | 600 mg/m3 |
| | | 100 ppm |

US. ACGIH Threshold Limit Values

| Components | Type | Value |
|--|------|---------|
| Dipropylene glycol monomethyl ether (CAS 34590-94-8) | STEL | 150 ppm |
| | TWA | 100 ppm |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value |
|--|------|----------------------|
| Dipropylene glycol monomethyl ether (CAS 34590-94-8) | STEL | 900 mg/m3 |
| | | 150 ppm |
| | TWA | 600 mg/m3 100 ppm |

US. AIHA Workplace Environmental Exposure Level (WEEL) Guides

| Components | Type | Value |
|--|------|-----------|
| 2-(2-ethoxyethoxy)ethanol (CAS 111-90-0) | TWA | 140 mg/m3 |
| | | 25 ppm |

Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines

US - California OELs: Skin designation

Dipropylene glycol monomethyl ether (CAS 34590-94-8) Can be absorbed through the skin.

US - Tennessee OELs: Skin designation

Dipropylene glycol monomethyl ether (CAS 34590-94-8) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Dipropylene glycol monomethyl ether (CAS 34590-94-8) Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

Dipropylene glycol monomethyl ether (CAS 34590-94-8) Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Dipropylene glycol monomethyl ether (CAS 34590-94-8) Can be absorbed through the skin.

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection Not normally needed.

Skin protection

Hand protection Not normally needed.

Other Not normally needed.

Respiratory protection No personal respiratory protective equipment normally required.

Thermal hazards Not applicable.

General hygiene considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance White emulsion

| | |
|---|---------------------------------------|
| Physical state | Liquid. |
| Form | Liquid. |
| Color | White |
| Odor | non-objectionable odor |
| Odor threshold | Not available |
| pH | 8 - 9 |
| Melting point/freezing point | Not applicable / Not available |
| Initial boiling point and boiling range | > 200 °F (> 93.33 °C) |
| Flash point | > 200.0 °F (> 93.3 °C) Tag Closed Cup |
| Evaporation rate | < 1 (ethyl ether = 1) |
| Flammability (solid, gas) | Not available. |
| Upper/lower flammability or explosive limits | |
| Explosive limit - lower (%) | Not available. |
| Explosive limit - upper (%) | Not available. |
| Vapor pressure | 17.2 mm Hg |
| Vapor density | 1.5 AIR=1 |
| Relative density | 1.027 at 77°F |
| Solubility(ies) | |
| Solubility (water) | Dispersable |
| Partition coefficient (n-octanol/water) | Not available |
| Auto-ignition temperature | Not available |
| Decomposition temperature | Not available |
| Viscosity | Not available |
| Other information | |
| Density | 8.55 lb/gal |
| Percent volatile | 80 - 82 % |
| VOC (Weight %) | CARB Complaint |

10. Stability and reactivity

| | |
|---|---|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. |
| Conditions to avoid | Avoid temperatures exceeding the flash point. Contact with incompatible materials. |
| Incompatible materials | Strong oxidizing agents. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information

Information on likely routes of exposure

| | |
|---|--|
| Inhalation | Prolonged inhalation may be harmful. |
| Skin contact | May be irritating to the skin. |
| Eye contact | Direct contact with eyes may cause temporary irritation. |
| Ingestion | Expected to be a low ingestion hazard. |
| Symptoms related to the physical, chemical and toxicological characteristics | Direct contact with eyes may cause temporary irritation. |

Information on toxicological effects

| | |
|-----------------------|---|
| Acute toxicity | Toxicity data is not available for this mixture. Data below are estimates based on summation methods. |
|-----------------------|---|

| Product | Species | Test Results |
|--------------------|------------|----------------------------|
| PROTECTIVE COATING | | |
| Acute | | |
| <i>Dermal</i> | | |
| LD50 | Rabbit | 44365.2383 mg/kg estimated |
| <i>Oral</i> | | |
| LD50 | Guinea pig | 69444.4453 mg/kg estimated |
| | Mouse | 303.2258 g/kg estimated |
| | Rat | 53401.9922 mg/kg estimated |

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Harmful to aquatic life.

| Product | Species | Test Results |
|--------------------|--------------|-----------------------------------|
| PROTECTIVE COATING | | |
| Aquatic | | |
| Crustacea | EC50 Daphnia | 124.0799 mg/l, 48 hours estimated |
| Fish | LC50 Fish | 481.9593 mg/l, 96 hours estimated |

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not contaminate ponds, waterways or ditches with chemical or used container. Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

| | |
|--|--|
| Waste from residues / unused products | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). |
| Contaminated packaging | Since emptied containers may retain product residue, follow label warnings even after container is emptied. Triple rinse (or equivalent). Then offer clean, dry container for recycling or reconditioning. |

14. Transport information

DOT
Not regulated as dangerous goods.

15. Regulatory information

US federal regulations
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical
No

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Safe Drinking Water Act (SDWA)
Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)
Not listed.

US. Massachusetts RTK - Substance List

Dipropylene glycol monomethyl ether (CAS 34590-94-8)

US. New Jersey Worker and Community Right-to-Know Act

Dipropylene glycol monomethyl ether (CAS 34590-94-8)

US. Pennsylvania Worker and Community Right-to-Know Law

Dipropylene glycol monomethyl ether (CAS 34590-94-8)

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|---|------------------------|
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 03-05-2015

Version # 01

HMIS® ratings Health: 0
Flammability: 0
Physical hazard: 0

Disclaimer No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose, or of any nature are made with respect to the product(s) or information contained in this material safety data sheet. The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate. The buyer or user assumes all risks associated with the use, misuse or disposal of this product. The buyer or user is responsible to comply with all federal, state or local regulations concerning the use, misuse or disposal of these products.



CANBERRA CORPORATION SAFETY DATA SHEET

1. Identification

Product Identifier: DETERGENT THICKENED HUSKY 302 D/T BOWL CLEANER

Application or recommended use: Disinfectant toilet bowl cleaner

Restrictions on use: Do not use in any fashion not specified on the product label.

Manufacturer / supplier: Canberra Corporation

3610 N. Holland-Sylvania Rd.

Toledo, Ohio 43615 USA

Telephone: 419-841-6616 **Emergency phone:** 800-832-8992 **National Poison Center:** 800-222-1222

2. Hazards Identification

GHS Classification: Classification of this mixture in accordance with paragraph (d) of §1910.1200.

Skin Corrosion/Irritation - Category 1B

Eye Damage/Irritation - Category 1

Corrosive to Metals - 1

Label Elements:



Symbol:

Signal word:

DANGER

Hazard statements:

Causes severe skin burns and serious eye damage.

May be corrosive to metals.

Precautionary statements: Do not breathe mist/vapors/spray.

Wash hands, face and any skin contact thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

Keep only in original container.

Absorb spillage to prevent material damage.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

See 4. First-Aid Measures for specific treatment.

Store locked up in corrosive resistant container.

Dispose of contents/container to an approved disposal facility.

Other Hazards:

Harmful if swallowed.

3. Composition / Information on Ingredients

Chemical characterization: Hydrochloric acid solution, blended with detergents, germicides and auxiliary agents.

Hazardous ingredients: The exact percentage of composition has been withheld as a trade secret.

9.5 - 10% *Hydrochloric acid (Muriatic acid)

CAS 7647-01-0, EINECS/ELINCS 231-595-7

0.9 - 2.5% Ethanol, 2,2'-iminobis-,n-soya alkyl derivs.,

CAS 73246-96-5, EINECS/ELINCS Not Available

Other ingredients (> 1%):

> 85% Water

CAS 7732-18-5, EINECS/ELINCS 231-791-2

4. First-Aid Measures

Symptoms: Causes irritation or burning sensation. Causes severe skin burns and serious eye damage.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

Inhalation: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth to an unconscious person. If respiratory irritation, dizziness, or unconsciousness occurs, seek immediate medical assistance.

Skin Contact: Remove contaminated clothing and wash before reuse. Wash contaminated area with soap and water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Eye Contact: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

4. First-Aid Measures (cont.)

Ingestion: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to a person who is unconscious or convulsing. If vomiting occurs, keep head below hips to reduce risk of aspiration. Probable mucosal damage may contraindicate the use of gastric lavage.

Note to Physician: Treat exposed patients symptomatically.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Not applicable. Product is not a fire hazard.

Unsuitable Extinguishing Media: High pressure water jet.

Specific hazards in case of fire: Hydrogen chloride gas may be generated at high temperatures.

Special Fire Fighting Precautions: Fire fighters should wear appropriate protective equipment, including self-contained breathing apparatus and impervious clothing.

6. Accidental Release Measures

Emergency Procedures: Depending on the extent of release, consider the need for emergency responders with adequate personal protective equipment for clean up, need for evacuation or restriction of access to spill area.

Personal Precautions: Provide adequate ventilation. Do not eat, drink or smoke during clean up. If necessary, use self-contained respirator, or filtered mask. Wear protective clothing, eye protection and impervious gloves (e.g. neoprene). Wash thoroughly after clean up.

Environmental Precautions: Prevent spills from entering storm sewers/drains or contact with soil.

Clean up Methods: Small spills may be wiped up and rinsed with water. For larger spills, neutralize with sodium carbonate and absorb on fire retardant material (e.g. sand). Pick up absorbent and dispose of at an appropriate waste disposal facility.

7. Handling and Storage

Precautions for Safe Handling: Read label before use. Never use with chlorine products. Can react to give chlorine gas. If this occurs, flush toilet to remove chemicals and leave area. Do not return for half hour. Ventilate if possible. Never use or mix with other cleaners or chemicals. Do not use on any surface that can be damaged by acid materials. Do not breathe mist/vapors. Wash hands, face and any skin contact thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves, protective clothing, eye protection, face protection. Use product only according to label directions. If unsure about safe use, contact your supervisor immediately. Use only in a well-ventilated area.

Conditions for Safe Storage: Keep out of reach of children. Do not contaminate water, food or feed by storage and disposal. Store locked up in tightly closed, original, corrosive resistant container in a cool (10° - 30°C), dry, well-ventilated area.

Incompatibility: Chlorine bleach, alkali. Do not mix with anything but water.

8. Exposure Controls / Personal Protection

Components with occupational exposure limits:

| Component | Reference | TWA | PEL |
|-------------------|-----------|-----------|-----------|
| Hydrochloric acid | ACGIH | 2 ppm (C) | |
| | OSHA | | 5 ppm (C) |

Engineering Controls: Proper ventilation in accordance with good industrial hygiene should be provided.

Personal Protective Equipment

Respiratory: Respiratory protection is not necessary under normal conditions of use. If necessary to prevent exposure above occupational limits, use an approved cartridge style respirator.

Gloves: Use water impervious gloves (latex or neoprene rubber). No breakthrough time has been established.

Eye Protection: Chemical resistant goggles and face protection.

Other: Protective clothing (long sleeves, pants), eyewash, safety shower are always advisable when working with chemicals.

9. Physical and Chemical Properties

| | | | |
|------------------------------------|-------------------|------------------------------------|--------------------------------|
| Physical State - | Liquid | Auto-ignition temperature - | Not applicable |
| Color - | Green | Flash Point - | None |
| Odor - | Floral, acidic | Flammability - | Not applicable |
| Odor Threshold - | No data available | Flammability Limits - | Not applicable |
| Boiling Point - | 212°F | Partition coefficient - | Not applicable |
| Decomposition temperature - | No data available | Solubility (Water) - | Complete |
| Freezing Point - | 0°F | Vapor Density - | No data available |
| pH (Neat) - | < 1 | Vapor Pressure - | No data available |
| Relative Density - | 1.045 | Viscosity - | Slightly viscous |
| Evaporation Rate - | Similar to water | % VOC - | < 0.5 (Excluding LVP material) |

10. Stability and Reactivity

Reactivity: No specific reactivity test data is available. Under normal conditions of storage and use, hazardous reactions are not expected.

Incompatible materials: Mixing with bleach, alkali, or oxidizers may generate toxic gases.

Chemical stability: This product is stable at ambient temperatures and pressures.

Conditions to avoid: Temperatures above 50°C or below 10°C.

Hazardous decomposition products: Hydrogen chloride

11. Toxicological Information

Acute Toxicity: Toxicity data is not available for this mixture. Data below are estimates based on summation methods.

| Test | Results | Classification (A.0.4.1(c)) | Basis (A.1.3.6.1) |
|------------------------|-------------|-----------------------------|--|
| Oral | > 2000mg/kg | Not applicable | Ingredient literature (Additive formula) |
| Dermal | > 2000mg/kg | Not applicable | Ingredient literature (Additive formula) |
| Inhalation | > 20 mg/L | Not applicable | Ingredient literature (Additive formula) |
| Eye Damage/Irritation | Corrosion | Category 1 | Ingredient literature |
| Skin Damage/Irritation | Corrosion | Category 1B | Ingredient literature |

Summary: Skin and eye contact are most likely routes of exposure. Exposure causes skin burns and serious eye damage.

Subchronic/Chronic Toxicity:

| Test | Results | Classification | Basis |
|--------------------|------------------|----------------|------------------------|
| Skin Sensitization | Not a sensitizer | Not applicable | Ingredient literature. |

Summary: Repeated or prolonged contact causes skin burns and eye damage.

Carcinogens - Ingredients are not listed on the NTP Report on Carcinogens, *IARC Monographs or by OSHA

*IARC does list "strong inorganic acid mists" as carcinogenic, but under normal conditions, no exposure to acid mists occurs. Acid solutions are not listed.

Other data - No other toxicological information is available for this mixture.

12. Ecological Information

This material has not been tested for acute environmental effects.

Persistence and degradability: Material is not persistent. All organic components > 1% are readily biodegradable.

Bio-accumulative potential: No evidence to suggest bio-accumulation will occur.

Mobility: Accidental spillage may lead to penetration of soil and groundwater. However, due to degradability, no evidence suggests this would cause adverse ecological effects. Material will lower pH of affected area.

13. Disposal Considerations

RCRA Class - D002. Do not contaminate water, food or feed by disposal. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray, or mixture of rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label directions, contact your State Pesticide or Environmental Control Agency, or the hazardous waste representative at the nearest EPA Regional Office for guidance. **Container Disposal:** Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container promptly after emptying. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incinerate, or if allowed by state and local authorities, burn. If burned, stay out of smoke. If container is one gallon or less, wrap empty container in plastic bag and discard in trash.

14. Transport Information

Proper Shipping Name: UN1789 Hydrochloric acid solution

RQ - 5000 Lbs. (Hydrochloric Acid)

Shipping emergency phone: 800-424-9300

Transport hazard class: 8

Hazard Label: Corrosive (When shipped as a Limited Quantity, labeling is not required.)

Packing Group: II

Emergency Guide No.: 154

Marine Pollutant: No

15. Regulatory Information

Inventory status: All components are listed on TSCA(US), EINECS/ELINCS(EU), DSL(Canada), AICS(Australia), ENCS(Japan).

FIFRA: This product is a U.S. EPA Registered pesticide, EPA Reg. No. 8155-6, and is subject to certain labeling requirements under Federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide products. The hazard information required on the pesticide label is reproduced here.

15. Regulatory Information (cont.)

DANGER: Corrosive. Causes irreversible eye damage and skin burns. May be fatal if swallowed. Do not breathe vapor or fumes. Do not get in eyes, on skin or on clothing. Wear protective eyewear (safety goggles or face shield), protective clothing and rubber gloves when handling. Use with adequate ventilation. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Remove and wash contaminated clothing before reuse.

Chemical Hazards: **Never use with chlorine products.** Can react to give chlorine gas. If this occurs, flush toilet to remove chemicals and leave area. Do not return for half an hour. Ventilate if possible. Never use or mix with other cleaners or chemicals. Clean up any spills or drips immediately. Do not use on any surface that can be damaged by acidic materials. Many surfaces are not resistant to acid. **Do not use on PVD finished surfaces.** The pesticide label also includes other important information, including directions for use.

OSHA Hazard Communication Standard: This product meets the §1910.1200 definition of a "Hazardous Chemical".

Superfund Amendments and Reauthorization Act of 1986 Title III (EPCRA) Sections 311 and 312

| | | | |
|--|-----|--|----|
| Immediate (Acute) Health Hazard | Yes | Delayed (Chronic) Health Hazard | No |
| Fire Hazard | No | Reactive Hazard | No |
| Sudden Release of Pressure Hazard | No | | |

Superfund Amendments and Reauthorization Act of 1986 Title III (EPCRA) Section 313

*Chemicals marked with an asterisk in "**3. Composition/Information on Ingredients**" are subject to reporting requirements for Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40CFR Part 372.

Pennsylvania/New Jersey/Massachusetts Right to Know

See "**3. Composition/Information on Ingredients**" for hazardous and top five ingredients over 1% (w/w).

California Proposition 65: This product does not contain a listed substance known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

16. Other information

Date issued: 31. 12. 2014

F302-001 Revision: N/A

Disclaimer: No representation or warranty, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature, is made with respect to information concerning the product referred to in this document. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, it is impossible to foresee every health effect or exposure risk incurred by the use of this product. All chemicals present some degree of hazard and should be used with caution. The information and recommendations contained herein are presented in good faith. The user should review this information in conjunction with their knowledge of the application intended to determine the suitability of this product for such purpose. In no event will the supplier be responsible for any damages of any nature whatsoever, resulting from the use, reliance upon, or the misuse of this information. Furthermore, it is the direct responsibility of the user to comply with all applicable regulations governing the use and disposal of this material. **Prepared by:** R&D, Canberra Corporation



CANBERRA CORPORATION SAFETY DATA SHEET

1. Identification

Product Identifier: HUSKY 830 RTU FOOD SERVICE SANITIZER

Application or recommended use: Hard surface sanitizer

Restrictions on use: Do not use in any fashion not specified on the product label.

Manufacturer / supplier: Canberra Corporation

3610 N. Holland-Sylvania Rd.

Toledo, Ohio 43615 USA

Telephone: 419-841-6616 **Emergency phone:** 800-832-8992 **National Poison Center:** 800-222-1222

2. Hazards Identification

GHS Classification: Classification of this mixture in accordance with paragraph (d) of §1910.1200.
Eye Damage/Irritation - Category 2B

Label Elements:

Symbol: None

Signal word: WARNING

Hazard statements: Causes eye irritation.

Precautionary statements: Wash hands, face and any skin contact thoroughly after handling.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Other Hazards: None known

3. Composition / Information on Ingredients

Chemical characterization: Mixture of water, germicides and auxiliary agents.

Hazardous ingredients: The exact percentage of composition has been withheld as a trade secret.

No hazardous ingredients present above threshold (1%) for reporting in this section.

Other ingredients (> 1%):

> 99% Water

CAS 7732-18-5, EINECS/ELINCS 231-791-2

4. First-Aid Measures

Symptoms: Irritation of affected areas. Causes moderate eye irritation.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

Inhalation: Move person to fresh air. If respiratory irritation or dizziness occurs, seek immediate medical assistance.

Skin Contact: Remove contaminated clothing and wash before reuse. Wash contaminated area with soap and water for 15-20 minutes. If skin irritation occurs, get medical advice/attention.

Eye Contact: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye. If eye irritation persists, get medical advice/attention.

Ingestion: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to a person who is unconscious or convulsing. If vomiting occurs, keep head below hips to reduce risk of aspiration.

Note to Physician: Treat exposed patients symptomatically.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Not applicable. Product is not a fire hazard.

Unsuitable Extinguishing Media: High pressure water jet. **Specific hazards in case of fire:** None known.

Special Fire Fighting Precautions: Fire fighters should wear appropriate protective equipment, including self-contained breathing apparatus and impervious clothing.

6. Accidental Release Measures

Emergency Procedures: Depending on the extent of release, consider the need for restriction of access to spill area.

Personal Precautions: Do not eat, drink or smoke during clean up. Wear protective clothing, eye protection and impervious gloves (e.g. neoprene). Wash thoroughly after clean up.

Environmental Precautions: Prevent spills from entering storm sewers/drains or contact with soil.

Clean up Methods: Small spills may be wiped up and rinsed with water. For larger spills, contain spill with inert material (sand, clay). Transfer material to labeled containers for recovery or proper disposal. After removal, flush area with water. Follow good industrial hygiene practices.

7. Handling and Storage

Precautions for Safe Handling: Read label before use. Avoid contact with skin or eyes. Wash hands, face and any skin contact thoroughly after handling. Wear protective gloves, eye protection, face protection. Use product only according to label directions. If unsure about safe use, contact your supervisor.

Conditions for Safe Storage: Keep out of reach of children. Do not contaminate water, food or feed by storage and disposal. Store in tightly closed, original container in a cool (10° - 30°C), dry area.

Incompatibility: Anionic detergents inactivate material.

8. Exposure Controls / Personal Protection

Components with occupational exposure limits: None

Engineering Controls: Proper ventilation in accordance with good industrial hygiene should be provided.

Personal Protective Equipment

Respiratory: Respiratory protection is not necessary under normal conditions of use.

Gloves: Water impervious gloves (latex or neoprene rubber) recommended for continuous use.

Eye Protection: Chemical resistant goggles recommended.

Other: Protective clothing (long sleeves, pants), eyewash, safety shower are always advisable when working with chemicals.

9. Physical and Chemical Properties

| | | | |
|------------------------------------|-------------------|------------------------------------|---------------------------------|
| Physical State - | Liquid | Auto-ignition temperature - | Not applicable |
| Color - | None | Flash Point - | None |
| Odor - | None | Flammability - | Not applicable |
| Odor Threshold - | No data available | Flammability Limits - | Not applicable |
| Boiling Point - | 212°F | Partition coefficient - | Not applicable |
| Decomposition temperature - | No data available | Solubility (Water) - | Complete |
| Freezing Point - | 32°F | Vapor Density - | No data available |
| pH (Neat) - | 6 - 8 | Vapor Pressure - | No data available |
| Relative Density - | 1.000 | Viscosity - | Water thin |
| Evaporation Rate - | Similar to water | % VOC - | < 1 (Excluding exempt material) |

10. Stability and Reactivity

Reactivity: No specific reactivity test data is available for this mixture. Under normal conditions of storage and use, hazardous reactions are not expected.

Incompatible materials: Oxidizers, anionic detergents.

Chemical stability: This product is stable at ambient temperatures and atmospheric pressures.

Conditions to avoid: Temperatures above 50°C or below 10°C.

Hazardous decomposition products: None known.

11. Toxicological Information

Acute Toxicity: Toxicity data is not available for this mixture. Data below are estimates based on summation methods.

| Test | Results | Classification (A.0.4.1(c)) | Basis (A.1.3.6.1) |
|------------------------|----------------|-----------------------------|--|
| Oral | > 2000mg/kg | Not applicable | Ingredient literature (Additive formula) |
| Dermal | > 2000mg/kg | Not applicable | Ingredient literature (Additive formula) |
| Inhalation | > 20 mg/L | Not applicable | Ingredient literature (Additive formula) |
| Eye Damage/Irritation | Irritation | Category 2B | Ingredient literature |
| Skin Damage/Irritation | Not applicable | Not applicable | Ingredient literature |

Summary: Skin and eye contact are most likely routes of exposure. Exposure causes moderate eye irritation.

Subchronic/Chronic Toxicity:

| Test | Results | Classification | Basis |
|--------------------|------------------|----------------|------------------------|
| Skin Sensitization | Not a sensitizer | Not applicable | Ingredient literature. |

Summary: Repeated or prolonged contact causes skin or eye irritation.

Carcinogens - Ingredients are not listed on the NTP Report on Carcinogens, IARC Monographs or by OSHA

Other data - No other toxicological information is available for this mixture.

12. Ecological Information

This material has not been tested for acute environmental effects.

Persistence and degradability: Material is not persistent. All organic components > 1% are readily biodegradable.

Bio-accumulative potential: No evidence to suggest bio-accumulation will occur.

Mobility: Accidental spillage may lead to penetration of soil and groundwater.

13. Disposal Considerations

Do not contaminate water, food or feed by disposal. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray, or mixture of rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label directions, contact your State Pesticide or Environmental Control Agency, or the hazardous waste representative at the nearest EPA Regional Office for guidance. **Container Disposal:** Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container promptly after emptying. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incinerate, or if allowed by state and local authorities, burn. If burned, stay out of smoke. If container is one gallon or less, wrap empty container in plastic bag and discard in trash.

14. Transport Information

Proper Shipping Name: Not regulated **RQ** - Not Applicable
Shipping emergency phone: 800-424-9300
Transport hazard class: Not Applicable **Hazard Label:** Not Applicable
Packing Group: Not Applicable **Emergency Guide No.:** Not Applicable **Marine Pollutant:** No

15. Regulatory Information

Inventory status: All components are listed on TSCA(US), EINECS/ELINCS(EU), DSL(Canada), AICS(Australia).

FIFRA: This product is a U.S. EPA Registered pesticide, EPA Reg. No. 10324-110-8155, and is subject to certain labeling requirements under Federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide products. The hazard information required on the pesticide label is reproduced here.

CAUTION. Keep Out of Reach of Children. Causes moderate eye irritation. Avoid contact with eyes or clothing. Harmful if swallowed. Wash thoroughly with soap and water after handling. The pesticide label also includes other important information, including directions for use.

OSHA Hazard Communication Standard: This product meets the §1910.1200 definition of a "Hazardous Chemical".

Superfund Amendments and Reauthorization Act of 1986 Title III (EPCRA) Sections 311 and 312

| | | | |
|--|-----|--|----|
| Immediate (Acute) Health Hazard | Yes | Delayed (Chronic) Health Hazard | No |
| Fire Hazard | No | Reactive Hazard | No |
| Sudden Release of Pressure Hazard | No | | |

Superfund Amendments and Reauthorization Act of 1986 Title III (EPCRA) Section 313

*Chemicals marked with an asterisk in "3. Composition/Information on Ingredients" are subject to reporting requirements for Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40CFR Part 372.

Pennsylvania/New Jersey/Massachusetts Right to Know

See "3. Composition/Information on Ingredients" for hazardous and top five ingredients over 1% (w/w).

California Proposition 65: This product does not contain a listed substance known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

16. Other information

Date issued: 31. 12. 2014 **F830-001 Revision:** N/A

Disclaimer: No representation or warranty, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature, is made with respect to information concerning the product referred to in this document. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, it is impossible to foresee every health effect or exposure risk incurred by the use of this product. All chemicals present some degree of hazard and should be used with caution. The information and recommendations contained herein are presented in good faith. The user should review this information in conjunction with their knowledge of the application intended to determine the suitability of this product for such purpose. In no event will the supplier be responsible for any damages of any nature whatsoever, resulting from the use, reliance upon, or the misuse of this information. Furthermore, it is the direct responsibility of the user to comply with all applicable regulations governing the use and disposal of this material. **Prepared by:** R&D, Canberra Corporation



CANBERRA CORPORATION SAFETY DATA SHEET

1. Identification

Product Identifier: HUSKY 1130 FOAM CONTROL AGENT

Application or recommended use: Defoamer

Restrictions on use: Do not use in any fashion not specified on the product label.

Manufacturer / supplier: Canberra Corporation

3610 N. Holland-Sylvania Rd.

Toledo, Ohio 43615 USA

Telephone: 419-841-6616 **Emergency phone:** 800-832-8992 **National Poison Center:** 800-222-1222

2. Hazards Identification

GHS Classification: Classification of this mixture in accordance with paragraph (d) of §1910.1200.
Not classified according to current models.

Labeling:

Symbol: None

Signal word: None

Hazard statements: None.

Precautionary statements: Wash hands after handling.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation occurs: Get medical advice/attention.

Other Hazards: None known

3. Composition / Information on Ingredients

Chemical characterization: Mixture of water, detergents and auxiliary agents.

Hazardous ingredients: The exact percentage of composition has been withheld as a trade secret.

1 - 2% Polydimethylsiloxane CAS 63148-62-9, EINECS/ELINCS N/A

Other ingredients (> 1%):

> 98% Water CAS 7732-18-5, EINECS/ELINCS 231-791-2

4. First-Aid Measures

Symptoms: None known.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation occurs, get medical advice/attention.

Note to Physician: Treat exposed patients symptomatically.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Not applicable. Product is not a fire hazard.

Unsuitable Extinguishing Media: High pressure water jet.

Specific hazards in case of fire: None known.

Special Fire Fighting Precautions: Fire fighters should wear appropriate protective equipment, including self-contained breathing apparatus and impervious clothing.

6. Accidental Release Measures

Emergency Procedures: Contain spill.

Personal Precautions: If spilled, floors may be slippery. Do not eat, drink or smoke during clean up. Wear eye protection to prevent eye contact. Wash thoroughly after clean up.

Environmental Precautions: Prevent spills from entering storm sewers/drains or contact with soil.

Clean up Methods: Small spills may be wiped up and rinsed with water. For larger spills, contain spill with inert material (sand, clay). Transfer material to labeled containers for recovery or proper disposal. After removal, flush area with water. Follow good industrial hygiene practices.

7. Handling and Storage

Precautions for Safe Handling: Read label before use. Avoid contact with eyes. Use product only according to label directions. If unsure about safe use, contact your supervisor.

Conditions for Safe Storage: Keep out of reach of children. Do not contaminate water, food or feed by storage and disposal. Store in tightly closed original container in a cool (10° - 30°C), dry area.

Incompatibility: None known.

8. Exposure Controls / Personal Protection**Components with occupational exposure limits:** None**Engineering Controls:** Not required.**Personal Protective Equipment****Respiratory:** Respiratory protection is not necessary under normal conditions of use.**Gloves:** Not required. **Eye Protection:** Recommended.**Other:** Protective clothing (long sleeves, pants) are always advisable when working with chemicals.**9. Physical and Chemical Properties**

| | | | |
|------------------------------------|-------------------|------------------------------------|-----------------------------------|
| Physical State - | Liquid | Auto-ignition temperature - | Not applicable |
| Color - | White | Flash Point - | None |
| Odor - | Mild | Flammability - | Not applicable |
| Odor Threshold - | No data available | Flammability Limits - | Not applicable |
| Boiling Point - | 212°F | Partition coefficient - | Not applicable |
| Decomposition temperature - | No data available | Solubility (Water) - | Complete |
| Freezing Point - | 32°F | Vapor Density - | No data available |
| pH (Neat) - | 8.5 - 9.5 | Vapor Pressure - | No data available |
| Relative Density - | 1.000 | Viscosity - | Slightly viscous |
| Evaporation Rate - | Similar to water | % VOC - | < 0.1 (Excluding exempt material) |

10. Stability and Reactivity**Reactivity:** No specific reactivity test data is available for this mixture. Under normal conditions of storage and use, hazardous reactions are not expected.**Incompatible materials:** Oxidizers.**Chemical stability:** This product is stable at ambient temperatures and pressures.**Conditions to avoid:** Temperatures above 50°C or below 10°C.**Hazardous decomposition products:** None known.**11. Toxicological Information****Acute Toxicity:** Toxicity data is not available for this mixture. Data below are estimates based on summation methods.

| Test | Results | Classification (A.0.4.1(c)) | Basis (A.1.3.6.1) |
|------------------------|----------------|-----------------------------|--|
| Oral | > 2000mg/kg | Not applicable | Ingredient literature (Additive formula) |
| Dermal | > 2000mg/kg | Not applicable | Ingredient literature (Additive formula) |
| Inhalation | > 20 mg/L | Not applicable | Ingredient literature (Additive formula) |
| Eye Damage/Irritation | Not applicable | Not applicable | Ingredient literature |
| Skin Damage/Irritation | Not applicable | Not applicable | Ingredient literature |

Summary: Skin and eye contact are most likely routes of exposure. Exposure may cause slight eye irritation.**Subchronic/Chronic Toxicity:**

| Test | Results | Classification | Basis |
|--------------------|------------------|----------------|------------------------|
| Skin Sensitization | Not a sensitizer | Not applicable | Ingredient literature. |

Summary: Repeated or prolonged contact may cause eye irritation.**Carcinogens** - Ingredients are not listed on the NTP Report on Carcinogens, IARC Monographs or by OSHA**Other data** - No other toxicological information is available for this mixture.**12. Ecological Information**

This material has not been tested for acute environmental effects.

Persistence and degradability: Material is not persistent. All organic components in this product are readily biodegradable.**Bio-accumulative potential:** No evidence to suggest bio-accumulation will occur.**Mobility:** Accidental spillage may lead to penetration of soil and groundwater.**13. Disposal Considerations**

Do not contaminate water, food or feed by disposal. If these materials cannot be disposed of by use according to label directions, contact your State Environmental Control Agency, or the hazardous waste representative at the nearest EPA Regional Office for guidance. Rinse container promptly after emptying. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill. If container is one gallon or less, wrap empty container in plastic bag and discard in trash.

14. Transport Information

| | |
|---|--|
| Proper Shipping Name: Not regulated | RQ - Not Applicable |
| Shipping emergency phone: 800-424-9300 | |
| Transport hazard class: Not Applicable | Hazard Label: Not Applicable |
| Packing Group: Not Applicable | Emergency Guide No.: Not Applicable Marine Pollutant: No |

15. Regulatory Information

Inventory status: All components are listed on TSCA(US), EINECS/ELINCS(EU), DSL(Canada), AICS(Australia), ENCS(Japan).

OSHA Hazard Communication Standard: This product is not classified as a "Hazardous Chemical".

Superfund Amendments and Reauthorization Act of 1986 Title III (EPCRA) Sections 311 and 312

Immediate (Acute) Health Hazard No **Delayed (Chronic) Health Hazard** No

Fire Hazard No **Reactive Hazard** No

Sudden Release of Pressure Hazard No

Superfund Amendments and Reauthorization Act of 1986 Title III (EPCRA) Section 313

*Chemicals marked with an asterisk in "**3. Composition/Information on Ingredients**" are subject to reporting requirements for Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40CFR Part 372.

Pennsylvania/New Jersey/Massachusetts Right to Know

See "**3. Composition/Information on Ingredients**" for hazardous and top five ingredients over 1% (w/w).

California Proposition 65: This product does not contain a listed substance known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

16. Other information

Date issued: 31. 12. 2014

F1130-001 Revision: N/A

Disclaimer: No representation or warranty, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature, is made with respect to information concerning the product referred to in this document. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, it is impossible to foresee every health effect or exposure risk incurred by the use of this product. All chemicals present some degree of hazard and should be used with caution. The information and recommendations contained herein are presented in good faith. The user should review this information in conjunction with their knowledge of the application intended to determine the suitability of this product for such purpose. In no event will the supplier be responsible for any damages of any nature whatsoever, resulting from the use, reliance upon, or the misuse of this information. Furthermore, it is the direct responsibility of the user to comply with all applicable regulations governing the use and disposal of this material. **Prepared by:** R&D, Canberra Corporation

SECTION 1: Identification

1.1. Identification

Product form : Mixtures
Product name : Hydrochloric Acid, 20% v/v
Product code : LC15090

1.2. Recommended use and restrictions on use

Use of the substance/mixture : For laboratory and manufacturing use only.

1.3. Supplier

LabChem Inc
Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court
Zelienople, PA 16063 - USA
T 412-826-5230 - F 724-473-0647
info@labchem.com - www.labchem.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 or 011-703-527-3887

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

| | | |
|--|------|---|
| Skin corrosion/irritation | H314 | Causes severe skin burns and eye damage |
| Category 1B | | |
| Serious eye damage/eye irritation Category 1 | H318 | Causes serious eye damage |

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS05

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H314 - Causes severe skin burns and eye damage

Precautionary statements (GHS-US) :

- P260 - Do not breathe mist, vapors, spray
- P264 - Wash exposed skin thoroughly after handling
- P280 - Wear protective gloves, eye protection, protective clothing, face protection
- P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
- P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
- P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P310 - Immediately call a poison center or doctor/physician
- P321 - Specific treatment (see Personal precautions on this label)
- P363 - Wash contaminated clothing before reuse
- P405 - Store locked up
- P501 - Dispose of contents/container to comply with local, state and federal regulations

If inhaled: Remove person to fresh air and keep comfortable for breathing

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : None.

2.4. Unknown acute toxicity (GHS US)

Not applicable

Hydrochloric Acid, 20% v/v

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

| Name | Product identifier | % | GHS-US classification |
|----------------------------|---------------------|------|--|
| Water | (CAS-No.) 7732-18-5 | 91.5 | Not classified |
| Hydrochloric Acid, 37% w/w | (CAS-No.) 7647-01-0 | 8.5 | Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 3, H402 |

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.
- First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a poison center or doctor/physician.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects : Causes severe skin burns and eye damage.
- Symptoms/effects after inhalation : Possible inflammation of the respiratory tract.
- Symptoms/effects after skin contact : Caustic burns/corrosion of the skin.
- Symptoms/effects after eye contact : Causes serious eye damage.
- Symptoms/effects after ingestion : Nausea. Vomiting. Irritation of the gastric/intestinal mucosa. Diarrhoea.
- Chronic symptoms : Affection/discolouration of the teeth.

4.3. Immediate medical attention and special treatment, if necessary

Obtain medical assistance.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

- Fire hazard : Not flammable.
- Explosion hazard : Not applicable.
- Reactivity : Thermal decomposition generates : Corrosive vapors.

5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.
- Other information : Not applicable.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Try to stop release. Dike and contain spill.

6.1.1. For non-emergency personnel

- Protective equipment : Gloves. Safety glasses. Protective clothing. Face-shield.
- Emergency procedures : Evacuate unnecessary personnel.

Hydrochloric Acid, 20% v/v

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.
Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Do not breathe mist, vapors, spray.
Hygiene measures : Wash exposed skin thoroughly after handling. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations.
Storage conditions : Keep only in the original container in a cool, well ventilated place away from : incompatible materials. Keep container closed when not in use.
Incompatible products : metals. cyanides. Strong bases. Strong acids.
Incompatible materials : Direct sunlight.
Packaging materials : Do not store in corrodable metal.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| Hydrochloric Acid, 37% w/w (7647-01-0) | | |
|--|--|------------------------|
| ACGIH | ACGIH Ceiling (mg/m ³) | 2.98 mg/m ³ |
| ACGIH | ACGIH Ceiling (ppm) | 2 ppm |
| OSHA | OSHA PEL (Ceiling) (mg/m ³) | 7 mg/m ³ |
| OSHA | OSHA PEL (Ceiling) (ppm) | 5 ppm |
| IDLH | US IDLH (ppm) | 50 ppm |
| NIOSH | NIOSH REL (ceiling) (mg/m ³) | 7 mg/m ³ |
| NIOSH | NIOSH REL (ceiling) (ppm) | 5 ppm |
| Water (7732-18-5) | | |
| Not applicable | | |

8.2. Appropriate engineering controls

Appropriate engineering controls : Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Face shield. Chemical resistant apron. Gloves. Safety glasses. Protective clothing.



Hand protection:

Hydrochloric Acid, 20% v/v

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Wear protective gloves

Eye protection:

Chemical goggles or face shield

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Respiratory protection not required in normal conditions

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|--|
| Physical state | : Liquid |
| Color | : Colorless |
| Odor | : Odorless |
| Odor threshold | : No data available |
| pH | : ≤ 0.5 |
| Melting point | : No data available |
| Freezing point | : No data available |
| Boiling point | : No data available |
| Flash point | : No data available |
| Relative evaporation rate (butyl acetate=1) | : No data available |
| Flammability (solid, gas) | : Non flammable. |
| Vapor pressure | : No data available |
| Relative vapor density at 20 °C | : No data available |
| Relative density | : No data available |
| Specific gravity / density | : 1 - 1.1 |
| Molecular mass | : 36.46 g/mol |
| Solubility | : Soluble in water. Soluble in ethanol. Soluble in methanol. |
| Log Pow | : No data available |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosion limits | : No data available |
| Explosive properties | : Not applicable. |
| Oxidizing properties | : None. |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Thermal decomposition generates : Corrosive vapors.

10.2. Chemical stability

Stable under normal conditions. Not established.

10.3. Possibility of hazardous reactions

Reacts violently with (some) bases: release of heat.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

Hydrochloric Acid, 20% v/v

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

10.5. Incompatible materials

metals. cyanides. Strong bases.

10.6. Hazardous decomposition products

Hydrogen chloride. Thermal decomposition generates : Corrosive vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure : Skin and eye contact

Acute toxicity : Not classified

| Hydrochloric Acid, 37% w/w (7647-01-0) | |
|--|------------------------|
| LD50 oral rat | 700 mg/kg |
| LD50 dermal rabbit | 5010 mg/kg |
| ATE US (oral) | 700 mg/kg body weight |
| ATE US (dermal) | 5010 mg/kg body weight |

| Water (7732-18-5) | |
|-------------------|-------------------------|
| LD50 oral rat | ≥ 90000 mg/kg |
| ATE US (oral) | 90000 mg/kg body weight |

Skin corrosion/irritation : Causes severe skin burns and eye damage.

pH: ≤ 0.5

Serious eye damage/irritation : Causes serious eye damage.

pH: ≤ 0.5

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Based on available data, the classification criteria are not met

Carcinogenicity : Not classified

| Hydrochloric Acid, 37% w/w (7647-01-0) | |
|--|----------------------|
| IARC group | 3 - Not classifiable |

Reproductive toxicity : Not classified

Based on available data, the classification criteria are not met

Specific target organ toxicity – single exposure : Not classified

Specific target organ toxicity – repeated exposure : Not classified

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

Symptoms/effects after inhalation : Possible inflammation of the respiratory tract.

Symptoms/effects after skin contact : Caustic burns/corrosion of the skin.

Symptoms/effects after eye contact : Causes serious eye damage.

Symptoms/effects after ingestion : Nausea. Vomiting. Irritation of the gastric/intestinal mucosa. Diarrhoea.

Chronic symptoms : Affection/discolouration of the teeth.

SECTION 12: Ecological information

12.1. Toxicity

| Hydrochloric Acid, 37% w/w (7647-01-0) | |
|--|------------------------|
| LC50 fish 1 | 282 mg/l (LC50; 96 h) |
| EC50 Daphnia 1 | < 56 mg/l (EC50; 72 h) |

12.2. Persistence and degradability

| Hydrochloric Acid, 20% v/v | |
|-------------------------------|------------------|
| Persistence and degradability | Not established. |

Hydrochloric Acid, 20% v/v

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| Hydrochloric Acid, 37% w/w (7647-01-0) | |
|--|---|
| Persistence and degradability | Biodegradability: not applicable. No test data on mobility of the components available. |
| Biochemical oxygen demand (BOD) | Not applicable |
| Chemical oxygen demand (COD) | Not applicable |
| ThOD | Not applicable |
| Water (7732-18-5) | |
| Persistence and degradability | Not established. |

12.3. Bioaccumulative potential

| Hydrochloric Acid, 20% v/v | |
|--|--|
| Bioaccumulative potential | Not established. |
| Hydrochloric Acid, 37% w/w (7647-01-0) | |
| Log Pow | 0.25 (QSAR) |
| Bioaccumulative potential | Low potential for bioaccumulation (Log Kow < 4). |
| Water (7732-18-5) | |
| Bioaccumulative potential | Not established. |

12.4. Mobility in soil

| Hydrochloric Acid, 37% w/w (7647-01-0) | |
|--|---|
| Ecology - soil | May be harmful to plant growth, blooming and fruit formation. |

12.5. Other adverse effects

| | |
|------------------------------|---------------------------------------|
| Effect on the global warming | : No known effects from this product. |
| GWPmix comment | : No known effects from this product. |
| Other information | : Avoid release to the environment. |

SECTION 13: Disposal considerations

13.1. Disposal methods

| | |
|--------------------------------|---|
| Waste disposal recommendations | : Dispose in a safe manner in accordance with local/national regulations. |
| Ecology - waste materials | : Avoid release to the environment. |

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

| | |
|----------------------------------|---|
| Transport document description | : UN1789 Hydrochloric acid, 8, II |
| UN-No.(DOT) | : UN1789 |
| Proper Shipping Name (DOT) | : Hydrochloric acid |
| Transport hazard class(es) (DOT) | : 8 - Class 8 - Corrosive material 49 CFR 173.136 |
| Packing group (DOT) | : II - Medium Danger |
| Hazard labels (DOT) | : 8 - Corrosive |



| | |
|---|-------|
| DOT Packaging Non Bulk (49 CFR 173.xxx) | : 202 |
| DOT Packaging Bulk (49 CFR 173.xxx) | : 242 |

Hydrochloric Acid, 20% v/v

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| | |
|--|--|
| DOT Special Provisions (49 CFR 172.102) | : A3 - For combination packaging, if glass inner packaging (including ampoules) are used, they must be packed with absorbent material in tightly closed metal receptacles before packing in outer packaging. A6 - For combination packaging, if plastic inner packaging are used, they must be packed in tightly closed metal receptacles before packing in outer packaging. B3 - MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks and DOT 57 portable tanks are not authorized. B15 - Packaging must be protected with non-metallic linings impervious to the lading or have a suitable corrosion allowance. IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. N41 - Metal construction materials are not authorized for any part of a packaging which is normally in contact with the hazardous material. T8 - 4 178.274(d)(2) Normal..... Prohibited TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively. TP12 - This material is considered highly corrosive to steel. |
| DOT Packaging Exceptions (49 CFR 173.xxx) | : 154 |
| DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) | : 1 L |
| DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) | : 30 L |
| DOT Vessel Stowage Location | : C - The material must be stowed "on deck only" on a cargo vessel and on a passenger vessel. |
| Other information | : No supplementary information available. |

SECTION 15: Regulatory information

15.1. US Federal regulations

Hydrochloric Acid, 20% v/v

| | |
|-------------------------------------|---------------------------------|
| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard |
|-------------------------------------|---------------------------------|

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

| | | |
|----------------------------|-------------------|------|
| Hydrochloric Acid, 37% w/w | CAS-No. 7647-01-0 | 8.5% |
|----------------------------|-------------------|------|

Hydrochloric Acid, 37% w/w (7647-01-0)

| | |
|--|--|
| EPA TSCA Regulatory Flag | T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA. |
| RQ (Reportable quantity, section 304 of EPA's List of Lists) | 5000 lb |
| SARA Section 302 Threshold Planning Quantity (TPQ) | 500 lb |
| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard |

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

National regulations

No additional information available

Hydrochloric Acid, 20% v/v

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

Revision date : 10/24/2017

Other information : None.

Full text of H-phrases: see section 16:

| | |
|------|---|
| H302 | Harmful if swallowed |
| H314 | Causes severe skin burns and eye damage |
| H318 | Causes serious eye damage |
| H335 | May cause respiratory irritation |
| H402 | Harmful to aquatic life |

NFPA health hazard

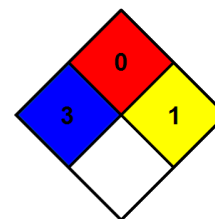
: 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

NFPA fire hazard

: 0 - Materials that will not burn under typical dire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity

: 1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.



Hazard Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability : 0 Minimal Hazard - Materials that will not burn

Physical : 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

Personal protection

: C

C - Safety glasses, Gloves, Synthetic apron

SDS US LabChem

Information in this SDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and LabChem Inc assumes no liability resulting from the use of this SDS. The user must determine suitability of this information for his application.



SAFETY DATA SHEET

OLIN CORPORATION

Product name: Hydrochloric acid, < 37%

Issue Date: 03/15/2017

Print Date: 03/21/2017

OLIN CORPORATION encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: Hydrochloric acid, < 37%

Recommended use of the chemical and restrictions on use

Identified uses: For industrial formulation as a food processing agent. Pharmaceuticals. Organic Chemical Synthesis Oil and gas extraction.

COMPANY IDENTIFICATION

OLIN CORPORATION
190 CARONDELET PLAZA
CLAYTON MO 63105
UNITED STATES

Customer Information Number:

+1 844-238-3445
INFO@OLINBC.com

EMERGENCY TELEPHONE NUMBER

Local Emergency Contact: 1 800-424-9300

2. HAZARDS IDENTIFICATION

Hazard classification

This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Corrosive to metals - Category 1

Skin corrosion - Category 1B

Serious eye damage - Category 1

Specific target organ toxicity - single exposure - Category 3

Label elements

Hazard pictograms



Signal word: **DANGER!**

Hazards

May be corrosive to metals.
Causes severe skin burns and eye damage.
May cause respiratory irritation.

Precautionary statements**Prevention**

Keep only in original container.
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
Wash contaminated clothing before reuse.
Absorb spillage to prevent material damage.

Storage

Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Store in corrosive resistant container with a resistant inner liner.

Disposal

Dispose of contents/ container to an approved waste disposal plant.

Other hazards

No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

| Component | CASRN | Concentration |
|-------------------|-----------|---------------------|
| Hydrochloric acid | 7647-01-0 | >= 20.0 - <= 36.5 % |

4. FIRST AID MEASURES

Description of first aid measures

General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

Skin contact: Immediate continued and thorough washing in flowing water for at least 30 minutes is imperative while removing contaminated clothing. Prompt medical consultation is essential. Wash clothing before reuse. Properly dispose of leather items such as shoes, belts, and watchbands. Suitable emergency safety shower facility should be immediately available.

Eye contact: - Wash eyes with plenty of water for 15 minutes at least. Do not forget to remove contact lenses. Suitable emergency eye wash facility should be immediately available.

Ingestion: Do not induce vomiting. Give one cup (8 ounces or 240 ml) of water or milk if available and transport to a medical facility. Do not give anything by mouth unless the person is fully conscious.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to physician: Maintain adequate ventilation and oxygenation of the patient. May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. Material may cause severe pulmonary edema. For persons receiving significant exposure to this material, consider chest x-ray and keep under observation for 48 - 72 hr. for delayed onset of pulmonary edema. Humidified oxygen, intermittent positive pressure breathing, assisted respiration/CPAP and steroid therapy should be considered in treatment. Physical exertion may potentiate exposure effects during the first 24 - 72 hours. Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. If burn is present, treat as any thermal burn, after decontamination. Repeated exposure to acid fumes or mists may be associated with bleeding, ulceration of nose, mouth and gums and erosion of dental enamel. Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

5. FIREFIGHTING MEASURES

Suitable extinguishing media: This material does not burn. If exposed to fire from another source, use suitable extinguishing agent for that fire.

Unsuitable extinguishing media: Do not use water.

Special hazards arising from the substance or mixture

Hazardous combustion products: Fire conditions may cause this product to decompose. Refer to section 10 - Thermal Decomposition.

Unusual Fire and Explosion Hazards: Product reacts with water. Reaction may produce heat and/or gases. This reaction may be violent.

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Water is not recommended, but may be applied in large quantities as a fine spray when other extinguishing agents are not available. This material does not burn. Fight fire for other material that is burning. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Evacuate area. Keep upwind of spill. Ventilate area of leak or spill. Only trained and properly protected personnel must be involved in clean-up operations. Refer to section 7, Handling, for additional precautionary measures. See Section 10 for more specific information. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Small spills: Dilute with large quantities of water. Collect in suitable and properly labeled containers. Large spills: Contain spilled material if possible. Attempt to neutralize by adding materials such as Limestone. Lime. Soda ash. Pump into suitable and properly labeled containers. Contact your supplier for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe handling: Do not get in eyes, on skin, on clothing. Do not swallow. Do not breathe vapour. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Conditions for safe storage: Store in the following material(s): Plastic. Polyethylene-lined container. Natural rubber. See Section 10 for more specific information. Store away from incompatible materials. See STABILITY AND REACTIVITY section. Additional storage and handling information on this product may be obtained by calling your sales or customer service contact. Ask for a product brochure.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

| Component | Regulation | Type of listing | Value/Notation |
|-------------------|------------|-----------------|--------------------|
| Hydrochloric acid | ACGIH | C | 2 ppm |
| | OSHA Z-1 | C | 7 mg/m3 5 ppm |
| | CAL PEL | PEL | 0.45 mg/m3 0.3 ppm |
| | CAL PEL | C | 2 ppm |
| | OSHA P0 | C | 7 mg/m3 5 ppm |

Exposure controls

Engineering controls: Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use chemical goggles. If exposure causes eye discomfort, use a full-face respirator.

Skin protection

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Polyethylene. Neoprene. Polyvinyl chloride ("PVC" or "vinyl"). Styrene/butadiene rubber. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Viton. Chlorinated polyethylene. Natural rubber ("latex"). Nitrile/butadiene rubber ("nitrile" or "NBR"). Avoid gloves made of: Polyvinyl alcohol ("PVA"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus.

The following should be effective types of air-purifying respirators: Acid gas cartridge with particulate pre-filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state Liquid.

Color White to yellow

Odor acidic

Odor Threshold No test data available

pH < 2 Literature

| | |
|---|---|
| Melting point/range | -27 - 57.22 °C (-17 - 135.00 °F) |
| Freezing point | -27 - 57.22 °C (-17 - 135.00 °F) |
| Boiling point (760 mmHg) | 53 - 107.78 °C (127 - 226.00 °F) |
| Flash point | <i>Not applicable</i> None |
| Evaporation Rate (Butyl Acetate = 1) | No test data available |
| Flammability (solid, gas) | Not Applicable |
| Lower explosion limit | <i>Literature</i> Not applicable |
| Upper explosion limit | <i>Literature</i> Not applicable |
| Vapor Pressure | No data available |
| Relative Vapor Density (air = 1) | 11 <i>Literature</i> |
| Relative Density (water = 1) | 1.01 - 1.186 at 20 °C (68 °F) <i>Literature</i> |
| Water solubility | Miscible in water |
| Partition coefficient: n-octanol/water | log Pow: -2.65 |
| Auto-ignition temperature | <i>Literature</i> Not applicable |
| Decomposition temperature | No test data available No test data available |
| Kinematic Viscosity | 2 m2/s <i>Calculated.</i> |
| Explosive properties | No data available |
| Oxidizing properties | No data available |
| Liquid Density | 71.6 - 72.6 lb/ft3 at 20 °C (68 °F) <i>Estimated.</i> |
| Molecular weight | 36.46 g/mol |
| Percent volatility | >= 99 % <i>Literature</i> |

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: No data available

Chemical stability: Thermally stable at typical use temperatures.

Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: Exposure to elevated temperatures can cause product to decompose.

Incompatible materials: Heat is generated when mixed with water. Spattering and boiling can occur. Avoid contact with strong bases. Avoid contact with: Sulfuric acid. Amines. Bases. Carbonates. Oxidizers. Corrosive to some metals. Contact with common metals can generate flammable hydrogen gas.

Hazardous decomposition products: Decomposition products can include and are not limited to: Hydrogen chloride.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity

Swallowing may result in gastrointestinal irritation or ulceration. Swallowing may result in burns of the mouth and throat.

Oral LD50 has not been determined due to corrosivity.

Acute dermal toxicity

Absorption has not been determined due to corrosivity.

The dermal LD50 has not been determined.

Acute inhalation toxicity

Brief exposure (minutes) to easily attainable concentrations may cause adverse effects. Mist may cause severe irritation of the upper respiratory tract (nose and throat) and lungs. Vapor may cause severe irritation of the upper respiratory tract (nose and throat) and lungs. May cause severe pulmonary edema (fluid in the lungs). Excessive exposure may cause lung injury.

LC50, Rat, 4 Hour, dust/mist, 1.03 mg/l

Skin corrosion/irritation

Brief contact may cause severe skin burns. Symptoms may include pain, severe local redness and tissue damage.

Serious eye damage/eye irritation

May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Vapor may cause lacrimation (tears).

Sensitization

For skin sensitization:

No relevant information found.

For respiratory sensitization:

No relevant information found.

Specific Target Organ Systemic Toxicity (Single Exposure)

May cause respiratory irritation.

Route of Exposure: Inhalation

Target Organs: Respiratory Tract

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Repeated excessive exposure may cause erosion of teeth and bleeding and ulceration of nose, mouth and gums.

Carcinogenicity

Did not cause cancer in laboratory animals. An epidemiology study of workers did not show any association between hydrogen chloride exposure and lung cancer.

Teratogenicity

No relevant data found.

Reproductive toxicity

No relevant data found.

Mutagenicity

No relevant data found.

Aspiration Hazard

Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

COMPONENTS INFLUENCING TOXICOLOGY:

Hydrochloric acid

Acute oral toxicity

Swallowing may result in gastrointestinal irritation or ulceration. Swallowing may result in burns of the mouth and throat.

Oral LD50 has not been determined due to corrosivity.

Acute dermal toxicity

The dermal LD50 has not been determined.

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity

Acute toxicity to fish

May decrease pH of aquatic systems to < pH 5 which may be toxic to aquatic organisms.

Persistence and degradability

Biodegradability: Biodegradation is not applicable.

Bioaccumulative potential

Bioaccumulation: Partitioning from water to n-octanol is not applicable. No bioconcentration is expected because of the relatively high water solubility.

Partition coefficient: n-octanol/water(log Pow): -2.65

Mobility in soil

No data available for assessment due to technical difficulties with testing.

13. DISPOSAL CONSIDERATIONS

Disposal methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and

compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Recycler. Reclaimer. Waste water treatment system.

14. TRANSPORT INFORMATION

DOT

| | |
|-----------------------------|-------------------|
| Proper shipping name | Hydrochloric acid |
| UN number | UN 1789 |
| Class | 8 |
| Packing group | II |
| Reportable Quantity | Hydrochloric acid |

Classification for SEA transport (IMO-IMDG):

| | |
|---|--|
| Proper shipping name | HYDROCHLORIC ACID |
| UN number | UN 1789 |
| Class | 8 |
| Packing group | II |
| Marine pollutant | No |
| Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code | Consult IMO regulations before transporting ocean bulk |

Classification for AIR transport (IATA/ICAO):

| | |
|-----------------------------|-------------------|
| Proper shipping name | Hydrochloric acid |
| UN number | UN 1789 |
| Class | 8 |
| Packing group | II |

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Acute Health Hazard

Chronic Health Hazard

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

This product contains the following substances which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and which are listed in 40 CFR 372.

Components

Hydrochloric acid

CASRN

7647-01-0

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103

Calculated RQ exceeds reasonably attainable upper limit.

Components

Hydrochloric acid

CASRN

7647-01-0

RQ (RCRA Code)

5000 lbs RQ

Pennsylvania Worker and Community Right-To-Know Act:

The following chemicals are listed because of the additional requirements of Pennsylvania law:

Components

Hydrochloric acid

CASRN

7647-01-0

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)

This product is not listed, but it may contain elements known to the State of California to cause cancer or reproductive toxicity as listed under Proposition 65 Safe Drinking Water and Toxic Enforcement Act. For additional information, contact Olin.

United States TSCA Inventory (TSCA)

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

16. OTHER INFORMATION

Hazard Rating System**NFPA**

| Health | Fire | Reactivity |
|--------|------|------------|
| 3 | 0 | 0 |

Revision

Identification Number: 10000001219 / A619 / Issue Date: 03/15/2017 / Version: 1.1

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

| | |
|---------|---|
| ACGIH | USA. American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLV) |
| C | Ceiling limit |
| CAL PEL | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
| OSHA P0 | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |

| | |
|----------|--|
| OSHA Z-1 | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| PEL | Permissible exposure limit |

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

OLIN CORPORATION urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

Safety Data Sheet

HYDROCHLORIC ACID 20 DEGREE

UNCONTROLLED DOCUMENT

Warsaw Chemical Co., Inc. posts our Safety Data Sheets (SDS) to our company website
ONLY. Warsaw Chemical is NOT responsible for any SDS found on other sites.

Version 1.0010

Revision Date 09/04/2015

Print Date 09/04/2015



Section 1. Chemical product and company identification

Product Name: HYDROCHLORIC ACID 20 DEGREE

Product use: Cleaner

Contact Information: Warsaw Chemical Co., Inc.

P.O. Box 858

Warsaw, IN 46581

Tel: 1.800.548.3396

Fax: 1.574.267.3884

Emergency Phone: INFOTRAC

800.535.5053 USA & Canada

352.323.3500 International

Section 2. Hazards identification

GHS Classification:

Skin corrosion/irritation(Category 1A, 1B, 1C)

Acute toxicity, oral(Category 1, 2)

Acute toxicity, inhalation(Category 1,2)

Serious eye damage/eye irritation(Category 1)

Sensitization, respiratory(Category 1)

Aspiration hazard(Category 1)

Corrosive to metals(Category 1)

Pictogram(s):



Signal Word: DANGER

Hazard Statements:

H314 Causes severe skin burns and eye damage

H300 Fatal if swallowed

H330 Fatal if inhaled

H318 Causes serious eye damage

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled

H304 May be fatal if swallowed and enters airways

H290 May be corrosive to metals

Precautionary Statement(s):

P260 Do not breathe dust/fumes/gas/mist/vapours/spray

P264 Wash ... thoroughly after handling

P280 Wear protective gloves/protective clothing/eye protection/face protection

P363 Wash contaminated clothing before reuse

P270 Do not eat, drink or smoke when using this product

P330 Rinse mouth

P405 Store locked up

P501 Dispose of contents/container in accordance with federal, state and/or local regulations

P271 Use only outdoors or in a well-ventilated area

P284 Wear respiratory protection

P310 Immediately call a POISON CENTER or doctor/physician

P301+330+331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

P303+361+353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

P304+340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P301+310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing

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Section 3. Composition/information on ingredients

| <u>Name</u> | <u>CAS number</u> | <u>% Less Than</u> |
|----------------|-------------------|--------------------|
| Inorganic Acid | 7647-01-1 | 100.0000 |

The chemical identity of some or all components is confidential business information (trade secret) and is being withheld as permitted by 29CFR19191200 (i). No other ingredients known to be hazardous.

Section 4. First aid measures

| | |
|----------------------|---|
| Eye contact: | Check for and remove contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately. |
| Skin contact: | Wash skin surfaces thoroughly after contact. Wash clothing and clean shoes thoroughly before reuse. Get medical attention if irritation develops. |
| Inhalation: | Move exposed person to fresh air. If breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen clothing. Get medical attention immediately. |
| Ingestion: | Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately. |
| General: | Physicians: No specific treatment. Treat symptomatically. Contact poison treatment specialist if large quantities have been inhaled or ingested. |

See Section 11 for exposure symptoms.

Safety Data Sheet

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Section 5. Fire-fighting measures

- Flammability:** In a fire or if heated, a pressure increase will occur and the container may burst.
- Extinguishing Media:** Use an extinguishing agent suitable for the surrounding fire.
- Protective Equipment:** Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with full face-piece operated in positive pressure mode.
- Additional Information:** Thermal decomposition products-carbon monoxide, sulfur oxides, metal oxide/oxides, halogenated compounds.

Section 6. Accidental release measures

- Personal Precautions:** No action should be taken involving individual risk or without suitable training. Isolate area. Avoid contact with material. Do not breath vapors. Provide adequate ventilation. Wear proper personal protective equipment.
- Environmental:** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform relevant authorities if the product reaches sewers, waterways or soil.
- Containment/Cleanup:** Stop leak if without risk. Move containers from spill area. Contain or absorb with inert dry material. Dispose of according to local regulations. See Section 1 for emergency contact information and 13 for waste disposal.

Section 7. Handling and storage

- Safe Handling:** Wear appropriate personal protective equipment (see Section 8). Eating drinking and smoking should be prohibited. Do not get into eyes or on skin. Do not ingest. Keep containers tightly closed. Do not reuse container.
- Safe Storage:** Store in accordance with local regulations. Store in original container away from foods, drink and incompatible materials. Keep container tightly closed. Do not store unlabeled. Use appropriate containment.

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Section 8. Exposure controls/personal protection

- Engineering Controls:** Apply technical measures to comply with occupational exposure limits. Mechanical ventilation, eyewash stations, showers where necessary.
- Eye Protection:** Safety eyewear/face shield complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
- Respiratory Protection:** Use a properly fitted air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates necessity. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product & the safe working limits of the chosen respirator.
- Hand Protection:** Chemical resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Skin Protection:** Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

| COMPONENT | ACGIH TWA ppm | OSHA/NIOSH STEL ppm | OSHA/ACGHI STEL mg/m3 |
|----------------|------------------|---------------------------|-----------------------------|
| Inorganic Acid | 2 | | 7 |

Section 9. Physical and chemical properties

| | |
|----------------------------|----------------------|
| Physical State: | Liquid |
| Color: | Clear to pale yellow |
| Odor: | Sharp pungent |
| Odor Threshold: | N/E |
| pH: | <1 |
| Melting Point: | -174°F |
| Freezing Point: | -174°F |
| Boiling Point: | N/E |
| Flash Point: | N/A |
| Evaporation Rate: | N/E |
| Flammability: | N/A |
| Upper Explosive Limits: | N/A |
| Lower Explosive Limits: | N/A |
| Vapor Pressure: | N/E |
| Vapor Density: | N/E |
| Relative Density: | N/E |
| Solubility: | Complete |
| Partition coefficient: | N/E |
| Auto-Ignition Temperature: | N/E |
| Decomposition Temperature: | N/E |
| Specific Gravity: | <1.19 @ 20°C |
| % Volatile: | 100 |

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Section 10. Stability and reactivity

Reactivity: Reactive with matals

Chemical stability: Stable under normal conditions.

Possibility of hazardous reactions: None under normal conditions.

Conditions to avoid: AVOID HEAT and open flames

Incompatible materials: STRONG OXIDIZERS, ALKLAIS, reacts with metals producing flammable hydrogen gas which can form explosive mixtures with air

Hazardous Decomposition Products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Routes of entry: X Inhalation X Absorption X Ingestion

Acute Exposure Hazards:

Eye contact: Severe eye irritation, burns

Dermal: Skin irritation, can cause burns with contact

Oral: Corrosive to mucous membranes.

Inhalation: MIST MAY BE MILD TO STRONG IRRITANT, CORROSVE.

| COMPONENT | Result | Species | Dose | Exposure |
|----------------|-----------|---------|----------|----------|
| Inorganic Acid | LD50 ORAL | rat | 700mg/kg | |

Safety Data Sheet

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Section 12. Ecological information

Ecotoxicity: No data available.
Persistence & degradability: No data available.
Bioaccumulative potential: No data available.
Mobility in soil: No data available.
Other adverse effects: No data available.

| Component | Result | Species | Dose | Exposure |
|-----------|--------|---------|------|----------|
|-----------|--------|---------|------|----------|

Section 13. Disposal considerations

Material that cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Processing, use or contamination of this product may change the waste management options. Waste generators must decide if discarded material is a hazardous waste. State and local disposal regulations may differ from federal disposal definitions. Dispose of container and unused contents in accordance with federal, state and local requirements.

Section 14. Transport information

DOT (US)

UN Number: UN1789
Shipping Name: HYDROCHLORIC ACID SOLUTION, 8
Technical Name: HYDROCHLORIC ACID SOLUTION, 8
Hazard Class:
Packaging Group: II

Section 15. Regulatory information

| | | |
|---------------------|-----------|-------------|
| SARA 313 Components | CAS No. | % Less Than |
| Inorganic Acid | 7647-01-1 | 100.0000 |

| | | |
|--------------------------------|---------|-------------|
| California Prop. 65 Components | CAS No. | % Less Than |
|--------------------------------|---------|-------------|

Safety Data Sheet

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Revision Date 09/04/2015

Print Date 09/04/2015



Section 16. Other information

Hazardous Material Information System (U.S.A.)

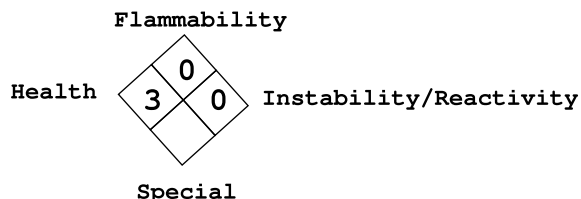
| | |
|---------------------|---|
| Health Hazard | 3 |
| Fire Hazard | 0 |
| Reactivity | 0 |
| Personal Protection | F |

Caution: HMIS ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks and 4 representing significant hazards or risks.

PERSONAL PROTECTION INDEX

| | |
|---|---|
| A | Safety Glasses |
| B | Safety Glasses, Gloves |
| C | Safety Glasses, Gloves, Apron |
| D | Face Shield, Gloves, Apron |
| E | Safety Glasses, Gloves, Dust Respirator |
| F | Safety Glasses, Gloves, Apron, Dust Respirator |
| G | Safety Glasses, Gloves, Vapor Respirator |
| H | Splash Goggles, Gloves, Apron, Dust & Vapor Respirator |
| I | Safety Glasses, Gloves, Dust & Vapor Respirator |
| J | Splash Goggles, Gloves, Apron, Dust & Vapor Respirator |
| K | Airline Hood or Mask, Gloves, Full Suit, Boots |
| X | Consult your supervisor for special handling directions |

National Fire Protection
Association (U.S.A.)



NFPA warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals.

Information on this form is furnished solely for the purpose of compliance with the Occupational Safety and Health Act of 1970 and shall not be used for any other purpose. Use or dissemination of all or any part of this information can be grounds for legal action.

To the best of our knowledge, the information provided in this Safety Data Sheet is accurate as of the date of its issue. However, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE. The information this Safety Data Sheet contains is being given for safety guidance purposes and relates only to the specific material and uses described in it. This information does not necessarily apply to that material when combined with other material(s) or when used otherwise than as described herein.

In all cases, it is the responsibility of the user to determine the applicability of such information and recommendations and the suitability of any product for its own particular purpose. All materials may represent unknown hazards and should be used with caution.

Safety Data Sheet

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

HYDROGEN

Synonyms

MTG MSDS 49; HYDROGEN GAS; HYDROGEN COMPRESSED; HYDROGEN (H₂); DIHYDROGEN; UN 1049; H₂

Chemical Family

inorganic, Gas

Product Use

Industrial and Specialty Gas Applications

Restrictions on Use

None known

Details of the supplier of the safety data sheet

SPECIALTY CHEMICAL PRODUCTS

1407 Pennsylvania Ave.

South Houston, TX 77587

General Information: 713-944-0900

Emergency #: 1-800-424-9300 (CHEMTREC)

Outside the US: 1-703-527-3887 (Call collect)

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.

Flammable Gases - Category 1

Gases Under Pressure - Compressed gas

Acute Toxicity - Inhalation - Gas - Category 4

Simple Asphyxiant

GHS Label Elements**Symbol(s)****Signal Word**

Danger

Hazard Statement(s)

Extremely flammable gas.

Contains gas under pressure; may explode if heated.

Harmful if inhaled.

May displace oxygen and cause rapid suffocation.

Precautionary Statement(s)**Prevention**

Use only outdoors or in a well-ventilated area.

Avoid breathing dust/fume/gas/mist/vapors/spray.

Response

Safety Data Sheet

Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

Eliminate all ignition sources if safe to do so.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER or doctor if you feel unwell.

Storage

Protect from sunlight. Store in a well-ventilated place.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Other Hazards

Rapid release of compressed gas may cause frostbite.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

| CAS | Component Name | Percent |
|-----------|----------------|---------|
| 1333-74-0 | HYDROGEN | 100.0 |

Section 4 - FIRST AID MEASURES

Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

Skin

Wash exposed skin with soap and water.

Eyes

Flush eyes with plenty of water.

Ingestion

If a large amount is swallowed, get medical attention.

Most Important Symptoms/Effects

Acute

frostbite, suffocation

Delayed

No information on significant adverse effects.

Note to Physicians

For inhalation, consider oxygen.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

carbon dioxide, regular dry chemical, Large fires: Flood with fine water spray.

Unsuitable Extinguishing Media

None known

Special Hazards Arising from the Chemical

Extremely flammable gas. Severe fire hazard. Severe explosion hazard. Vapor/air mixtures are explosive.

Pressurized containers may rupture or explode if exposed to sufficient heat. Electrostatic discharges may be generated by flow or agitation resulting in ignition or explosion.

Fire Fighting Measures

Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Withdraw

Safety Data Sheet

immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck: Stop leak if possible without personal risk. Let burn unless leak can be stopped immediately. For smaller tanks or cylinders, extinguish and isolate from other flammables. Evacuation radius: 800 meters (1/2 mile). Do not attempt to extinguish fire unless flow of material can be stopped first. Flood with fine water spray. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Evacuate if fire gets out of control or containers are directly exposed to fire. Evacuation radius: 500 meters (1/3 mile). Consider downwind evacuation if material is leaking. Stop flow of gas.

Special Protective Equipment and Precautions for Firefighters

Wear personal protective clothing and equipment such as self-contained breathing apparatus (SCBA) for protection against possible exposure.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Avoid heat, flames, sparks and other sources of ignition. Do not touch spilled material. Stop leak if possible without personal risk. Reduce vapors with water spray. Keep unnecessary people away, isolate hazard area and deny entry. Remove sources of ignition. Ventilate closed spaces before entering.

Methods and Materials for Containment and Cleaning Up

Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Avoid heat, flames, sparks and other sources of ignition. Stop leak if possible without personal risk. Reduce vapors with water spray. Keep unnecessary people away, isolate hazard area and deny entry. Remove all sources of ignition. Ventilate closed spaces before entering. Damaged cylinders should be handled only by specialists.

Environmental Precautions

Avoid release to the environment.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Keep away from heat/sparks/open flame/hot surfaces - No smoking. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Damaged cylinders should be handled only by specialists.

Conditions for Safe Storage, Including any Incompatibilities

Protect from sunlight. Store in a well-ventilated place.

Store locked up. Keep cool. Store and handle in accordance with all current regulations and standards. Grounding and bonding required. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Keep separated from incompatible substances.

Incompatible Materials

metals, oxidizing materials, metal oxides, combustible materials, halogens, metal salts, halo carbons

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

| | |
|-----------------|---|
| HYDROGEN | 1333-74-0 |
| ACGIH: | (See Appendix F: Minimal Oxygen Content, explosion hazard) |

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

There are no biological limit values for any of this product's components.

Engineering Controls

Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

Safety Data Sheet

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection

Eye protection not required, but recommended.

Skin Protection

Protective clothing is not required.

Respiratory Protection

Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use. Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode. Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

Glove Recommendations

Wear appropriate chemical resistant gloves.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|--------------------------|--------------------|--|---------------------|
| Appearance | Not available | Physical State | gas |
| Odor | odorless | Color | colorless |
| Odor Threshold | Not available | pH | Not available |
| Melting Point | -259 °C (-434 °F) | Boiling Point | -253 °C (-423 °F) |
| Boiling Point Range | Not available | Freezing point | Not available |
| Evaporation Rate | Not available | Flammability (solid, gas) | Flammable gas |
| Autoignition Temperature | 400 °C (752 °F) | Flash Point | Not available |
| Lower Explosive Limit | 4 % | Decomposition temperature | Not available |
| Upper Explosive Limit | 75 % | Vapor Pressure | 760 mmHg @ -253 °C |
| Vapor Density (air 1) | 0.07 | Specific Gravity (water 1) | Not available |
| Water Solubility | 1.82 % (@ 20 °C) | Partition coefficient: n-octanol/water | Not available |
| Viscosity | 0.008957 cp | Kinematic viscosity | Not available |
| Solubility (Other) | Not available | Density | 0.08987 g/L at 0 °C |
| Physical Form | Compressed gas | Taste | tasteless |
| Molecular Formula | H ₂ | Molecular Weight | 2 |

Safety Data Sheet

Solvent Solubility**Slightly Soluble**

alcohol, ether

Section 10 - STABILITY AND REACTIVITY**Reactivity**

No reactivity hazard is expected.

Chemical Stability

Stable at normal temperatures and pressure.

Possibility of Hazardous Reactions

Will not polymerize.

Conditions to Avoid

Avoid heat, flames, sparks and other sources of ignition. Minimize contact with material. Containers may rupture or explode if exposed to heat.

Incompatible Materials

metals, oxidizing materials, metal oxides, combustible materials, halogens, metal salts, halo carbons

Hazardous decomposition products

miscellaneous decomposition products

Section 11 - TOXICOLOGICAL INFORMATION**Information on Likely Routes of Exposure****Inhalation**

Harmful if inhaled, nausea, vomiting, difficulty breathing, irregular heartbeat, headache, fatigue, dizziness, Disorientation, mood swings, tingling sensation, loss of coordination, convulsions, Unconsciousness, coma

Skin Contact

frostbite

Eye Contact

frostbite

Ingestion

ingestion of a gas is unlikely

Acute and Chronic Toxicity**Component Analysis - LD50/LC50**

The components of this material have been reviewed in various sources and the following selected endpoints are published:

HYDROGEN (1333-74-0)

Inhalation LC50 Rat >15000 ppm 1 h

Product Toxicity Data**Acute Toxicity Estimate**

Inhalation - Gas

7500 ppm

Immediate Effects

frostbite, suffocation

Delayed Effects

No information on significant adverse effects.

Irritation/Corrosivity Data

No data available.

Respiratory Sensitization

No data available.

Dermal Sensitization

Safety Data Sheet

No data available.

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA.

Germ Cell Mutagenicity

No data available.

Tumorigenic Data

No data available

Reproductive Toxicity

No data available.

Specific Target Organ Toxicity - Single Exposure

No target organs identified.

Specific Target Organ Toxicity - Repeated Exposure

No target organs identified.

Aspiration hazard

No data available.

Medical Conditions Aggravated by Exposure

No data available.

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

No LOLI ecotoxicity data are available for this product's components.

Persistence and Degradability

No data available for this product.

Bioaccumulative Potential

No data available for this product.

Mobility

No data available for this product.

Bioconcentration

No data available for this product.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262.

Hazardous Waste Number(s): D001.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

Section 14 - TRANSPORT INFORMATION

US DOT Information:

Shipping Name: HYDROGEN, COMPRESSED

Hazard Class: 2.1

UN/NA #: UN1049

Required Label(s): 2.1

TDG Information:

Shipping Name: HYDROGEN, COMPRESSED

Hazard Class: 2.1

UN#: UN1049

Required Label(s): 2.1

International Bulk Chemical Code

Safety Data Sheet

This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations

None of this product's components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA Section 311/312 (40 CFR 370 Subparts B and C) reporting categories

Flammable; Gas Under Pressure; Acute toxicity; Simple Asphyxiant

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

| Component | CAS | CA | MA | MN | NJ | PA |
|-----------|-----------|-----|-----|-----|-----|-----|
| HYDROGEN | 1333-74-0 | Yes | Yes | Yes | Yes | Yes |

Not listed under California Proposition 65

Canada Regulations

Canadian WHMIS Ingredient Disclosure List (IDL)

The components of this product are either not listed on the IDL or are present below the threshold limit listed on the IDL.

WHMIS Classification

A , B1

Component Analysis - Inventory

HYDROGEN (1333-74-0)

| US | CA | EU | AU | PH | JP - ENCS | JP - ISHL | KR KECI - Annex 1 | KR KECI - Annex 2 | KR - REACH CCA | CN | NZ | MX | TW | VN (Draft) |
|-----|-----|-----|-----|-----|-----------|-----------|-------------------|-------------------|----------------|-----|-----|-----|-----|------------|
| Yes | DSL | EIN | Yes | Yes | No | No | Yes | No | No | Yes | Yes | Yes | Yes | Yes |

Section 16 - OTHER INFORMATION

NFPA Ratings

Health: 2 Fire: 4 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Summary of Changes

Updated: 11/26/2015

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing

Safety Data Sheet

Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; F - Background (for Venezuela Biological Exposure Indices); IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) , KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX – Mexico; Ne- Non-specific; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; Nq - Non-quantitative; NSL – Non-Domestic Substance List (Canada); NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL- Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; Sc - Semi-quantitative; STEL - Short-term Exposure Limit; TCCA – Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW – Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN (Draft) - Vietnam (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada).

Other Information

Disclaimer:

Specialty Chemical Products makes no express or implied warranties, guarantees or representations regarding the product or the information herein, including but not limited to any implied warranty or merchantability or fitness for use. Specialty Chemical Products shall not be liable for any personal injury, property or other damages of any nature, whether compensatory, consequential, exemplary, or otherwise, resulting from any publication, use or reliance upon the information herein.

Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 03/05/2015

Supersedes: 06/01/2013

Version: 2.0

Trade name : Ice Attack Melt, Krusher, Artic Melt
Product form : Mixture

Use of the substance/mixture : Calcium Chloride Solution

Frank Miller and Sons
230 West Bogen Road
Sturgis, MI 49091
708-201-7200

Emergency number : 269-659-6358

No labelling applicable

No additional information available

No data available

Not applicable

| | | |
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| Contains no hazardous ingredients at levels requiring disclosure by the OSHA Hazard Communication Standard (29 CFR 1910.1200). | | |
|--|--|--|

First-aid measures general : If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.

First-aid measures after inhalation : IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if breathing is affected. If breathing is difficult, supply oxygen.

First-aid measures after skin contact : IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water for at least 15 minutes. If irritation develops or persists, get medical attention.

First-aid measures after eye contact : IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

First-aid measures after ingestion : IF SWALLOWED: rinse mouth thoroughly. Do not induce vomiting without advice from poison control center or medical professional. Get medical attention if you feel unwell.

Symptoms/injuries after inhalation : May cause respiratory irritation.

Symptoms/injuries after skin contact : May cause skin irritation.

Symptoms/injuries after eye contact : Direct contact with the eyes is likely to be irritating.

Symptoms/injuries after ingestion : May cause gastrointestinal irritation.

No additional information available.

Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| | |
|--------------------------------|--|
| Suitable extinguishing media | : Dry chemical. Foam. Water spray. Sand. |
| Unsuitable extinguishing media | : None known. |
| Fire hazard | : Product is not flammable. |
| Explosion hazard | : Product is not explosive. |
| Reactivity | : Product is hygroscopic and may give off heat while dissolving. |
| Firefighting instructions | : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not dispose of fire-fighting water in the environment. |
| Protection during firefighting | : Do not enter fire area without proper protective equipment, including respiratory protection. |

| | |
|----------------------|---|
| General measures | : Spill should be handled by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8). Evacuate area. Ventilate area. Keep upwind. |
| Protective equipment | : Wear Protective equipment as described in Section 8. |
| Emergency procedures | : Evacuate unnecessary personnel. |
| Protective equipment | : Wear suitable protective clothing, gloves and eye or face protection. Approved supplied-air respirator, in case of emergency. |

Avoid release to the environment. Prevent entry to sewers and public waters.

| | |
|-------------------------|--|
| For containment | : Contain and collect as any solid. Prevent entry to sewers and public waters. |
| Methods for cleaning up | : Sweep up loose material. Place residues in suitable, covered, and labeled container. Dispose of material in compliance with local, state, and federal regulations. |

No additional information available

| | |
|-------------------------------|--|
| Precautions for safe handling | : Do not handle until all safety precautions have been read and understood. Keep away from sources of ignition - No smoking. Use appropriate personal protection equipment (PPE). Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. If diluting, the heat developed during diluting or dissolving is very high. Use cool water (less than 80°F) and add material to water. |
| Storage conditions | : Keep container tightly closed. Store in a dry, cool and well-ventilated place. |
| Incompatible materials | : Moisture. |
| Storage area | : Store in a well-ventilated place. |

No additional information available

No additional information available

| | |
|----------------------------------|---|
| Appropriate engineering controls | : Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable materials. Ensure adequate ventilation, especially in confined areas. |
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Safety Data Sheet

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Personal protective equipment : Protective goggles. Gloves.



Hand protection : Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl.

Eye protection : Use eye protection suitable to the environment. Avoid direct contact with eyes.

Skin and body protection : Wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure.

Respiratory protection : Use NIOSH-approved dust/particulate respirator. Where vapor, mist, or dust exceed PELs or other applicable OELs, use NIOSH-approved respiratory protective equipment.

| | |
|--|--------------------------|
| Physical state | : Solid |
| Appearance | : Crystalline solid. |
| Color | : Light green. |
| Odor | : No data available |
| Odor Threshold | : No data available |
| pH | : No data available |
| Relative evaporation rate (butylacetate=1) | : No data available |
| Melting point | : No data available |
| Freezing point | : No data available |
| Boiling point | : > 815.556 °C (>1500°F) |
| Flash point | : No data available |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : No data available |
| Vapour pressure | : No data available |
| Relative vapour density at 20 °C | : No data available |
| Relative density | : ≈ 2.2 |
| Solubility | : Soluble. |
| Log Pow | : No data available |
| Log Kow | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosive properties | : No data available |
| Oxidising properties | : No data available |
| Explosive limits | : No data available |

No additional information available

Product is hygroscopic and may give off heat while dissolving.

Stable.

No dangerous reactions known under normal conditions of use.

Contact with certain metals.

Sulfuric acid. Metals may corrode in aqueous calcium chloride solutions. Avoid contact with brass, steel, aluminum, ferrous metals or alloys thereof. Leather clothing and shoes may be damaged by calcium chloride.

Safety Data Sheet

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Reacts slowly with (some) metals: release of highly flammable gases/vapours hydrogen. Product attracts moisture and gives off heat while dissolving. May produce toxic and noxious fumes under extreme fire conditions.

| | |
|--|--|
| Acute toxicity | : Not classified |
| Skin corrosion/irritation | : Not classified |
| Serious eye damage/irritation | : Not classified |
| Respiratory or skin sensitisation | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Not classified |
| Reproductive toxicity | : Not classified |
| Specific target organ toxicity (single exposure) | : Not classified |
| Specific target organ toxicity (repeated exposure) | : Not classified |
| Aspiration hazard | : Not classified |
| Symptoms/injuries after inhalation | : May cause respiratory irritation. |
| Symptoms/injuries after skin contact | : May cause skin irritation. |
| Symptoms/injuries after eye contact | : Direct contact with the eyes is likely to be irritating. |
| Symptoms/injuries after ingestion | : May cause gastrointestinal irritation. |

Ecology - general : Based largely or completely on data for major components: this material is practically non-toxic to aquatic organisms on an acute basis (LC50 greater than 100 mg/L in most sensitive species).

No additional information available

No additional information available

No additional information available

No additional information available

Waste treatment methods : Do not discharge to public wastewater systems without permit of pollution control authorities. No discharge to surface waters is allowed without an NPDES permit.

Waste disposal recommendations : Dispose of in accordance with local/national regulations. Do not allow the product to be released into the environment.

In accordance with DOT
Not hazardous for transport

Other information : No supplementary information available.

No additional information available

No additional information available

Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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| | |
|---|---------------------------------|
| All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory | |
| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard |

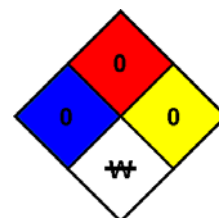
No additional information available.

This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm

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Revision date : 03/05/2015
Other information : Author: ZPT.

NFPA health hazard : 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.
NFPA fire hazard : 0 - Materials that will not burn.
NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.
NFPA specific hazard : W - Unusual reactivity with water. This indicates a potential hazard using water to fight a fire involving this material. When a compound is both water-reactive and an oxidizer, the W/bar symbol should go in this quadrant and the OX warning is placed immediately below the NFPA diamond.



Health : 0
Flammability : 0
Physical : 0
Personal Protection :

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product

Safety Data Sheet

Printing date 03/17/2017

Revised On 03/15/2017

1 Identification of the substance and manufacturer

Trade name: NEW FARM AND IMPLEMENT GREEN

Product code: 0000160268

Product category: PC9a Paints and coatings.

Manufacturer/Supplier: Seymour of Sycamore
917 Crosby Avenue
Sycamore, IL 60178
phone: 815-895-9101
www.seymourpaint.com

Emergency telephone number: CHEMTEL 1-800-255-3924, or 813-248-0585.

2 Hazard(s) identification

Classification of the substance or mixture

Flam. Aerosol 1 H222 Extremely flammable aerosol.

Press. Gas H280 Contains gas under pressure; may explode if heated.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

GHS Hazard pictograms



GHS02 GHS04 GHS07 GHS08

Signal word

Hazard statements

Danger

Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.

Precautionary statements

May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Do not spray on an open flame or other ignition source.
Do not pierce or burn, even after use.
Wash hands thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not breathe dust/fume/gas/mist/vapors/spray.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a POISON CENTER/doctor if you feel unwell.
If eye irritation persists: Get medical advice/attention.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Protect from sunlight. Store in a well-ventilated place.
Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical characterization: Mixtures

Chemical Description:

This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:

| | | |
|-----------|----------------------|--------|
| 67-64-1 | Acetone | 20.65% |
| 74-98-6 | propane | 15.68% |
| 7727-43-7 | barium sulfate | 9.29% |
| 106-97-8 | n-butane | 9.21% |
| 110-19-0 | Isobutyl Acetate | 7.2% |
| 2807-30-9 | Glycol Ether EP | 6.97% |
| 123-86-4 | n-butyl acetate | 3.54% |
| 108-65-6 | PM acetate | 2.1% |
| 107-87-9 | Methyl Propyl Ketone | 1.44% |

4 First-aid measures

After inhalation:

Supply fresh air; consult doctor in case of complaints.

After skin contact:

Remove contaminated clothing. Wash exposed area with soap and water.

After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing:

Rinse out mouth and then drink plenty of water.
Rinse mouth with water. Do not induce vomiting.

Most important symptoms and effects:

Dizziness

Indication of any immediate medical attention needed:

No further relevant information available.

5 Fire-fighting measures

Extinguishing agents:

CO2, extinguishing powder or water spray. Fight larger fires with water spray.

Special hazards:

Can form explosive gas-air mixtures.

(Contd. on page 2)

Safety Data Sheet

Printing date 03/17/2017

Revised On 03/15/2017

Trade name: NEW FARM AND IMPLEMENT GREEN

(Contd. of page 1)

Protective equipment for firefighters:

A respiratory protective device may be necessary.

6 Accidental release measures**Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Keep unprotected persons away.
Use respiratory protective device against the effects of fumes/dust/aerosol.

Methods and material for containment and cleaning up:

Ensure adequate ventilation.

7 Handling and storage**Precautions for safe handling
Storage requirements:**

Use only in well ventilated areas.
Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions. Store locked up.

8 Exposure controls/personal protection**Components with limit values that require monitoring at the workplace:****67-64-1 Acetone**

| | |
|-----------|--|
| PEL (USA) | Long-term value: 2400 mg/m ³ , 1000 ppm |
| REL (USA) | Long-term value: 590 mg/m ³ , 250 ppm |
| TLV (USA) | Short-term value: 1187 mg/m ³ , 500 ppm |
| | Long-term value: 594 mg/m ³ , 250 ppm |
| | BEI |

74-98-6 propane

| | |
|-----------|--|
| PEL (USA) | Long-term value: 1800 mg/m ³ , 1000 ppm |
| REL (USA) | Long-term value: 1800 mg/m ³ , 1000 ppm |
| TLV (USA) | refer to Appendix F in TLVs&BEIs book; NIC-EX |

7727-43-7 barium sulfate

| | |
|-----------|---|
| PEL (USA) | Long-term value: 15* 5** mg/m ³ *total dust **respirable fraction |
| REL (USA) | Long-term value: 10* 5** mg/m ³ *total dust **respirable fraction |
| TLV (USA) | Long-term value: 5* mg/m ³ *inhalable fraction; E |

106-97-8 n-butane

| | |
|-----------|---|
| REL (USA) | Long-term value: 1900 mg/m ³ , 800 ppm |
| TLV (USA) | Short-term value: (2370) mg/m ³ , (1000) ppm |
| | NIC-EX |

110-19-0 Isobutyl Acetate

| | |
|-----------|---|
| PEL (USA) | Long-term value: 700 mg/m ³ , 150 ppm |
| REL (USA) | Long-term value: 700 mg/m ³ , 150 ppm |
| TLV (USA) | Short-term value: 172 mg/m ³ , 150 ppm |
| | Long-term value: 238 mg/m ³ , 50 ppm |

123-86-4 n-butyl acetate

| | |
|-----------|---|
| PEL (USA) | Long-term value: 710 mg/m ³ , 150 ppm |
| REL (USA) | Short-term value: 950 mg/m ³ , 200 ppm |
| | Long-term value: 710 mg/m ³ , 150 ppm |
| TLV (USA) | Short-term value: 712 mg/m ³ , 150 ppm |
| | Long-term value: 238 mg/m ³ , 50 ppm |

108-65-6 PM acetate

| | |
|------------|-------------------------|
| WEEL (USA) | Long-term value: 50 ppm |
|------------|-------------------------|

107-87-9 Methyl Propyl Ketone

| | |
|-----------|---|
| PEL (USA) | Long-term value: 700 mg/m ³ , 200 ppm |
| REL (USA) | Long-term value: 530 mg/m ³ , 150 ppm |
| TLV (USA) | Short-term value: 529 mg/m ³ , 150 ppm |

Ingredients with biological limit values:**67-64-1 Acetone**

| | |
|-----------|----------------------------------|
| BEI (USA) | 50 mg/L |
| | Medium: urine |
| | Time: end of shift |
| | Parameter: Acetone (nonspecific) |

Hygienic protection:

Keep away from foodstuffs and animal feed. Wash hands after use.
Immediately remove all soiled and contaminated clothing.
Wash hands after use.
Avoid contact with the eyes and skin.
Do not eat or drink while working.

Breathing equipment:

A respirator is generally not necessary when using this product outdoors or in large open areas.
In cases where short and/or long term overexposure exists, a charcoal filter respirator should be worn. If you suspect overexposure conditions exist, please consult an authority on chemical hygiene.

Hand protection:

Nitrile gloves.
Protective gloves. The glove material must be impermeable and resistant to the substance.

(Contd. on page 3)

Safety Data Sheet

Printing date 03/17/2017

Revised On 03/15/2017

Trade name: NEW FARM AND IMPLEMENT GREEN

Eye protection: Tightly sealed goggles

(Contd. of page 2)

9 Physical and chemical properties

Appearance: Aerosol.
Odor: Aromatic
Odor threshold: Not determined.
pH-value: Not determined.
Melting point/Melting range Undetermined.
Boiling point: -44 °C (-47 °F)
Flash point: -19 °C (-2 °F)
Flammability (solid, gas): Extremely flammable.
Decomposition temperature: Not determined.
Auto igniting: Product is not self-igniting.
Danger of explosion: In use, may form flammable/explosive vapour-air mixture.
Lower Explosion Limit: 1.7 Vol %
Upper Explosion Limit: 10.9 Vol %
Vapor pressure: Not determined.
Relative Density: Between 0.77 and 0.85 (Water equals 1.00)
Vapor density Not determined.
Evaporation rate Not applicable.
Partition coefficient: n-octanol/water: Not determined.
Solubility: Not determined.
Viscosity: Not determined.
VOC content (less exempt solvents): 47.9 %
Solids content: 31.0 %

10 Stability and reactivity

Reactivity: Stable at normal temperatures.
Conditions to avoid: Do not allow can to exceed 120 degrees Fahrenheit. Do not warehouse in subfreezing temperatures.
Chemical stability: Not fully evaluated.
Possibility of hazardous reactions: No dangerous reactions known.
Incompatible materials: No further relevant information available.
Hazardous decomposition: No dangerous decomposition products known.

11 Toxicological information

LD/LC50 values that are relevant for classification:

106-97-8 n-butane

Inhalative LC50/4 h 658 mg/l (rat)

110-19-0 Isobutyl Acetate

Oral LD50 4763 mg/kg (rbt)

123-86-4 n-butyl acetate

Oral LD50 14000 mg/kg (rat)

Inhalative LC50/4 h >21.0 mg/l (rat)

108-65-6 PM acetate

Oral LD50 8500 mg/kg (rat)

Inhalative LC50/4 h 35.7 mg/l (rat)

Information on toxicological effects: No data available.
Skin effects: No irritant effect.
Eye effects: Irritating effect.
Sensitization: No sensitizing effects known.

12 Ecological information

Aquatic toxicity: Hazardous for water, do not empty into drains.
Persistence and degradability: The product is degradable after prolonged exposure to natural weathering processes.
Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.
Other adverse effects: No further relevant information available.

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.
Recommendation: Completely empty cans should be recycled.

14 Transport information

UN-Number UN1950
DOT N/A
DOT Consumer Commodity ORM-D
 Aerosols, flammable

(Contd. on page 4)

Safety Data Sheet

Printing date 03/17/2017

Revised On 03/15/2017

Trade name: NEW FARM AND IMPLEMENT GREEN

(Contd. of page 3)

| | |
|--------------------------------------|--|
| ADR | 1950 Aerosols |
| Transport hazard class(es): | |
| Class | 2.1 |
| Marine pollutant: | No |
| Special precautions for user: | Warning: Gases |
| EMS Number: | F-D,S-U |
| Stowage Code | SW1 Protected from sources of heat. SW22 For AEROSOLS with a maximum capacity of 1 litre: Category A. For AEROSOLS with a capacity above 1 litre: Category B. For WASTE AEROSOLS: Category C, Clear of living quarters. |
| Segregation Code | SG69 For AEROSOLS with a maximum capacity of 1 litre: Segregation as for class 9. Stow "separated from" class 1 except for division 1.4. For AEROSOLS with a capacity above 1 litre: Segregation as for the appropriate subdivision of class 2. For WASTE AEROSOLS: Segregation as for the appropriate subdivision of class 2. |
| Quantity limitations | On passenger aircraft/rail: 75 kg On cargo aircraft only: 150 kg |
| ADR | |
| Excepted quantities (EQ) | Code: E0 Not permitted as Excepted Quantity |
| IMDG | |
| Limited quantities (LQ) | 1L |
| Excepted quantities (EQ) | Code: E0 Not permitted as Excepted Quantity |
| Packaging Group: | -- |
| UN "Model Regulation": | UN1950, Aerosols, 2.1 |

15 Regulatory information

SARA Section 355 (extremely hazardous substances):

None of the ingredients in this product are listed.

SARA Section 313 (Specific toxic chemical listings):

7727-43-7 barium sulfate

Toxic Substances Control Act (TSCA):

All ingredients for this product are found on the inventory list of substances.

Consumer Product Safety Commission (CPSC):

This product complies with 16 CFR 1303 and does not contain more than 90 ppm of lead.

California Proposition 65 chemicals known to cause cancer:

13463-67-7 titanium dioxide

108-10-1 methyl isobutyl ketone

100-41-4 ethyl benzene

1333-86-4 Carbon black

California Proposition 65 chemicals known to cause birth defects or reproductive harm:

108-10-1 methyl isobutyl ketone

CANADIAN ENVIRONMENTAL PROTECTION ACT:

WHMIS Symbols for Canada:

All hazardous ingredients for this product appear on the Canadian Domestic Substance List.

A - Compressed gas

D2B - Toxic material causing other toxic effects



EPA:

| | | |
|-----------|------------------|-----------------------|
| 67-64-1 | Acetone | I |
| 7727-43-7 | barium sulfate | D, CBD(inh), NL(oral) |
| 110-19-0 | Isobutyl Acetate | D |

16 Other information

Contact: Regulatory Affairs
Date of preparation / last revision 03/17/2017 / -

SAFETY DATA SHEET

Section 1: Chemical Product and Company Information

1.1 Product Identifier

Product Name: KaiBlooley

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Product Use: Water based cleaner

1.3 Details of the Supplier of the Safety Data Sheet

Manufacturer: Kaivac Inc.
2680 Van Hook Ave.
Hamilton, OH 45015

1.4 Emergency Telephone Number: In the event of a medical emergency ONLY, please call:
INFOTRAC at 1-800-535-5053 24/7/365

Telephone Number for Information: 800-287-1136

Email:

SDS Date of Preparation/Revision: April 12, 2016

Section 2: Hazards Identification

2.1 Classification of the Substance or Mixture

EU Classification (1272/2008): Eye Damage Category 1 (H318)
Skin Corrosive Category 1C (H314)

US OSHA Classification (29CFR1910.1200): Eye Damage Category 1
Skin Corrosive Category 1C

2.2 Label Elements:



DANGER! Contains phosphoric acid and alcohols, C12-15, ethoxylated

H314 Causes severe skin burns and eye damage.

Prevention:

P260 Do not breathe mists.

P280 Wear protective gloves and eye protection.

P264 Wash thoroughly after handling.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents and container in accordance with local and national regulations.

Response:

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contacts, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P310 Immediately call a POISON CENTER or doctor.

P303+P361+P353 IF ON SKIN(or hair): Take off immediately all contaminated clothing. Rinse skin with water or a shower.

P363 Wash contaminated clothing before reuse.

P310 Immediately call a POISON CENTER or doctor.

P304+P340 IF INHALED: Remove person to fresh air and

| | |
|--|---|
| | keep comfortable for breathing. P310 Immediately call a POISON CENTER or doctor. |
|--|---|

2.3 Other Hazards: None identified

Section 3: Composition/Information on Ingredients

3.2 Mixture

| Component | CAS Number/ EINECS Number. | Amount | EU/GHS Classification (1272/2008) |
|---|-------------------------------|--------|--|
| Alcohols C8 Ethoxylated/ Propoxylated | 64366-70-7 | 2-8% | Eye Damage Category 1 (H318) Aquatic Acute Toxicity Category 1 (H400) Aquatic Chronic Toxicity Category 3 (H412) |
| Citric Acid | 77-92-9/201-069-1 | 1-10% | Eye Irritation Category 2A (H319) |
| Sulfamic Acid | 5329-14-6/ 226-218-8 | 1-10% | Eye Irritation Category 2A (H319) Skin Irritation Category 2 (H315) Aquatic Chronic Toxicity Category 3 (H412) |
| Dipropylene glycol monomethyl ether | 34590-94-8/ 252-104-2 | 1-10% | Not Hazardous |
| Phosphoric Acid | 7664-38-2/231-633-2 | 1-10% | Skin Corrosion Category 1B (H314) Corrosive to Metals (H290) |
| Methyl Salicylate (fragrance) | 119-36-8 / 204-317-7 | <1% | Acute Oral Toxicity Category 4 (H302) |

Refer to Section 16 for Full Text of GHS Classes and H Statements

The exact percentages are a trade secret.

Section 4: First Aid Measures

4.1 Description of First Aid Measures

First Aid

Inhalation: Remove to fresh air. If breathing has stopped give artificial respiration. If breathing is difficult have qualified personnel administer oxygen. Get immediate medical attention.

Skin contact: Immediately flush skin thoroughly with water for 15 minutes. Wash area with soap and water. Remove contaminated clothing and launder before reuse. Get immediate medical attention.

Eye contact: Immediately flush eyes with water for at least 20 minutes while lifting the upper and lower lids. Get immediate medical attention.

Ingestion: If conscious, give 1 glass of water or milk to dilute. DO NOT induce vomiting. Never give anything by mouth to a person who is unconscious or convulsing. Get immediate medical attention.

See Section 11 for more detailed information on health effects.

4.2 Most Important symptoms and effects, both acute and delayed: Causes severe eye irritation or burns with possible corneal damage and blindness. Skin contact may cause severe irritation or burns. Vapors or mists may cause irritation mucous membranes and respiratory tract with possible pulmonary edema. Ingestion may cause gastrointestinal corrosion, abdominal pain, nausea, shock or death.

4.3 Indication of any immediate medical attention and special treatment needed: Immediate medical treatment is recommended for all incidents of contact.

Section 5: Fire Fighting Measures

5.1 Extinguishing Media: Use any media that is suitable for the surrounding fire.

5.2 Special Hazards Arising from the Substance or Mixture: Thermal decomposition produces oxides of carbon and phosphorus.

5.3 Advice for Fire-Fighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

Section 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures:

Wear appropriate protective clothing as needed to prevent eye and skin contact.

6.2 Environmental Precautions: Avoid contamination of water supplies and environmental releases. Report spills as required to authorities.

6.3 Methods and Material for Containment and Cleaning Up: Contain and collect spill with inert materials such as commercial absorbent, sand or earth. Place in a suitable container for disposal. If permitted, neutralize and flush to sewer.

6.4 Reference to Other Sections:

Refer to Section 13 for disposal information and Section 8 for protective equipment.

Section 7: Handling and Storage

7.1 Precautions for Safe Handling:

Prevent eye and skin contact. Remove and launder contaminated clothing before re-use. Wash thoroughly after handling and before eating, drinking, smoking or using toilet facilities.

7.2 Conditions for Safe Storage, Including any Incompatibilities: Store in a cool, well-ventilated area away from bases and other incompatible materials. Keep container closed.

7.3 Specific end use(s):

Industrial uses: None identified

Professional uses: None identified

Section 8: Exposure Controls / Personal Protection

8.1 Control Parameters:

| Chemical Name | US OEL | EU IOEL | UK OEL | DFG MK | Biological Limit Value |
|---|---|-----------------------------|-----------------------------|---|------------------------|
| Alcohols C8 Ethoxylated/Propoxylated | None Established | None Established | None Established | None Established | None Established |
| Citric Acid | None Established | None Established | None Established | None Established | None Established |
| Phosphoric Acid | 1 mg/m3 TWA OSHA PEL 1 mg/m3 TWA 3 mg/m3 STEL ACGIH TLV | 1 mg/m3 TWA 2 mg/m3 STEL | 1 mg/m3 TWA 2 mg/m3 STEL | 2 mg/m3 TWA 4 mg/m3 STEL (inhalable aerosol) | None Established |
| Sulfamic Acid | None Established | None Established | None Established | None Established | None Established |
| Dipropylene glycol monomethyl ether | 100 ppm skin TWA OSHA PEL 100 ppm TWA | 50 ppm TWA | 50 ppm TWA | 50 ppm TWA 50 ppm STEL | None Established |

| | | | | | |
|-------------------|--------------------------------|------------------|---------------------|---------------------|---------------------|
| | 150 ppm STEL skin ACGIH TLV | | | | |
| Methyl Salicylate | None Established | None Established | None Established | None Established | None Established |

8.2 Exposure Controls:

Appropriate Engineering Controls: General ventilation is generally adequate for normal use. Use local exhaust ventilation if needed to maintain concentration of hazardous constituents below recommended limits.

Personal Protective Measures

Respiratory Protection: Not necessary if workplace concentrations of hazardous constituents are below recommended limits. If the exposure limit is exceeded, an approved respirator should be worn. Respirator selection and use should be based on contaminant type, form and concentration. Follow applicable local or national regulations, in the US: OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.

Eye Protection: Use chemical safety goggles.

Skin Protection: Impervious gloves such as neoprene or nitrile recommended where contact is likely. Wear protective clothing as required to avoid prolonged or repeated skin contact when handling.

Other protection: None required.

Section 9: Physical and Chemical Properties

9.1 Information on basic Physical and Chemical Properties:

Appearance and Odor: Clear blue liquid with a wintergreen odor.

| | | | |
|-----------------------------------|----------------|----------------------------------|----------------|
| Solubility in Water: | Soluble | Boiling Point: | 210°F |
| Odor Threshold: | Not determined | Partition Coefficient: | Not determined |
| pH: | 0-2.0 | Melting Point: | Not determined |
| Specific Gravity: | 1.05-1.07 | Vapor Density: | Not determined |
| Evaporation Rate: | Not determined | Vapor Pressure: | Not determined |
| Flammability(solid/gas): | Not applicable | Flash Point: | Not applicable |
| Explosive Limits: | Not determined | Autoignition Temperature: | Not determined |
| Decomposition Temperature: | Not determined | Viscosity: | Not determined |
| Explosive Properties: | None | Oxidizing Properties: | None |

9.2 Other Information: None

Section 10: Stability and Reactivity

10.1 Reactivity: Not reactive under normal conditions of use and storage.

10.2 Chemical Stability: Stable.

10.3 Possibility of Hazardous Reactions: Reaction with strong bases will generate heat.

10.4 Conditions to Avoid: None known.

10.5 Incompatible Materials: Avoid strong bases.

10.6 Hazardous Decomposition Products: Thermal decomposition produces oxides of carbon and phosphorus.

Section 11: Toxicological Information

11.1 Information on Toxicological Effects:**Potential Health Hazards**

Inhalation: Mist and vapors may cause irritation to the eyes, mucous membranes and upper respiratory tract. High concentrations may cause severe irritation and pulmonary edema..

Skin Contact: May cause severe irritation and burns with reddening and pain. Prolonged or repeated skin contact with diluted solutions or mists may cause dermatitis.

Eye Contact: Causes severe irritation or burns with redness, pain and tearing. Permanent eye damage may occur.

Ingestion: May cause gastrointestinal corrosion, abdominal pain and nausea, circulatory shock and death.

Acute toxicity values: Product ATE: Oral: 30600 mg/kg, Dermal: 54800 mg/kg, Inhalation: 17 mg/m³
Phosphoric Acid: LD50 oral rat: 1530 mg/kg, LD50 dermal rabbit: 2740 mg/kg, LC50 inhalation rat: 0.85 mg/m³/1 hour.

Skin corrosion/irritation: Studies performed on phosphoric acid were found to be corrosive.

Eye damage/ irritation: Product is expected to be damaging to eyes based on mixture rules.

Respiratory Irritation: Prolonged inhalation may cause severe respiratory irritation.

Respiratory Sensitization: Not known to be a sensitizer.

Skin Sensitization: Not known to be a sensitizer.

Germ Cell Mutagenicity: This product is not expected to present a risk of genetic damage

Carcinogenicity: None of the components are listed as a potential carcinogen by IARC, NTP, OSHA, or CLP.

Developmental / Reproductive Toxicity: None of the ingredients are reproductive toxins.

Specific Target Organ Toxicity (Single Exposure): No adverse effects are expected based on components.

Specific Target Organ Toxicity (Repeated Exposure): No adverse effects are expected.

Section 12: Ecological Information

12.1 Toxicity: Biodegradable Surfactant: Pleuronectes platessa LC50: 0.59mg/L, Lepomis macrochirus NOEC: 0.16 mg/L.
Sulfamic Acid: Pimephales promelas LC50: 70.3 mg/L.

12.2 Persistence and degradability: Surfactant and dipropylene glycol monomethyl ether are readily biodegradable.

12.3 Bioaccumulative Potential: Surfactant is not bioaccumulative.

12.4 Mobility in Soil: No data available.

12.5 Results of PBT and vPvB assessment: None required.

12.6 Other Adverse Effects: No data available.

Section 13: Disposal Considerations

13.1 Waste Treatment Methods:

Dispose in accordance with all local, state and national regulations. Local regulations may be more stringent than regional and national requirements. It is the responsibility of the waste generator to determine the toxicity and physical characteristics of the material to determine the proper waste identification and disposal in compliance with applicable regulations

Section 14: Transport Information

| | 14.1 UN Number | 14.2 UN Proper Shipping Name | 14.3 Hazard Class(s) | 14.4 Packing Group | 14.5 Environmental Hazards |
|---------------------|-----------------------|---|-----------------------------|---------------------------|-----------------------------------|
| US DOT | UN3264 | Corrosive, liquid, acidic, inorganic, n.o.s. (phosphoric acid, sulfamic acid) | 8 | III | No |
| Canadian TDG | UN3264 | Corrosive, liquid, acidic, inorganic, n.o.s. (phosphoric acid, sulfamic acid) | 8 | III | No |
| EU ADR/RID | UN3264 | Corrosive, liquid, acidic, inorganic, n.o.s. (phosphoric acid, sulfamic acid) | 8 | III | No |
| IMDG | UN3264 | Corrosive, liquid, acidic, inorganic, n.o.s. (phosphoric acid, sulfamic acid) | 8 | III | No |
| IATA/ICAO | UN3264 | Corrosive, liquid, acidic, inorganic, n.o.s. (phosphoric acid, sulfamic acid) | 8 | III | No |

Note: These products can be shipped under limited quantity provisions – refer to specific regulations for requirements.

14.6 Special Precautions for User: None identified

14.7 Transport in Bulk According to Annex III MARPOL 73/78 and the IBC Code: Not applicable.

Section 15: Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

Chemical Safety Assessment: None required

Other EU Regulations: This product is classified and labeled in accordance with EU CLP following mixture rules. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006 (REACH)

Section 16: Other Information

CLP Hazard Statements for Reference (See Section 3):

H302 Harmful if swallowed.
H318 Causes serious eye damage.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H314 Causes severe skin burns and eye damage.
H290 May be corrosive to metals.
H400 Very toxic to aquatic life
H412 Harmful to aquatic life with long lasting effects

Revision Date: 12 April 2016

Supersedes Date: 25 June 2015

Revision Summary: Updated pH

The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of the need that information is current, applicable and suited to the circumstances of use. Kaivac assumes no responsibility for injury to vendee or third party person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, Kaivac assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed.

SAFETY DATA SHEET

Section 1: Chemical Product and Company Information

1.1 Product Identifier

Product Name: KaiDri

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Product Use: Water based cleaner

1.3 Details of the Supplier of the Safety Data Sheet

Manufacturer: Kaivac Inc.
2680 Van Hook Ave.
Hamilton, OH 45015

1.4 Emergency Telephone Number: In the event of a medical emergency ONLY, please call: INFOTRAC at 1-800-535-5053 24/7/365

Telephone Number for Information: 800-287-1136

Email:

SDS Date of Preparation/Revision: June 24, 2015

Section 2: Hazards Identification

2.1 Classification of the Substance or Mixture

EU Classification (1272/2008): Eye Irritation Category 2A (H319)

EU Classification (1999/45/EC): Xi R36, R52/53

US OSHA Classification (29CFR1910.1200): Eye Irritation Category 2A

Refer to Section 16 for Full Text of EU Classes and R Phrases

2.2 Label Elements:



DANGER! Contains ethoxylated propoxylated alcohols and ethylene glycol monobutyl ether

H319 Causes serious eye irritation

H412 Harmful to aquatic life with long lasting effects

Prevention

P264 Wash thoroughly after handling

P280 Wear gloves and eye protection.

P273 Avoid release into the environment

Response

P305+P351+P338 IF IN EYES: Rinse Cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.

P337+P313 If eye irritation persists: Get medical attention.

Disposal

Dispose of contents in accordance with local, regional and national regulations.

2.3 Other Hazards: None identified

Section 3: Composition/Information on Ingredients

3.2 Mixture

| Component | CAS Number/ EINECS Number. | Amount | EU/GHS Classification (1272/2008) EU Classification (67/548/EEC) |
|---|-------------------------------|--------|---|
| Alcohols, C12-C14, Ethoxylated Propoxylated | 68439-51-0 | 5-15% | Xi R36 Eye Irritation 2A (H319) |
| 2-Butoxyethanol | 111-76-2/203-905-0 | <5% | Xi, Xn R36/R38 R20/21/22 Acute Toxicity 4 (H302, H312, H332) Skin Irritation 2 (H315) Eye Irritation 2A (H319) |

Refer to Section 16 for Full Text of EU/GHS Classes and R Phrases/H Statements

The exact percentages are a trade secret.

Section 4: First Aid Measures

4.1 Description of First Aid Measures**First Aid**

Eyes: Flush the eyes with large amounts of water for 15 minutes, while holding the eyelids open to assure that the entire surface is flushed. Get medical attention if irritation persists.

Skin: Wash with soap and water. Remove contaminated clothing and launder before reuse. If irritation develops and persists, get medical attention.

Ingestion: If large amounts are swallowed, seek medical advice.

Inhalation: None needed under normal use conditions. If irritation develops, move to fresh air. Get medical attention if irritation persists.

See Section 11 for more detailed information on health effects.

4.2 Most Important symptoms and effects, both acute and delayed: Contact causes eye irritation. May cause mild skin irritation in some individuals. Inhalation of mists may cause mild respiratory irritation.

4.3 Indication of any immediate medical attention and special treatment needed: None needed

Section 5: Fire Fighting Measures

5.1 Extinguishing Media: Use any media that is suitable for the surrounding fire.

5.2 Special Hazards Arising from the Substance or Mixture: This product is not flammable or combustible. Thermal decomposition produces oxides of carbon.

5.3 Advice for Fire-Fighters: Firefighters should wear positive pressure self- contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

Section 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures:

Wear appropriate protective clothing as needed to avoid eye and skin contact.

6.2 Environmental Precautions: Avoid contamination of water supplies and environmental releases. Report spills as required to authorities. Avoid release into environment.

6.3 Methods and Material for Containment and Cleaning Up: Contain and collect spill with inert materials such as commercial absorbent, sand or earth. Place in a suitable container for disposal. If permitted, dilute and flush to sewer.

6.4 Reference to Other Sections:

Refer to Section 13 for disposal information and Section 8 for protective equipment.

Section 7: Handling and Storage

7.1 Precautions for Safe Handling:

Avoid eye contact. Avoid prolonged skin contact. Remove and launder contaminated clothing before re-use. Wash thoroughly after handling and before eating, drinking, smoking or using toilet facilities.

7.2 Conditions for Safe Storage, Including any Incompatibilities: Store in a cool, well-ventilated area away from bases and other incompatible materials. Keep container closed.

7.3 Specific end use(s):

Industrial uses: None identified

Professional uses: None identified

Section 8: Exposure Controls / Personal Protection

8.1 Control Parameters:

| Chemical Name | US OEL | EU IOEL | UK OEL | DFG MK | Biological Limit Value |
|---|---|---------------------------|---------------------------|---------------------------|------------------------|
| Alcohols, C12-C14, Ethoxylated Propoxylated | None Established | None Established | None Established | None Established | None Established |
| 2-Butoxyethanol | 50 ppm TWA OSHA PEL 20 ppm TWA ACGIH TLV | 20 ppm TWA 50 ppm STEL | 25 ppm TWA 50 ppm STEL | 10 ppm TWA 20 ppm STEL | A3 |

8.2 Exposure Controls:

Appropriate Engineering Controls: General ventilation is generally adequate for normal use. Use local exhaust ventilation if needed to maintain concentration of hazardous constituents below recommended limits.

Personal Protective Measures

Respiratory Protection: Not necessary if workplace concentrations of hazardous constituents are below recommended limits. If the exposure limit is exceeded, an approved respirator should be worn. Respirator selection and use should be based on contaminant type, form and concentration. Follow applicable local or national regulations, in the US: OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.

Eye Protection: Use chemical safety goggles.

Skin Protection: Impervious gloves such as neoprene or nitrile recommended where contact is likely. Wear protective clothing as required to avoid prolonged or repeated skin contact when handling.

Other protection: None required.

Section 9: Physical and Chemical Properties

9.1 Information on basic Physical and Chemical Properties:

Appearance and Odor: Clear liquid with a slight odor.

| | | | |
|-----------------------------------|----------------|----------------------------------|----------------|
| Solubility in Water: | Soluble | Boiling Point: | 210°F |
| Odor Threshold: | Not determined | Partition Coefficient: | Not determined |
| pH: | 5-9 | Melting Point: | Not determined |
| Specific Gravity: | 1.001 | Vapor Density: | Not determined |
| Evaporation Rate: | Not determined | Vapor Pressure: | Not determined |
| Flammability(solid/gas): | Not applicable | Flash Point: | None |
| Explosive Limits: | Not determined | Autoignition Temperature: | 471°F |
| Decomposition Temperature: | Not determined | Viscosity: | Not determined |
| Explosive Properties: | None | Oxidizing Properties: | None |

9.2 Other Information: None

Section 10: Stability and Reactivity

10.1 Reactivity: Not reactive under normal conditions of use and storage.

10.2 Chemical Stability: Stable.

10.3 Possibility of Hazardous Reactions: None known.

10.4 Conditions to Avoid: None known.

10.5 Incompatible Materials: Avoid strong acids.

10.6 Hazardous Decomposition Products: Thermal decomposition produces oxides of carbon.

Section 11: Toxicological Information

11.1 Information on Toxicological Effects:**Potential Health Hazards**

Inhalation: Mists may cause mucous membrane and upper respiratory tract irritation with coughing and sore throat.

Skin Contact: May cause mild irritation.

Eye Contact: Causes serious irritation with tearing and redness.

Ingestion: Swallowing may cause gastrointestinal irritation, vomiting and diarrhea.

Acute toxicity values: Product ATE: Oral 10309 mg/kg, Dermal 8000 mg/kg, Inhalation 556 mg/L
 Alcohols, C12-C14, Ethoxylated Propoxylated: LD50 oral rat: 3234 mg/kg, LD50 dermal rabbit > 2000 mg/kg
 2-Butoxyethanol: LD50 oral rat: 650-1746 mg/kg, LD50 dermal rabbit: 320 mg/kg, LC50 inhalation rat: estimated
 3.7mg/L/1hr, 486 ppm/4hrs (2.2mg/L)

Skin corrosion/irritation: May cause slight irritation.

Eye damage/ irritation: Product is expected to be irritating to eyes.

Respiratory Irritation: Prolonged inhalation may cause respiratory irritation.

Respiratory Sensitization: Not known to be a sensitizer.

Skin Sensitization: Not known to be a sensitizer.

Germ Cell Mutagenicity: This product is not expected to present a risk of genetic damage

Carcinogenicity: None of the components are listed as a potential carcinogen by IARC, NTP, OSHA, or CLP .

Developmental / Reproductive Toxicity: None of the ingredients are reproductive toxins.

Specific Target Organ Toxicity (Single Exposure): No adverse effects are expected based on components.

Specific Target Organ Toxicity (Repeated Exposure): No adverse effects are expected.

Section 12: Ecological Information

12.1 Toxicity:

2-Butoxyethanol: LC50 Oncorhynchus mykiss: 1474 mg/L/4hr, NOEC Danio rerio > 100 mg/L/21days

Product is harmful to aquatic life with long-lasting effects.

12.2 Persistence and degradability: 2-Butoxyethanol is readily biodegradable.

12.3 Bioaccumulative Potential: No data available.

12.4 Mobility in Soil: No data available.

12.5 Results of PBT and vPvB assessment: None required.

12.6 Other Adverse Effects: No data available.

Section 13: Disposal Considerations

13.1 Waste Treatment Methods:

Dispose in accordance with all local, state and national regulations. Local regulations may be more stringent than regional and national requirements. It is the responsibility of the waste generator to determine the toxicity and physical characteristics of the material to determine the proper waste identification and disposal in compliance with applicable regulations

Section 14: Transport Information

| | 14.1 UN Number | 14.2 UN Proper Shipping Name | 14.3 Hazard Class(s) | 14.4 Packing Group | 14.5 Environmental Hazards |
|---------------------|----------------|------------------------------|----------------------|--------------------|----------------------------|
| US DOT | None | Not Regulated | None | None | No |
| Canadian TDG | None | Not Regulated | None | None | No |
| EU ADR/RID | None | Not Regulated | None | None | No |
| IMDG | None | Not Regulated | None | None | No |
| IATA/ICAO | None | Not Regulated | None | None | No |

14.6 Special Precautions for User: None identified

14.7 Transport in Bulk According to Annex III MARPOL 73/78 and the IBC Code: Not applicable.

Section 15: Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

UNITED STATES REGULATIONS:

U.S. Sara Reporting Requirements: The following components of this product are subject to the reporting requirements of Sections 302, 304, and 313 Of Title III Of The Superfund Amendments And Reauthorization Act:

| <u>Chemical Ingredient</u> | <u>Percent Weight</u> |
|-----------------------------------|------------------------------|
| Glycol Ethers | <5 |

U.S. SARA Threshold Planning Quantity: There are no specific Threshold Planning Quantities for the components of this product. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lbs (4,540 kg) therefore applies, per 40 CFR 370.20.

U.S. CERCLA Reportable Quantity (RQ): This product is not subject to reporting requirements under CERCLA. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

U.S. TSCA Inventory Status: The components of this product are listed on the TSCA Inventory or are exempted from listing.

Other U.S. Federal Regulations: None

California Safe Drinking Water And Toxic Enforcement Act (Proposition 65): Ingredients within this product are not on the Proposition 65 Lists.

Section 16: Other Information

NFPA RATING (NFPA 704) FIRE: 0 HEALTH: 2 INSTABILITY: 0

HMIS RATING FIRE: 0 HEALTH: 1 PHYSICAL HAZARD: 0

EU and GHS Classes and Risk Phrases and Hazard Statements for Reference (See Sections 2 and 3):

H319 Causes serious eye irritation
H412 Harmful to aquatic life with long lasting effects
H302 Harmful if swallowed
H312 Harmful in contact with skin
H332 Harmful if inhaled
H315 Causes skin irritation
Xi Irritant
Xn Harmful
R36 Irritating to eyes
R38 Irritating to skin

Revision Date: 06/24/2015

Supersedes Date: 11/25/2014

Revision Summary: Convert to REACH/GHS Format with GHS/CLP classification.

The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of the need that information is current, applicable and suited to the circumstances of use. Kaivac assumes no responsibility for injury to vendee or third party person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, Kaivac assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed.

SAFETY DATA SHEET

Section 1: Chemical Product and Company Information

1.1 Product Identifier

Product Name: KaiO Water Soluble Cleaner

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Product Use: Water Soluble Cleaner

1.3 Details of the Supplier of the Safety Data Sheet

Manufacturer: Kaivac Inc.
401 South Third St.
Hamilton, OH 45011

1.4 Emergency Telephone Number: In the event of a medical emergency ONLY, please call:
INFOTRAC at 1-800-535-5053 24/7/365

Telephone Number for Information: 800-287-1136

Email:

SDS Date of Preparation/Revision: February 16, 2016

Section 2: Hazards Identification

2.1 Classification of the Substance or Mixture

EU Classification (1272/2008)/US OSHA Classification (29CFR1910.1200): Eye Irritant Category 2 (H319)

Refer to section 16 for full text of H codes.

2.2 Label Elements:



Warning

H319 Causes serious eye irritation.

Prevention:

P264 Wash thoroughly after handling.

P280 Wear eye protection.

Response:

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contacts, if present and easy to do. Continue rinsing.

P337+P313 If eye irritation persists: Get medical attention.

2.3 Other Hazards: None identified

Section 3: Composition/Information on Ingredients

3.2 Mixture

| Component | CAS Number/ EINECS Number. | Amount | EU/GHS Classification (1272/2008) EU Classification (67/548/EEC) |
|----------------------------------|-------------------------------|--------|---|
| Alcohols C9-11 Ethoxylated | 68439-46-3/614-482-0 | <2% | Eye Irritant Category 2 (H319) |
| Alcohols, C10-14, ethoxylated | 66455-15-0/613-933-9 | <1% | Eye Irritant Category 2 (H319) STOT SE 3 (H335) |
| Hydrogen Peroxide | 7722-84-1/231-765-0 | <0.9% | Oxidizing Liquid Category 1 1 (H271) |

| | | | |
|-------------------------------------|---------------------|-------|---|
| | | | Acute Toxicity Category 4 (H302, H332) Skin Corrosion Category 1A (H314) Eye Damage Category 1 (H318) STOT SE 3 (H335) Aquatic Chronic Toxicity Category 3 (H412) |
| Cold Pressed Orange Oil/ d-Limonene | 8028-48-6/232-433-8 | <0.5% | Skin Irritation Category 2 (H315) Skin Sensitization Category 1B (H317) Aspiration Hazard Category 1 (H304) Aquatic Chronic Toxicity Category 2 (H411) |

Refer to Section 16 for Full Text of GHS Classes and H Statements

The exact percentages are a trade secret.

Section 4: First Aid Measures

4.1 Description of First Aid Measures

First Aid

Eyes: Flush eyes with plenty of water for at least 15 minutes while lifting the upper and lower lids. Get medical attention if irritation develops or persists.

Skin: Wash with soap and water. Remove contaminated clothing and launder before reuse. If irritation develops and persists, get medical attention.

Ingestion: If conscious, rinse mouth with water and give 1 glass of water to dilute. Do not induce vomiting unless directed to do so by a medical professional. Never give anything by mouth to a person who is unconscious or convulsing. Get medical attention.

Inhalation: Move person to fresh air. Seek medical attention if irritation or other symptoms persist.

See Section 11 for more detailed information on health effects.

4.2 Most Important symptoms and effects, both acute and delayed: May cause serious eye irritation, redness and tearing. May cause slight skin irritation. Inhalation of mists may cause upper respiratory irritation. Swallowing may cause gastrointestinal irritation.

4.3 Indication of any immediate medical attention and special treatment needed: Immediate medical attention is generally not required.

Section 5: Fire Fighting Measures

5.1 Extinguishing Media: Use any media that is suitable for the surrounding fire.

5.2 Special Hazards Arising from the Substance or Mixture: This product is not flammable or combustible. Thermal decomposition produces oxides of carbon.

5.3 Advice for Fire-Fighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

Section 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures:

Wear appropriate protective clothing as needed to avoid eye and skin contact.

6.2 Environmental Precautions: Avoid contamination of water supplies and environmental releases. Report spills as required to authorities.

6.3 Methods and Material for Containment and Cleaning Up: Contain and collect spill with inert materials such as commercial absorbent, sand or earth. Place in a suitable container for disposal. If permitted, dilute and flush to sewer.

6.4 Reference to Other Sections:

Refer to Section 13 for disposal information and Section 8 for protective equipment.

Section 7: Handling and Storage

7.1 Precautions for Safe Handling:

Avoid eye contact. Avoid prolonged skin contact. Remove and launder contaminated clothing before re-use. Wash thoroughly after handling and before eating, drinking, smoking or using toilet facilities.

7.2 Conditions for Safe Storage, Including any Incompatibilities: Store in a cool, well-ventilated area away from bases and other incompatible materials. Keep container closed.

7.3 Specific end use(s):

Industrial uses: None identified

Professional uses: None identified

Section 8: Exposure Controls / Personal Protection

8.1 Control Parameters:

| Chemical Name | US OEL | EU IOEL | UK OEL | DFG MAK | Biological Limit Value |
|-------------------------------------|---|------------------|-------------------------|---|------------------------|
| Alcohols C9-11 Ethoxylated | None Established | None Established | None Established | None Established | None Established |
| Alcohols, C10-14, ethoxylated | None Established | None Established | None Established | None Established | None Established |
| Hydrogen Peroxide | 1 ppm TWA OSHA PEL 1 ppm TWA ACGIH TLV | None Established | 1 ppm TWA 2 ppm STEL | 0.5 ppm TWA 1 ppm STEL (inhalation) | None Established |
| Cold Pressed Orange Oil/ d-Limonene | None Established | None Established | None Established | None Established | None Established |

8.2 Exposure Controls:

Appropriate Engineering Controls: General ventilation is generally adequate for normal use. Use local exhaust ventilation if needed to maintain concentration of hazardous constituents below recommended limits.

Personal Protective Measures

Respiratory Protection: Not necessary if workplace concentrations of hazardous constituents are below recommended limits. If the exposure limit is exceeded, an approved respirator should be worn. Respirator selection and use should be based on contaminant type, form and concentration. Follow applicable local or national regulations, in the US: OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.

Eye Protection: Use chemical safety glasses or goggles if splashing is possible.

Skin Protection: Impervious gloves are recommended to avoid prolonged skin contact. Wear protective clothing as required to avoid skin contact when handling.

Other protection: None required.

Section 9: Physical and Chemical Properties

9.1 Information on basic Physical and Chemical Properties:

Appearance and Odor: Clear blue liquid with a citrus odor.

| | | | |
|-----------------------------------|---------------------------|----------------------------------|----------------|
| Solubility in Water: | Soluble | Boiling Point: | 212°F |
| Odor Threshold: | Not determined | Partition Coefficient: | Not determined |
| pH: Undiluted | 6-8 | Melting Point: | Not determined |
| pH: Diluted | Same as source water: 6-9 | Melting Point: | Not determined |
| Specific Gravity: | 1.00 | Vapor Density: | Not determined |
| Evaporation Rate: | Not determined | Vapor Pressure: | Not determined |
| Flammability(solid/gas): | Not determined | Flash Point: | Not determined |
| Explosive Limits: | Not determined | Autoignition Temperature: | Not determined |
| Decomposition Temperature: | Not determined | Viscosity: | Not determined |
| Explosive Properties: | Not determined | Oxidizing Properties: | None |

9.2 Other Information: None

Section 10: Stability and Reactivity

10.1 Reactivity: Not reactive under normal conditions of use and storage.

10.2 Chemical Stability: Stable.

10.3 Possibility of Hazardous Reactions: None known.

10.4 Conditions to Avoid: None known.

10.5 Incompatible Materials: None known.

10.6 Hazardous Decomposition Products: Thermal decomposition yields oxides of carbon.

Section 11: Toxicological Information

11.1 Information on Toxicological Effects:

Potential Health Hazards

Inhalation: Mists may cause mucous membrane and upper respiratory tract irritation with coughing, sore throat and difficulty in breathing.

Skin Contact: May cause slight irritation.

Eye Contact: May cause serious eye irritation, redness and tearing. Corneal injury is unlikely.

Ingestion: Swallowing may cause gastrointestinal irritation.

Acute toxicity values: Product ATE: Oral: 3132,555 mg/kg, inhalation: 222 mg/L/4hr
Alcohols C9-11 Ethoxylated: Oral rat LD50: 3488 mg/kg, inhalation rat LC50 > 1.6 mg/L/4hr (no deaths occurred), dermal rabbit LD50 > 2000 mg/kg (no deaths occurred)

Alcohols, C10-14, ethoxylated: No data available

Hydrogen Peroxide: Oral rat LD50: 1193 mg/kg, dermal rat LD50 >2000 mg/kg, inhalation rat LD50: 2 mg/L/4 hours

Cold Pressed Orange Oil/ d-Limonene: Oral rat LD50 > 5000 mg/kg, dermal rabbit LD50 > 5000 mg/kg

Skin corrosion/irritation: Product is not classified as a skin irritant.

Eye damage/ irritation: Product is classified as an eye irritant.

Respiratory Irritation: Prolonged inhalation may cause respiratory irritation.

Respiratory Sensitization: Not a respiratory sensitizer.

Skin Sensitization: Product is not classified as a skin sensitizer.

Germ Cell Mutagenicity: This product is not expected to present a risk of genetic damage

Carcinogenicity: None of the components is listed as a potential carcinogen by IARC, NTP, OSHA or the EU CLP.

Developmental / Reproductive Toxicity: No specific data is available. Components are not reproductive toxins.

Specific Target Organ Toxicity (Single Exposure): No specific data is available.

Specific Target Organ Toxicity (Repeated Exposure): No specific data is available. No adverse effects are expected.

Aspiration Hazard: Product is not an aspiration hazard.

Section 12: Ecological Information

12.1 Toxicity:

Alcohols C9-11 Ethoxylated: Oncorhynchus mykiss LC50: 5-7 mg/L/96hrs

Alcohols, C10-14, ethoxylated: Not toxic to aquatic life

Hydrogen peroxide: Pimephales promelas LC50: 16.4 mg/L

Cold Pressed Orange Oil/ d-Limonene: Brachydanio rerio LL50: 5.65 mg/L/96hr

This product is not expected to cause harm to the environment.

12.2 Persistence and degradability: Product is expected to be readily biodegradable. Alcohols C9-11 Ethoxylated: Readily biodegradable. Alcohols, C10-14, ethoxylated: Readily biodegradable.

12.3 Bioaccumulative Potential: Not expected to bioaccumulate.

12.4 Mobility in Soil: No data available.

12.5 Results of PBT and vPvB assessment: None required.

12.6 Other Adverse Effects: No data available.

Section 13: Disposal Considerations

13.1 Waste Treatment Methods:

Dispose in accordance with all local, state and national regulations. Local regulations may be more stringent than regional and national requirements. It is the responsibility of the waste generator to determine the toxicity and physical characteristics of the material to determine the proper waste identification and disposal in compliance with applicable regulations

Section 14: Transport Information

| | 14.1 UN Number | 14.2 UN Proper Shipping Name | 14.3 Hazard Class(s) | 14.4 Packing Group | 14.5 Environmental Hazards |
|---------------------|-----------------------|-------------------------------------|-----------------------------|---------------------------|-----------------------------------|
| US DOT | None | Not Regulated | None | None | No |
| Canadian TDG | None | Not Regulated | Not Regulated | None | No |
| EU ADR/RID | None | Not Regulated | Not Regulated | None | No |
| IMDG | None | Not Regulated | Not Regulated | None | No |
| IATA/ICAO | None | Not Regulated | Not Regulated | None | No |

14.6 Special Precautions for User: None identified

14.7 Transport in Bulk According to Annex III MARPOL 73/78 and the IBC Code: Not applicable.

Section 15: Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture
UNITED STATES REGULATIONS:

U.S. Sara Reporting Requirements: The components of this product are not subject to the reporting requirements of Sections 302, 304, and 313 Of Title III Of The Superfund Amendments And Reauthorization Act.

U.S. SARA Threshold Planning Quantity: There are no specific Threshold Planning Quantities for the components of this product. The default Federal SDS submission and inventory requirement filing threshold of 10,000 lbs (4,540 kg) therefore applies, per 40 CFR 370.20.

U.S. CERCLA Reportable Quantity (RQ): This product is not subject to reporting requirements under CERCLA. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

U.S. TSCA Inventory Status: The components of this product are listed on the TSCA Inventory or are exempted from listing.

Other U.S. Federal Regulations: None

California Safe Drinking Water And Toxic Enforcement Act (Proposition 65): This product contains substances known to the State of California to cause cancer and/or reproductive harm.

Section 16: Other Information

| | | | |
|-------------------------------|----------------|------------------|---------------------------|
| NFPA RATING (NFPA 704) | FIRE: 1 | HEALTH: 2 | INSTABILITY: 0 |
| HMIS RATING | FIRE: 1 | HEALTH: 2 | PHYSICAL HAZARD: 0 |

EU and GHS Classes and Risk Phrases and Hazard Statements for Reference (See Sections 2 and 3):

H271 May cause fire or explosion – strong oxidizer.

H302 Harmful if swallowed
H304 May be fatal if swallowed and enters airways
H314 Causes severe skin burns and eye damage
H315 Causes skin irritation
H317 May cause an allergic skin reaction
H318 Causes serious eye damage.
H332 Harmful if inhaled
H335 May cause respiratory irritation
H411 Toxic to aquatic life with long lasting effects
H412 Harmful to aquatic life with long lasting effects
STOT SE 3 Specific Target Organ Toxicity Single Exposure Category 3

Effective Date: 2/16/16

Supersedes Date: 11/20/14

Revision Summary: Updated classification and all affected sections of the SDS.

The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of the need that information is current, applicable and suited to the circumstances of use. Kaivac assumes no responsibility for injury to vendee or third party person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, Kaivac assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed.

Material Safety Data Sheet

Revision Date 14-Jun-2012

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code DA6981
Product name KRYOLIUM - FRO
Recommended Use Coating

Supplier Drummond, A Lawson Brand
Lawson Products, Inc.
8770 W.Bryn Mawr Ave.- Suite 900
Chicago, IL 60631
1-866-529-7664

Emergency telephone number (888) 426-4851

2. HAZARDS IDENTIFICATION

Emergency Overview
Irritant. Extremely flammable.

Aggravated Medical Conditions

Reports have associated prolonged overexposure to solvents with permanent brain and nervous system damage.

Principal Routes of Exposure

Eyes. Inhalation.

Potential health effects

Eyes Irritation. Swelling.

Skin Skin Irritation.

Inhalation Irritating to respiratory system. May cause irritation of the nose and throat. Dizziness. Fatigue. Headaches. Nausea. Central nervous system effects. Repeated and prolonged exposure to solvents may cause brain and nervous system damage. Kidney damage. Lung damage. Liver damage. Cardiac abnormalities. Damage to blood. Misuse by deliberately concentrating vapors and inhaling contents can be harmful or fatal.

Ingestion Harmful or fatal if swallowed.

3. COMPOSITION / INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | Weight % |
|--------------------------------|------------|----------|
| Propane | 74-98-6 | 10-30 |
| Calcium Carbonate | 1317-65-3 | 10-30 |
| Mineral Spirits | 64742-47-8 | 7-13 |
| N-Butane | 106-97-8 | 7-13 |
| Isobutyl acetate | 110-19-0 | 5-10 |
| Light Aliphatic Naptha Solvent | 64742-89-8 | 5-10 |

| | | |
|-------------------------------------|------------|-----|
| Naphtha (petroleum), heavy aromatic | 64742-94-5 | 3-7 |
|-------------------------------------|------------|-----|

4. FIRST AID MEASURES

Eye contact Remove to fresh air. Rinse thoroughly with plenty of water, also under the eyelids. Seek medical attention if irritation persists.

Skin contact Wash area thoroughly with soap and water. Remove and wash contaminated clothing before re-use.

Ingestion Call a physician or Poison Control Center immediately.

Inhalation Move to fresh air. If symptoms persist, call a physician.

5. FIRE FIGHTING MEASURES

Flash point °C -19
Flash point °F -2
Method No information available

Autoignition temperature °C No data available
Autoignition temperature °F No data available

Flammability Limits (% in Air)
Upper 10.9
Lower 0.5

Specific Information for Aerosol Products

Flame extension 15"
Flashback None

Suitable extinguishing media

Carbon dioxide (CO₂). Sand. Dry powder. Water spray. Alcohol-resistant foam.

Special protective equipment for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

Fire and Explosion Hazards

Aerosol containers may vent, rupture or burst when heated to temperatures above 120°F. Vapors may form explosive mixture in air between upper and lower explosive limits which can be ignited by many sources, such as pilot lights, open flames, electrical motors and switches.

Sensitivity to shock

No information available.

Sensitivity to static discharge

Yes. Take precautionary measures against static discharges.

6. ACCIDENTAL RELEASE MEASURES

6. ACCIDENTAL RELEASE MEASURES**Methods for cleaning up**

Personnel should wear appropriate protective equipment. Follow all precautions for handling. Please refer to appropriate sections of MSDS for additional information. Evacuate area of unprotected and unnecessary personnel. Do not allow product to reach sewage system, soil, surface or ground water, or any water course. Notify proper authorities if entry occurs. Do not flush with water or aqueous cleansing agents. Use diluted caustic solution. Soak up with inert absorbent material. Dispose of absorbent in accordance with local, state and federal regulations.

7. HANDLING AND STORAGE**Handling**

Empty containers are very hazardous. Do not smoke. Protect against electrostatic charges. Do not puncture or incinerate. Do not weld flame cut, or heat empty containers.

Storage

Small pressurized containers of flammable product may be stored in areas suitable for ordinary combustibles with respect to construction, drainage, control of ignition sources, and ventilation except that they should not be stored in basements. Keep away from heat. Keep away from direct sunlight. Do not freeze.

NFPA Storage Code

Store as Level 3 Aerosol (NFPA 30B)

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| Chemical Name | OSHA PEL (TWA) | OSHA PEL (Ceiling) | ACGIH OEL (TWA) | ACGIH OEL (STEL) |
|-------------------------------------|------------------------------------|--------------------|-----------------|------------------|
| Propane | 1000 ppm 1800 mg/m ³ | - | 1000 ppm | - |
| Calcium Carbonate | 15 mg/m ³ | - | - | - |
| Mineral Spirits | - | - | - | - |
| N-Butane | - | - | 1000 ppm | - |
| Isobutyl acetate | 150 ppm 700 mg/m ³ | - | 150 ppm | - |
| Light Aliphatic Naptha Solvent | - | - | - | - |
| Naphtha (petroleum), heavy aromatic | - | - | - | - |

Ventilation and Environmental Controls

Adequate ventilation should be provided to keep exposure levels below current acceptable exposure limits.

Hygiene measures

Keep away from food, drink and animal feeding stuffs. Wash hands before breaks and immediately after handling the product.

Respiratory protection

None necessary under normal conditions. Use NIOSH approved respirator if TLV limit is exceeded.

Hand Protection

Protective gloves. Impervious gloves.

Eye protection

Use safety eyewear designed to protect against splash of liquids.

Skin and body protection

None necessary under normal conditions

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|-------------------------------|
| Form | Aerosol |
| Color | Red / Orange |
| Odor | Solvent |
| Odor Threshold | 5 ppm |
| pH | Not Applicable |
| Specific Gravity | 0.77-0.90 |
| Vapor pressure | 2750 kPa |
| Vapor density | No data available |
| Evaporation Rate | No data available |
| Water solubility | No data available |
| VOC Content | 56.3%; 0.56 kg/l; 4.70 lb/gal |
| Partition Coefficient (n-octanol/water) | Not Applicable |
| Boiling point/range °C | -44 |
| Boiling point/range °F | -47 |
| Melting point/range °C | Not Applicable |
| Melting point/range °F | Not Applicable |
| Flash point °C | -19 |
| Flash point °F | -2 |

10. STABILITY AND REACTIVITY**Stability**

Stable under normal conditions.

Conditions to avoid

Do not store in temperatures above 120 degrees F.

Incompatibility

None known.

Hazardous Decomposition Products

None known.

Polymerization

Hazardous polymerization does not occur

11. TOXICOLOGICAL INFORMATION**Component Information**

| Chemical Name | LD50 (oral, rat) | LD50 (dermal ,rat/rab bit) | LC50 (inhalation,rat) |
|---|-------------------------|-------------------------------------|-----------------------|
| Propane 74-98-6 | - | - | 658 mg/L |
| Calcium Carbonate 1317-65-3 | - | - | - |
| Mineral Spirits 64742-47-8 | 5000 mg/kg | 2000 mg/kg | 5.2 mg/L |
| N-Butane 106-97-8 | - | - | 658 mg/L |
| Isobutyl acetate 110-19-0 | 13400 mg/kg | 5000 mg/kg | - |
| Light Aliphatic Naptha Solvent 64742-89-8 | - | 3000 mg/kg | - |
| Naphtha (petroleum), heavy aromatic 64742-94-5 | 5000 mg/kg | 2000 mg/kg | 590 mg/m ³ |

Synergistic Products None known

Potential health effects

Sensitization None known

Chronic toxicity See Section 2 .

Mutagenic effects None known

Teratogenic effects None known

Reproductive toxicity None known

Target Organ Effects See Section 2

Carcinogenic effects See table below

| Chemical Name | ACGIH OEL - Carcinoge ns | IARC | NTP - Known Carcinoge ns | NTP - Suspected Human Carcinoge ns | OSHA RTK Carcinoge ns |
|--------------------------------------|-----------------------------------|------------|-----------------------------------|--|--------------------------------|
| Propane | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Calcium Carbonate | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Mineral Spirits | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| N-Butane | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Isobutyl acetate | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Light Aliphatic Naptha Solvent | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |

| | | | | | |
|--|------------|------------|------------|------------|------------|
| Naphtha (petroleum), heavy aromatic | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
|--|------------|------------|------------|------------|------------|

12. ECOLOGICAL INFORMATION**Mineral Spirits****Water Flea Data**

Den-dronereides heteropoda LC50=4720 mg/L (96 h)

Isobutyl acetate**Water Flea Data**

Daphnia magna EC50=168 mg/L (24 h)

Naphtha (petroleum), heavy aromatic**Water Flea Data**

Daphnia magna EC50=0.95 mg/L (48 h)

13. DISPOSAL CONSIDERATIONS**Waste from residues / unused products**

Do not puncture or incinerate. Please recycle empty container whenever possible. Dispose in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION**DOT**

UN1950 Aerosols, flammable, 2.1.

Exception: (Compressed Gas not more than 1.0L) Consumer Commodity ORM-D

TDG

UN1950 AEROSOLS, flammable, 2.1

15. REGULATORY INFORMATION**State Regulations**

| Chemical Name | New Jersey - RTK | Pennsylvania - RTK | California Prop. 65 |
|--|---------------------|-----------------------|------------------------|
| Propane | Listed | Listed | Not Listed |
| Calcium Carbonate | Not Listed | Listed | Not Listed |
| Mineral Spirits | Not Listed | Not Listed | Not Listed |
| N-Butane | Not Listed | Listed | Not Listed |
| Isobutyl acetate | Listed | Listed | Not Listed |
| Light Aliphatic Naptha Solvent | Not Listed | Not Listed | Not Listed |
| Naphtha (petroleum), heavy aromatic | Not Listed | Not Listed | Not Listed |

International Inventories

| Chemical Name | EINECS | DSL | NDSL | TSCA |
|-------------------|--------|-----|------|------|
| Propane | X | X | - | X |
| Calcium Carbonate | X | - | X | X |

Product code **DA6981**

Product name **KRYOLIUM -
FRO**

| Chemical Name | EINECS | DSL | NDSL | TSCA |
|--|--------|-----|------|------|
| Mineral Spirits | X | X | - | X |
| N-Butane | X | X | - | X |
| Isobutyl acetate | X | X | - | X |
| Light Aliphatic Naptha Solvent | X | X | - | X |
| Naphtha (petroleum), heavy aromatic | X | X | - | X |

CPR

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all of the information required by the Controlled Product Regulations

16. OTHER INFORMATION

NFPA

Health - 1
Flammability - 3
Reactivity - 3

HMIS

Health - 1
Flammability - 3
Physical Hazard - 3

Prepared By

V. Shargorodsky, Regulatory Affairs
Engineer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

LESCO Granular Fertilizer – All Analyses

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Revision Date: 07/17/2014 Date of issue: 07/17/2014

Version: 1.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: LESCO Granular Fertilizer – All Analyses

Other means of identification: Granular fertilizers including all chemical, partially sulfur coated, 100% polymer or sulfur coated nutrients, with and without micronutrients.

1.2. Intended Use of the Product

Use of the substance/mixture: Fertilizer

1.3. Name, Address, and Telephone of the Responsible Party

Company

LESCO, Inc.
1385 East 36th St
Cleveland, OH 44114
T 216-706-9250

1.4. Emergency Telephone Number

Emergency Number : 1-800-424-9300
For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident, call CHEMTREC – Day or Night

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

| | |
|-------------------|------|
| Skin Irrit. 2 | H315 |
| Eye Irrit. 2A | H319 |
| Skin Sens. 1 | H317 |
| STOT SE 3 | H335 |
| Aquatic Acute 3 | H402 |
| Aquatic Chronic 3 | H412 |

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



Signal Word (GHS-US)

: Warning

Hazard Statements (GHS-US)

: H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H402 - Harmful to aquatic life
H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements (GHS-US)

: P261 - Avoid breathing dust
P264 - Wash hands thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P272 - Contaminated work clothing should not be allowed out of the workplace
P273 - Avoid release to the environment
P280 - Wear eye protection, protective gloves, protective clothing
P302+P352 - IF ON SKIN: Wash with plenty of soap and water
P304+P340 - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P312 - Call a POISON CENTER/doctor/physician if you feel unwell
P321 - Specific treatment (see Section 4)

LESCO Granular Fertilizer – All Analyses

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

P332+P313 - If skin irritation occurs: Get medical advice/attention
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
P337+P313 - If eye irritation persists: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse
P362+P364 - Take off contaminated clothing and wash it before reuse
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P501 - Dispose of contents/container according to local, regional, national, and international regulations

2.3. Other Hazards

Other Hazards: No additional information available

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

| Name | Product identifier | % | Classification (GHS-US) |
|---|---------------------|----------|--|
| Urea | (CAS No) 57-13-6 | 0.1 - 98 | Skin Irrit. 2, H315 Eye Irrit. 2B, H320 |
| Sulfuric acid, dipotassium salt | (CAS No) 7778-80-5 | 0.1 - 95 | Not classified |
| Diammonium phosphate | (CAS No) 7783-28-0 | 0.1 - 95 | Skin Irrit. 2, H315 Eye Irrit. 2B, H320 STOT SE 3, H335 Aquatic Acute 3, H402 |
| Potassium chloride | (CAS No) 7447-40-7 | 0.1 - 95 | Aquatic Acute 3, H402 |
| Monoammonium phosphate | (CAS No) 7722-76-1 | 0.1 - 95 | Skin Irrit. 2, H315 Eye Irrit. 2B, H320 STOT SE 3, H335 |
| Ammonium sulfate | (CAS No) 7783-20-2 | 0.1 - 95 | Aquatic Acute 2, H401 |
| Limestone | (CAS No) 1317-65-3 | 0.1 - 95 | Not classified |
| Sulfur | (CAS No) 7704-34-9 | 0.1 - 20 | Comb. Dust, H232 Flam. Sol. 2, H228 Skin Irrit. 2, H315 Eye Irrit. 2B, H320 Aquatic Acute 3, H402 |
| Iron oxide (Fe ₂ O ₃) | (CAS No) 1309-37-1 | 0.1 - 10 | Not classified |
| Urea, polymer with formaldehyde | (CAS No) 9011-05-6 | 0.1 - 10 | Not classified |
| Magnesium sulfate | (CAS No) 7487-88-9 | 0.1 - 10 | Skin Sens. 1, H317 |
| Ferrous sulfate | (CAS No) 7720-78-7 | 0.1 - 10 | Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1, H317 Aquatic Acute 1, H400 |
| Manganese oxide (Mn ₃ O ₄) | (CAS No) 1317-35-7 | 0.1 - 10 | Not classified |
| Sulfate of Potash-Magnesia | (CAS No) 14977-37-8 | 0.1 - 10 | Not classified |

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

First-aid Measures General: If medical advice is needed, have product container or label at hand.

First-aid Measures After Inhalation: If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing. Give oxygen or artificial respiration if necessary. Obtain medical attention if breathing difficulty persists.

LESCO Granular Fertilizer – All Analyses

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

First-aid Measures After Skin Contact: Wash skin thoroughly with mild soap and water. Obtain medical attention if irritation develops or persists. Wash contaminated clothing before reuse.

First-aid Measures After Eye Contact: Immediately rinse with water for a prolonged period (at least 15 minutes) while holding the eyelids wide open. Obtain medical attention if irritation develops or persists.

First-aid Measures After Ingestion: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/Injuries After Inhalation: Overexposure may be irritating to the respiratory system.

Symptoms/Injuries After Skin Contact: May cause skin irritation.

Symptoms/Injuries After Eye Contact: May cause eye irritation.

Symptoms/Injuries After Ingestion: If a large quantity has been ingested : Abdominal pain. Diarrhea. Nausea. Vomiting.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Not considered flammable but will burn at high temperatures. . Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: None known.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Decomposes above 132 °C (270 °F). Under conditions of fire this material may produce: Ammonia. Nitrogen oxides. Biuret. Cyanuric acid.

Explosion Hazard: May form explosive compounds if mixed with: Calcium hypochlorite. Sodium hypochlorite. Nitrates. Nitric acid. Perchloric acid. Product itself is not explosive but if dust is generated, dust clouds suspended in air can be explosive.

Reactivity: This product as shipped in the form of coarse granules should not contain sufficient dust to present an explosion hazard. Prevent dust accumulation (to minimize explosion hazard).

5.3. Advice for Firefighters

Firefighting Instructions: Not flammable.

Protection During Firefighting: Wear full fire-fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

Other information: Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Handle in accordance with good industrial hygiene and safety practice. This material becomes slippery when wet.

6.1.1. For Non-emergency Personnel

Protective Equipment: Wear suitable protective clothing, gloves and eye/face protection.

Emergency Procedures: Collect as any solid. Ventilate area. Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Wear suitable protective clothing, gloves and eye/face protection.

Emergency Procedures: If possible, stop flow of product. Contain and collect as any solid. Ventilate area. Evacuate unnecessary personnel.

6.2. Environmental Precautions

Avoid release to the environment.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain and collect as any solid. Do not allow into drains or water courses or dispose of where ground or surface waters may be affected.

Methods for Cleaning Up: Recover the product by vacuuming, shovelling or sweeping. Avoid generation of dust during clean-up of spills. If spilled directly onto the ground, remove sufficient soil to ensure material is fully recovered. Material may be used if uncontaminated.

6.4. Reference to Other Sections No additional information available

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: This material becomes slippery when wet.

Precautions for Safe Handling: Handle in accordance with good industrial hygiene and safety procedures. Wear recommended personal protective equipment. Avoid creating or spreading dust.

Hygiene Measures: Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure.

LESCO Granular Fertilizer – All Analyses

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store tightly closed in a dry, cool and well-ventilated place. Protect from moisture.

Prohibitions on mixed storage: Store away from: Ammonium nitrate. Refer to Section 10 on Incompatible Materials.

Special Rules on Packaging: Corrosive to copper and its alloys.

7.3. Specific End Use(s)

Fertilizer.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

| Limestone (1317-65-3) | | |
|--|--------------------------------------|------------------------|
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 5 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 5 mg/m ³ |
| Iron oxide (Fe ₂ O ₃) (1309-37-1) | | |
| USA ACGIH | ACGIH TWA (mg/m ³) | 5 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 5 mg/m ³ |
| USA IDLH | US IDLH (mg/m ³) | 2500 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 5 mg/m ³ |

8.2. Exposure Controls

Appropriate Engineering Controls

: Ensure all national/local regulations are observed.

Personal Protective Equipment

: Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection. For particulates and dust: Safety glasses.



Hand Protection

: protective gloves.

Eye Protection

: Safety glasses.

Skin and Body Protection

: Wear suitable protective clothing.

Respiratory Protection

: If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

Environmental Exposure Controls

: Ensure adequate ventilation, especially in confined areas.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

| | |
|--|-----------------------------------|
| Physical State | : Solid |
| Appearance | : Granules. Multi-colored. |
| Color | : White |
| Odor | : Slight. Pungent. |
| Odor Threshold | : No data available |
| pH | : No data available |
| pH solution | : 10 % |
| Relative Evaporation Rate (butylacetate=1) | : No data available |
| Melting Point | : No data available |
| Freezing Point | : No data available |
| Boiling Point | : No data available |
| Flash Point | : No data available |
| Auto-ignition Temperature | : No data available |
| Decomposition Temperature | : No data available |
| Flammability (solid, gas) | : No data available |
| Vapor Pressure | : No data available |
| Relative Vapor Density at 20 °C | : No data available |
| Relative Density | : No data available |
| Density | : 45 (45 - 65) lb/ft ³ |
| Solubility | : Water: Moderately |

LESCO Granular Fertilizer – All Analyses

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Partition coefficient: n-octanol/water : No data available

Viscosity : No data available

9.2. Other Information No additional information available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity: This product as shipped in the form of coarse granules should not contain sufficient dust to present an explosion hazard. Prevent dust accumulation (to minimize explosion hazard).

10.2 Chemical Stability: Stable at standard temperature and pressure.

10.3 Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

10.4 Conditions to Avoid: Protect from moisture. Keep away from heat.

10.5 Incompatible Materials: May form explosive mixture if in contact with strong acid such as nitric or perchloric acids. Avoid contact with : Strong oxidizers. Strong acids, bases. Nitrates. Hypochlorites. Perchlorates. Chlorides. Corrosive to copper and its alloys.

10.6 Hazardous Decomposition Products: Under conditions of fire this material may produce: Nitrogen oxides. Ammonia. Biuret. Carbon oxides (CO, CO₂). Formaldehyde.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity: Not classified

| | |
|---|--|
| Sulfuric acid, dipotassium salt (7778-80-5) | |
| LD50 Oral Rat | 6600 mg/kg |
| ATE (Oral) | 6,600.00 mg/kg body weight |
| Diammonium phosphate (7783-28-0) | |
| LD50 Oral Rat | 6500 mg/kg |
| LD50 Dermal Rabbit | > 7950 mg/kg |
| ATE (Oral) | 6,500.00 mg/kg body weight |
| Potassium chloride (7447-40-7) | |
| LD50 Oral Rat | 2600 mg/kg |
| ATE (Oral) | 2,600.00 mg/kg body weight |
| Monoammonium phosphate (7722-76-1) | |
| LD50 Oral Rat | 5750 mg/kg |
| LD50 Dermal Rabbit | > 7940 mg/kg |
| ATE (Oral) | 5,750.00 mg/kg body weight |
| Ammonium sulfate (7783-20-2) | |
| LD50 Oral Rat | > 2000 mg/kg |
| Sulfur (7704-34-9) | |
| LD50 Oral Rat | > 3000 mg/kg |
| LD50 Dermal Rabbit | > 2000 mg/kg |
| LC50 Inhalation Rat | > 9.23 mg/l/4h |
| Iron oxide (Fe₂O₃) (1309-37-1) | |
| LD50 Oral Rat | > 10000 mg/kg |
| Urea, polymer with formaldehyde (9011-05-6) | |
| LC50 Inhalation Rat | > 167 mg/m ³ (Exposure time: 4 h) |
| Ferrous sulfate (7720-78-7) | |
| LD50 Oral Rat | 237 mg/kg |
| ATE (Oral) | 237.00 mg/kg body weight |

Skin Corrosion/Irritation: Causes skin irritation.

Serious Eye Damage/Irritation: Causes serious eye irritation.

Respiratory or Skin Sensitization: May cause an allergic skin reaction.

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Not classified

| | |
|---|---|
| Iron oxide (Fe₂O₃) (1309-37-1) | |
| IARC group | 3 |

Reproductive Toxicity: Not classified

LESCO Granular Fertilizer – All Analyses

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Specific Target Organ Toxicity (Single Exposure): May cause respiratory irritation.

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Overexposure may be irritating to the respiratory system.

Symptoms/Injuries After Skin Contact: May cause skin irritation.

Symptoms/Injuries After Eye Contact: May cause eye irritation.

Symptoms/Injuries After Ingestion: If a large quantity has been ingested : Abdominal pain. Diarrhea. Nausea. Vomiting.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

| | |
|--|---|
| Sulfuric acid, dipotassium salt (7778-80-5) | |
| LC50 Fish 1 | 653 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus) |
| EC50 Daphnia 1 | 890 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| LC 50 Fish 2 | 3550 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static]) |
| Diammonium phosphate (7783-28-0) | |
| LC50 Fish 1 | 26.5 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss) |
| LC 50 Fish 2 | 24.8 - 29.4 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through]) |
| Potassium chloride (7447-40-7) | |
| LC50 Fish 1 | 1060 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static]) |
| EC50 Daphnia 1 | 825 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| LC 50 Fish 2 | 750 - 1020 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static]) |
| EC50 Daphnia 2 | 83 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static]) |
| Ammonium sulfate (7783-20-2) | |
| LC50 Fish 1 | 5.2 (5.2 - 8.2) mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static]) |
| EC50 Daphnia 1 | 14 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| LC 50 Fish 2 | 32.2 (32.2 - 41.9) mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through]) |
| Sulfur (7704-34-9) | |
| LC50 Fish 1 | 866 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static]) |
| LC 50 Fish 2 | 14 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static]) |
| Magnesium sulfate (7487-88-9) | |
| LC50 Fish 1 | 2610 - 3080 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static]) |
| EC50 Daphnia 1 | 266.4 - 417.3 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static]) |
| Ferrous sulfate (7720-78-7) | |
| LC50 Fish 1 | 925 mg/l (Exposure time: 96 h - Species: Poecilia reticulata [static]) |
| EC50 Daphnia 1 | 152 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| LC 50 Fish 2 | 0.56 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static]) |
| EC50 Daphnia 2 | 6.15 - 9.26 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static]) |
| Urea (57-13-6) | |
| LC50 Fish 1 | 16200 - 18300 mg/l (Exposure time: 96 h - Species: Poecilia reticulata) |
| EC50 Daphnia 1 | 3910 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static]) |

12.2. Persistence and Degradability

| | |
|---|---|
| LESCO Granular Fertilizer – All Analyses | |
| Persistence and Degradability | May cause long-term adverse effects in the environment. This product is water soluble and eventually biodegrades into elemental nitrogen. Excess nitrogen and nitrates in a body of water will contribute to eutrophication with visible effects such as toxic algae bloom. |

12.3. Bioaccumulative Potential

| | |
|---|-------------------------------|
| Diammonium phosphate (7783-28-0) | |
| BCF fish 1 | (no bioaccumulation expected) |
| Monoammonium phosphate (7722-76-1) | |
| BCF fish 1 | (no bioaccumulation expected) |

LESCO Granular Fertilizer – All Analyses

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| | |
|-------------------------------------|------------------|
| Ammonium sulfate (7783-20-2) | |
| Log Pow | -5.1 (at 25 °C) |
| Urea (57-13-6) | |
| BCF fish 1 | < 10 |
| Log Pow | -1.59 (at 25 °C) |

12.4. Mobility in Soil No additional information available

12.5. Other Adverse Effects

No additional information available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Sewage Disposal Recommendations: This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

Waste Disposal Recommendations: Place in an appropriate container and dispose of the contaminated material at a licensed site.

Additional Information: Dispose of waste material in accordance with all local, regional, national, and international regulations.

SECTION 14: TRANSPORT INFORMATION

14.1 In Accordance with DOT Not regulated for transport

14.2 In Accordance with IMDG Not regulated for transport

14.3 In Accordance with IATA Not regulated for transport

SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

| | |
|---|---------------------------------|
| LESCO Granular Fertilizer – All Analyses | |
| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard |
| Sulfuric acid, dipotassium salt (7778-80-5) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Diammonium phosphate (7783-28-0) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Potassium chloride (7447-40-7) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Monoammonium phosphate (7722-76-1) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Ammonium sulfate (7783-20-2) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Limestone (1317-65-3) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Sulfur (7704-34-9) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Iron oxide (Fe₂O₃) (1309-37-1) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Urea, polymer with formaldehyde (9011-05-6) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Magnesium sulfate (7487-88-9) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Ferrous sulfate (7720-78-7) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Manganese oxide (Mn₃O₄) (1317-35-7) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Urea (57-13-6) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |

15.2 US State Regulations

LESCO Granular Fertilizer – All Analyses

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| |
|--|
| Ammonium sulfate (7783-20-2) |
| U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List |
| Limestone (1317-65-3) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List |
| Sulfur (7704-34-9) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List |
| Iron oxide (Fe₂O₃) (1309-37-1) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List |
| Ferrous sulfate (7720-78-7) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List |
| Manganese oxide (Mn₃O₄) (1317-35-7) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List |

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

| | |
|--------------------------|---|
| Revision date | : 07/17/2014 |
| Other Information | : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200. |

GHS Full Text Phrases:

| | |
|---------------------|--|
| Acute Tox. 4 (Oral) | Acute toxicity (oral) Category 4 |
| Aquatic Acute 1 | Hazardous to the aquatic environment - Acute Hazard Category 1 |
| Aquatic Acute 2 | Hazardous to the aquatic environment - Acute Hazard Category 2 |
| Aquatic Acute 3 | Hazardous to the aquatic environment - Acute Hazard Category 3 |
| Aquatic Chronic 3 | Hazardous to the aquatic environment - Chronic Hazard Category 3 |
| Comb. Dust | Combustible Dust |
| Eye Irrit. 2A | Serious eye damage/eye irritation Category 2A |
| Eye Irrit. 2B | Serious eye damage/eye irritation Category 2B |
| Flam. Sol. 2 | Flammable solids Category 2 |
| Skin Irrit. 2 | Skin corrosion/irritation Category 2 |
| Skin Sens. 1 | Skin sensitization Category 1 |
| STOT SE 3 | Specific target organ toxicity (single exposure) Category 3 |
| H228 | Flammable solid |
| H232 | May form combustible dust concentrations in air |
| H302 | Harmful if swallowed |
| H315 | Causes skin irritation |
| H317 | May cause an allergic skin reaction |
| H319 | Causes serious eye irritation |
| H320 | Causes eye irritation |
| H335 | May cause respiratory irritation |
| H400 | Very toxic to aquatic life |
| H401 | Toxic to aquatic life |

LESCO Granular Fertilizer – All Analyses

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| | |
|------|---|
| H402 | Harmful to aquatic life |
| H412 | Harmful to aquatic life with long lasting effects |

NFPA Health Hazard

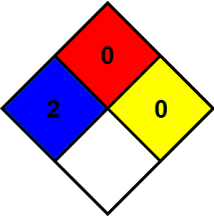
NFPA Fire Hazard

NFPA Reactivity

: 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

: 0 - Materials that will not burn.

: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



IMPORTANT: The information contained herein is based on available data. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof; and you should make your investigation to determine safety for the use you contemplate. LESCO makes no warranty of merchantability of fitness for a particular use, nor is there any other express or implied warranty except as may be specifically provided otherwise on product. LESCO, Inc. assumes no responsibility or liability for any incidental or consequential damages whether related to personal injury or property damage, to vendees, users or third parties, caused by the material and LESCO's responsibility is limited to replacement of, or repayment of, the purchase price for the material(s) with respect to which any damages are claimed. All vendees or users assume all risk associated with the use of the material(s).

SDS US (GHS HazCom)

10404-43
Herbicide
LESCO, Inc.
1385 East 36th Street Cleveland,
OH 44114-4114
1-800-347-4272

None known.

| | |
|---|------------|
| Serious eye damage | Category 1 |
| Acute toxicity, oral | Category 4 |
| Skin Sensitization | Category 1 |
| : | |
| Hazardous to aquatic environment, acute | Category 2 |
| Hazardous to aquatic environment, chronic | Category 2 |

DANGER

:
Causes serious eye damage. Harmful if swallowed. May cause an allergic skin reaction. Toxic to aquatic life with long-lasting effects.



Wash thoroughly after handling. Do not eat, drink, or smoke when using this product. Wear eye protection and protective gloves. Avoid breathing mist, vapors, or spray. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment.

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice. Wash contaminated clothing before reuse.

Collect spillage.

Dispose of contents in accordance with local, state, and federal regulations.

| | | |
|--|--------------|--------------|
| Dimethylamine Salt of 2,4-Dichlorophenoxyacetic Acid | 2008-39-1 | 29.6 - 31.5 |
| Dimethylamine Salt of Mecoprop-p Acid | 66423-09-4 | 7.75 - 8.6 |
| Dimethylamine Salt of Dicamba (3,6-Dichloro-o-Anisic Acid) | 2300-66-5 | 2.6 – 2.9 |
| Other Ingredients | Trade Secret | Trade Secret |

Herbicide Mixture of 2,4-D DMA, Mecoprop-p (MCP-p) DMA and Dicamba

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get immediate medical attention.

Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person. If symptoms develop, get medical advice.

Move person to fresh air. If breathing is difficult, administer oxygen. If symptoms develop, get medical advice.

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. If irritation or rash occurs, get medical advice.

Causes severe eye irritation with possible eye damage. May be harmful if swallowed. May cause allergic skin reaction (sensitization).

Get immediate medical attention for eye contact. For ingestion there is no specific antidote available. Treat symptomatically.

Recommended for large fires: foam or water spray. Recommended for small fires: dry chemical or carbon dioxide.

Firefighters should wear NIOSH approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later.

May produce gases such as hydrogen chloride and oxides of carbon and nitrogen.

Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

Pump any free liquid into an appropriate closed container. Collect washings for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

Do not get in eyes, on skin or on clothing. Users should wash hands, face and arms with soap before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and

change into clean clothing. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

Do not store near seed, fertilizer or other pesticides. Always use original container to store pesticides in a secured warehouse or storage building. Store at temperatures above 32° F. If allowed to freeze, remix before using. This does not alter the product. Containers should be opened in well-ventilated areas. Keep container tightly sealed when not in use. Do not contaminate water, food or feed by storage or disposal.

Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

To avoid contact with eyes, wear face shield, goggles or safety glasses. An emergency eyewash or water supply should be readily accessible to the work area.

To avoid contact with skin, wear long pants, long-sleeved shirt, shoes plus socks and chemical-resistant gloves. Wear a chemical-resistant apron when mixing or loading, cleaning up spills or equipment, or otherwise exposure to the concentrate. An emergency shower or water supply should be readily accessible to the work area.

Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

| | TWA | STEL | TWA | STEL | Unit |
|------------------------|-----|------|--------------------------|------|-------------------|
| DMA Salt of 2,4-D | 10* | NE | 10* (inhalable, skin) | NE | mg/m ³ |
| DMA Salt of Mecoprop-p | NE | NE | NE | NE | |
| DMA Salt of Dicamba | NE | NE | NE | NE | |
| Other Ingredients | NE | NE | NE | NE | |

*Based on adopted limit for 2,4-Dichlorophenoxyacetic acid

NE = Not Established

Dark brown liquid
Mild odor- slight phenolic
No data available
6.78(1% dispersion in DIW)
Liquid at room temperature
No data available
Not applicable due to aqueous solution
No data available
No data available
No data available
No data available
No data available
1.127 g/cc @ 21° C
Soluble
No data available
No data available
No data available
7.95 cPs @ 21° C
2.09

Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

This product is not normally reactive.

This material is stable under normal handling and storage conditions.

Will not occur.

Excessive heat. Do not store near heat or flame.

Strong oxidizing agents: bases and acids.

Under fire conditions, may produce gases such as hydrogen chloride and oxides of carbon and nitrogen.

Eye and skin contact.

Causes severe eye irritation and possible irreversible eye damage. Mildly irritating to the skin based on toxicity studies. Overexposure by skin absorption may cause symptoms similar to those for ingestion. Low inhalation toxicity based on toxicity studies. May be irritating to the respiratory tract. Overexposure by inhalation may cause symptoms similar to those from ingestion. Harmful if swallowed. May cause nausea, vomiting, abdominal pain, decreased blood pressure, muscle weakness, muscle spasms.

Repeated or prolonged skin exposure may cause allergic skin reaction (sensitization).

Data from laboratory studies conducted on this formulation:

Rat LD₅₀: 1,697 mg/kg

Rat or Rabbit LD₅₀: >5,000 mg/kg

Rat 4-hr LC₅₀: >2.14 mg/L (no mortalities at highest dose tested)

Rabbit: Corrosive

Rabbit: Slightly irritating

Guinea Pig: Not considered to be a contact sensitizer

Repeated overexposure to phenoxy herbicides may cause effects to liver, kidneys, blood chemistry, and gross motor function. Rare cases of peripheral nerve damage have been reported, but extensive animal studies have failed to substantiate these observations, even at high doses for prolonged periods. Repeated overexposure to dicamba may cause liver changes or a decrease in body weight.

The International Agency for Research on Cancer (IARC) lists exposure to chlorophenoxy herbicides as a class 2B carcinogen, the category for limited evidence for carcinogenicity in humans. However, more current 2,4-D lifetime feeding studies in rats and mice, as well as an MCPP lifetime feeding study in rats, did not show carcinogenic potential. Dicamba did not cause cancer in long-term animals studies. The U.S. EPA has given 2,4-D and dicamba a Class D classification (not classifiable as to human carcinogenicity).

No impairment of reproductive function attributable to 2,4-D has been noted in laboratory animal studies. Animal tests with dicamba have not demonstrated reproductive effects.

Studies in laboratory animals with 2,4-D and MCPP have shown decreased fetal body weights and delayed development in the offspring at doses toxic to mother animals. Animal tests with dicamba have not demonstrated developmental effects.

There have been some positive and some negative studies, but the weight of evidence is that neither 2,4-D nor MCPP is mutagenic. Animal tests with dicamba have not demonstrated mutagenic effects.

This product contains substances that are considered to be probable or suspected human carcinogens as follows:

| Chlorophenoxy Herbicides (2,4-D, MCPP) | No | 2B | No | No |
|--|----|----|----|----|
| DMA Salt of Dicamba | No | No | No | No |
| Other Ingredients | No | No | No | No |

This pesticide may be toxic to fish and aquatic invertebrates and may adversely affect non-target plants.

| | | | |
|---|----------|---|-------------|
| 96-hour LC ₅₀ Bluegill: | 524 mg/l | Bobwhite Quail Oral LD ₅₀ : | 500 mg/kg |
| 96-hour LC ₅₀ Rainbow Trout: | 250 mg/l | Mallard Duck 8-day Dietary LC ₅₀ : | >5,620 ppm |
| 48-hour EC ₅₀ Daphnia: | 184 mg/l | | |
| 96-hour LC ₅₀ Bluegill: | 112 mg/l | Bobwhite Quail Oral LD ₅₀ : | >5600 ppm |
| 96-hour LC ₅₀ Rainbow Trout | 111 mg/l | Mallard Duck 8-day Dietary LC ₅₀ : | 625 ppm |
| 48-hour EC ₅₀ Daphnia: | 256 mg/l | 72-hour EC ₅₀ Green Algae: | 100 mg/l |
| 96-hour LC ₅₀ Bluegill: | 135 mg/l | Bobwhite Quail 8-day Dietary LC ₅₀ : | >10,000 ppm |
| 96-hour LC ₅₀ Rainbow Trout: | 135 mg/l | Mallard Duck 8-day Dietary LC ₅₀ : | >10,000 ppm |
| 48-hour EC ₅₀ Daphnia: | 110 mg/l | | |

In laboratory and field studies, 2,4-D DMA salt rapidly dissociated to parent acid in the environment. The typical half-life of the resultant 2,4-D acid ranged from a few days to a few weeks. Mecoprop-p DMA rapidly dissociates to parent mecoprop-p in the environment. In soil, mecoprop-p is microbially degraded with a typical half-life of approximately 11 to 15 days. Dicamba has low bioaccumulation potential, is not persistent in soil, is highly mobile in soil and degrades rapidly.

Pesticide wastes are toxic. If container is damaged or if pesticide has leaked, contain all spillage. Absorb and clean up all spilled material with granules or sand. Place in a closed, labeled container for proper disposal. Improper disposal of excess pesticide, spray mixtures, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

Follow the precautions indicated in Section 7: HANDLING AND STORAGE of this SDS.

≤

Non Regulated

>

UN 3082, Environmentally hazardous substances, liquid, n.o.s., (2,4-D Salt), 9, III, RQ

Non Regulated

Non Regulated

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

DANGER Corrosive, causes irreversible eye damage. Do not get in eyes, or on skin or clothing. Harmful if swallowed.

This product is exempted from TSCA because it is solely for FIFRA regulated use.

Acute Health

Dimethylamine Dicamba (CAS No. 2300-66-5), 2.6 – 2.9% by weight in product

Dimethylamine Dicamba (CAS No. 2300-66-5) None given

Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

Other state regulations may apply. Check individual state requirements.

Not Listed.

Hazards Scale: 0 = Minimal 3 = Slight 2 = Moderate 1 = Serious 0 = Severe

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of Federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, LESCO, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will LESCO, Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS AND ALL SUCH WARRANTIES ARE HEREBY SPECIFICALLY DISCLAIMED.

May 18, 2015

March 6, 2015

Three-Way is a registered trademark of LESCO, Inc.

Safety Data Sheet

LIQUID LAUNDRY DETERGENT

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Version 1.0030

Revision Date 05/29/2015

Print Date 01/23/2017



Section 1. Chemical product and company identification

Product Name: LIQUID LAUNDRY DETERGENT

Product use: Laundry Detergent

Contact Information: Warsaw Chemical Co., Inc.
P.O. Box 858
Warsaw, IN 46581
Tel: 1.800.548.3396
Fax: 1.574.267.3884

Emergency Phone: INFOTRAC
800.535.5053 USA & Canada
352.323.3500 International

Section 2. Hazards identification

GHS Classification:

Eye damage/irritation(Category 2B)

Pictogram(s):

Signal Word: WARNING

Hazard Statements:

H320 Causes eye irritation

Precautionary Statement(s):

P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing

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Section 3. Composition/information on ingredients

| <u>Name</u> | <u>CAS number</u> | <u>% Less Than</u> |
|------------------------|-------------------|--------------------|
| Defoamer | N/E | 0.1000 |
| Surfactant | N/E | 5.0000 |
| Nonylphenol ethoxylate | 127087-87-0 | 35.0000 |
| Tetrasodium EDTA | 64-02-8 | 0.5000 |
| Distyryl Biphenyl | 27344-41-8 | 0.0100 |
| Fragrance | N/E | 0.1000 |
| 2-Propanol | 67-63-0 | 6.0000 |

The chemical identity of some or all components is confidential business information (trade secret) and is being withheld as permitted by 29CFR19191200 (i). No other ingredients known to be hazardous.

Section 4. First aid measures

| | |
|----------------------|---|
| Eye contact: | Check for and remove contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately. |
| Skin contact: | Wash skin surfaces thoroughly after contact. Wash clothing and clean shoes thoroughly before reuse. Get medical attention if irritation develops. |
| Inhalation: | Move exposed person to fresh air. If breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen clothing. Get medical attention immediately. |
| Ingestion: | Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately. |
| General: | Physicians: No specific treatment. Treat symptomatically. Contact poison treatment specialist if large quantities have been inhaled or ingested. |

See Section 11 for exposure symptoms.

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Section 5. Fire-fighting measures

- Flammability:** In a fire or if heated, a pressure increase will occur and the container may burst.
- Extinguishing Media:** Use an extinguishing agent suitable for the surrounding fire.
- Protective Equipment:** Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with full face-piece operated in positive pressure mode.
- Additional Information:** Thermal decomposition products-carbon monoxide, sulfur oxides, metal oxide/oxides, halogenated compounds.

Section 6. Accidental release measures

- Personal Precautions:** No action should be taken involving individual risk or without suitable training. Isolate area. Avoid contact with material. Do not breath vapors. Provide adequate ventilation. Wear proper personal protective equipment.
- Environmental:** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform relevant authorities if the product reaches sewers, waterways or soil.
- Containment/Cleanup:** Stop leak if without risk. Move containers from spill area. Contain or absorb with inert dry material. Dispose of according to local regulations. See Section 1 for emergency contact information and 13 for waste disposal.

Section 7. Handling and storage

- Safe Handling:** Wear appropriate personal protective equipment (see Section 8). Eating drinking and smoking should be prohibited. Do not get into eyes or on skin. Do not ingest. Keep containers tightly closed. Do not reuse container.
- Safe Storage:** Store in accordance with local regulations. Store in original container away from foods, drink and incompatible materials. Keep container tightly closed. Do not store unlabeled. Use appropriate containment.

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Section 8. Exposure controls/personal protection

- Engineering Controls:** Apply technical measures to comply with occupational exposure limits. Mechanical ventilation, eyewash stations, showers where necessary.
- Eye Protection:** Safety eyewear/face shield complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
- Respiratory Protection:** Use a properly fitted air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates necessity. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product & the safe working limits of the chosen respirator.
- Hand Protection:** Chemical resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Skin Protection:** Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

| COMPONENT | ACGIH TWA ppm | OSHA/NIOSH STEL ppm | OSHA/ACGIH STEL mg/m3 |
|------------------------|------------------|---------------------------|-----------------------------|
| Nonylphenol ethoxylate | N/A | | |
| Tetrasodium EDTA | | | 15 |
| 2-Propanol | 200 | 400 | |

Section 9. Physical and chemical properties

| | |
|----------------------------|--------------|
| Physical State: | Liquid |
| Color: | Blue |
| Odor: | Floral |
| Odor Threshold: | N/E |
| pH: | 9.5 |
| Melting Point: | 30°F |
| Freezing Point: | 30°F |
| Boiling Point: | N/E |
| Flash Point: | Nonflammable |
| Evaporation Rate: | N/E |
| Flammability: | Nonflammable |
| Upper Explosive Limits: | N/E |
| Lower Explosive Limits: | N/E |
| Vapor Pressure: | N/E |
| Vapor Density: | N/E |
| Relative Density: | N/E |
| Solubility: | Complete |
| Partition coefficient: | N/E |
| Auto-Ignition Temperature: | N/E |
| Decomposition Temperature: | N/E |
| Specific Gravity: | 0.999 |
| % Volatile: | 4.2% |

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Section 10. Stability and reactivity

Reactivity: Stable under normal conditions

Chemical stability: Stable under normal conditions

Possibility of hazardous reactions: None known

Conditions to avoid: None Known

Incompatible materials: Strong acids and oxidizers.

Hazardous Decomposition Products: Material does not decompose at ambient temperatures.

Section 11. Toxicological information

Routes of entry: _____ Inhalation _____ Absorption _____ Ingestion

Acute Exposure Hazards:

Eye contact: Irritation

Dermal: None expected

Oral: Nausea, diarrhea

Inhalation: Minimally toxic based on test data for structurally similar materials.

| COMPONENT | Result | Species | Dose | Exposure |
|------------------------|-----------|------------|------------|----------|
| Nonylphenol ethoxylate | LD50 ORAL | Rat | 1600m g/kg | |
| Distyryl Biphenyl | LD50 ORAL | Rat | >500 mg/kg | |
| | LC50 | Zebra fish | 76 ppm | 96 hours |
| 2-Propanol | LD50 ORAL | Rat | 5045 mg/kg | |
| | LC50 | Minnow | 9640 mg/L | 96 hours |

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Section 12. Ecological information

Ecotoxicity: No data available.
Persistence & degradability: No data available.
Bioaccumulative potential: No data available.
Mobility in soil: No data available.
Other adverse effects: No data available.

| Component | Result | Species | Dose | Exposure |
|-----------|--------|---------|------|----------|
|-----------|--------|---------|------|----------|

Section 13. Disposal considerations

Material that cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Processing, use or contamination of this product may change the waste management options. Waste generators must decide if discarded material is a hazardous waste. State and local disposal regulations may differ from federal disposal definitions. Dispose of container and unused contents in accordance with federal, state and local requirements.

Section 14. Transport information

DOT (US)

UN Number: N/A
Shipping Name:
Technical Name:
Hazard Class:
Packaging Group: N/A

Section 15. Regulatory information

| SARA 313 Components | CAS No. | % Less Than |
|---------------------|---------|-------------|
|---------------------|---------|-------------|

| California Prop. 65 Components | CAS No. | % Less Than |
|--------------------------------|---------|-------------|
|--------------------------------|---------|-------------|

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Section 16. Other information

Hazardous Material Information System (U.S.A.)

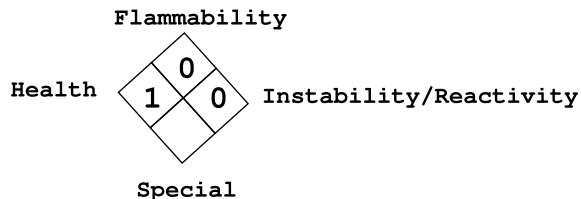
| | |
|---------------------|---|
| Health Hazard | ① |
| Fire Hazard | ① |
| Reactivity | ① |
| Personal Protection | ① |

Caution: HMIS ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks and 4 representing significant hazards or risks.

PERSONAL PROTECTION INDEX

| | |
|---|---|
| A | Safety Glasses |
| B | Safety Glasses, Gloves |
| C | Safety Glasses, Gloves, Apron |
| D | Face Shield, Gloves, Apron |
| E | Safety Glasses, Gloves, Dust Respirator |
| F | Safety Glasses, Gloves, Apron, Dust Respirator |
| G | Safety Glasses, Gloves, Vapor Respirator |
| H | Splash Goggles, Gloves, Apron, Dust & Vapor Respirator |
| I | Safety Glasses, Gloves, Dust & Vapor Respirator |
| J | Splash Goggles, Gloves, Apron, Dust & Vapor Respirator |
| K | Airline Hood or Mask, Gloves, Full Suit, Boots |
| X | Consult your supervisor for special handling directions |

National Fire Protection
Association (U.S.A.)



NFPA warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals.

Information on this form is furnished solely for the purpose of compliance with the Occupational Safety and Health Act of 1970 and shall not be used for any other purpose. Use or dissemination of all or any part of this information can be grounds for legal action.

To the best of our knowledge, the information provided in this Safety Data Sheet is accurate as of the date of its issue. However, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE. The information this Safety Data Sheet contains is being given for safety guidance purposes and relates only to the specific material and uses described in it. This information does not necessarily apply to that material when combined with other material(s) or when used otherwise than as described herein.

In all cases, it is the responsibility of the user to determine the applicability of such information and recommendations and the suitability of any product for its own particular purpose. All materials may represent unknown hazards and should be used with caution.

Safety Data Sheet

Magnesium Alloys



SECTION 1: IDENTIFICATION

Product Name: Magnesium Alloys

Chemical Formula: Mg (Alloyed)

Other Names: Magnesium, AM50A, AM60B, AZ91D

Intended Use / Restrictions on Use:

For professional/industrial use only.

Contact Information:

Greenwich Metals, Inc.

165 West Putnam Ave.

Greenwich, CT 06830

Phone: 203-622-4848

Emergency Contact:

Chemtrec – call 1-800-424-9300

SECTION 2: HAZARDS IDENTIFICATION

Classification:

Substance and Mixture, which in contact with water, emit flammable gasses (Category 1) – H260

Pyrophoric solids (Category 1) – H250

Acute and Chronic Aquatic Toxicity (Category 1) – H400 + H410

Label Elements:

Hazard Pictograms:



GHS02



GHS09

Signal Word:

Danger

Hazard Statements:

H260 – In contact with water release flammable gases which may ignite spontaneously

H250 – Catches fire spontaneously if exposed to air.

H410 – Very Toxic to aquatic life with long lasting effects.

Precautionary Statements:

P210 – Keep away from heat/sparks/open flames/hot surfaces. – No smoking. P273 – Avoid release to the environment. P223 – Keep away from any possible contact with water, because of violent reaction and possible flash fire. P232 – Protect from Moisture. P280 – Wear eye protection, protective clothing, protective gloves. P335 – Brush off loose particles from skin. P370+P378 – In case of fire: Use dry sand, dry chemical, or alcohol resistant foam for extinguishing. P501 – Dispose of contents/container in accordance with local, regional, national and international regulations.

Other Hazards:

None

Unknown Acute Toxicity Statement:

Not Applicable

SECTION 3: COMPOSITION

Name: Magnesium Alloys

Synonyms: Magnesium, AM50A, AM60B, AZ91D

| Chemical Name | CAS Number | % by Weight |
|----------------|------------|-------------|
| Magnesium (Mg) | 7439-95-4 | 89-95% |
| Aluminum (Al) | 7429-90-5 | 4.5-9.5% |
| Zinc (Zn) | 7440-66-6 | 0.1-0.9% |
| Silicon (Si) | 7440-21-3 | 0.02-0.05% |
| Manganese (Mn) | 7439-96-5 | 0.17-0.50% |

Mixture:

For exact composition, refer to product specifications or analysis.

SECTION 4: FIRST AID MEASURES

Required Treatment:

After inhalation, move to fresh air and rest in a position comfortable for breathing.

After skin contact, wash skin thoroughly.

After eye contact, remove contact lenses if applicable and flush eyes with water for at least 15 minutes.

After ingestion, do not induce vomiting. Rinse mouth with water. Call poison control center or doctor.

Important Symptoms & Effects, Acute & Delayed:

Inhalation may cause metal fume fever. See section 11 for notable symptoms. If feeling un-well after exposure, consult with a doctor.

Indication of Medical Attention:

If any acute or chronic symptoms arise or if feeling unwell after exposure, seek medical advice.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Techniques/Equipment:

Use dry agent such as dry powder, sand, or talc. Use extinguishing media appropriate for surrounding environment. Do not use water.

Chemical Hazards from Fire:

May react violently with water creating flammable hydrogen gas.

Special Equipment and Precautions for Firefighters:

Exercise caution. If entering fire area, wear proper protective equipment including respiratory protection if necessary.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Emergency Procedures/Personal Protection:

Avoid all contact with skin, eyes, or clothing. Avoid breathing fumes and dust.

Evacuate all unnecessary personnel.

Protective Equipment:

Use appropriate personal protection equipment (PPE), as listed in section 8.

Methods of Containment & Cleanup:

Sweep up using a natural fiber brush and non-sparking pan. Dry, clean material may be re-used. Wet or contaminated material should be placed in lock-top drums and stored in a safe outside area physically separated from other activities.

SECTION 7: HANDLING AND STORAGE**Precautions for Safe Handling:**

When solid, practice good industrial hygiene and safety procedures. Do not allow dust or powder to accumulate on equipment or building surfaces. Clean exposed areas.

Precautions for Safe Storage:

Store in cool, dry and well ventilated location. Seal containers. Keep away from incompatible materials such as strong oxidizing agents, acids, acid chlorides, and halogens.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**Control Parameters:**

Magnesium has no occupational exposure limit values.

Aluminum:

USA OSHA - TWA (mg/m^3) – $15\text{mg}/\text{m}^3$ (Total Dust) – Table Z-1 Limits for Air Contaminants

USA OSHA - TWA (mg/m^3) – $15\text{mg}/\text{m}^3$ (Respirable Fraction) – Table Z-1 Limits for Air Contaminants

Zinc has no occupational exposure limit values.

Silicon:

USA OSHA - TWA (mg/m^3) – $15\text{mg}/\text{m}^3$ (Total Dust) – Table Z-1 Limits for Air Contaminants

USA OSHA - TWA (mg/m^3) – $5\text{mg}/\text{m}^3$ (Respirable Fraction) – Table Z-1 Limits for Air Contaminants

Manganese:

USA OSHA - TWA (mg/m^3) – $5\text{mg}/\text{m}^3$ – Table Z-1 Limits for Air Contaminants

Engineering Controls:

Ensure adequate ventilation. Emergency eye wash stations and safety showers should be nearby any potential exposure. Ensure national/local regulations are observed.

Personal Protective Equipment:

Protective goggles, gloves and clothing. If insufficient ventilation, wear respiratory protection.

Materials for Protective Clothing: Wear chemically resistant materials and fabrics.

Hand Protection: Wear chemically resistant gloves. If working with molten or hot material, wear thermally resistant gloves.

Eye Protection: Chemical goggles or safety glasses should be worn at all times. For furnace work, wear a face shield or safety glasses.

Respiratory Protection: If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

Thermal Hazard Protection: For furnace work, fire retardant clothing, gloves, and safety shoes should be worn.

Consumer Exposure Controls: Do not eat, drink, or smoke during use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| Physical State: Solid (Metal) Color: Grey Taste: N/A Molecular Weight: 24.31 g/mol for Mg Odor: N/A Odor Threshold: N/A pH: N/A Melting Point: 648 °C (1198 °F) for Mg Boiling Point: 1090 °C (1994 °F) for Mg Boiling Range: N/A Flash Point: N/A | Evaporation Rate: N/A Flammability: May form combustible dust concentrations in air Upper/Lower Flammability Limits: N/A Vapor Pressure: 1 mmHg at 621 °C for Mg Vapor Density: N/A Relative Density: 1.74 g/mL at 25 °C for Mg Solubility: Insoluble in water Partition Coefficient: N/A Auto-ignition Temperature: N/A Decomposition Temperature: N/A Viscosity: N/A |
|---|---|

SECTION 10: STABILITY AND REACTIVITY

Reactivity: May react violently with water.

Stability: Stable under proper handling and storage conditions.

Hazardous Reactions: Oxidation in water leads to hydrogen production.

Conditions to Avoid: Avoid incompatible materials, dust generation, moisture, excess heat.

Incompatible Materials: Strong oxidizing agents, acids, acid chlorides, halogens.

Hazardous Decomposition Products: Hydrogen gas may be produced by oxidation in water. Hydrogen gas is explosive.

SECTION 11: TOXICOLOGICAL INFORMATION

Routes of Exposure

Inhalation of dust, fumes. Skin contact through physical contact. Eye contact through physical contact or dust and fumes. Ingestion through contamination of skin/surfaces.

Chronic and Acute Related Symptoms/Effects:

Inhalation of fumes or dust can cause respiratory irritation. Manganese fumes can cause chronic central nervous system damage, secondary Parkinson's disease, and scarring of the lungs. Inhalation of metal and metal oxides (may be formed during processing) can cause metal fume fever which is characterized by nausea, fever, chills, shortness of breath and malaise. Skin contact with molten metal can cause burns. Dust or fumes can cause eye irritation. Ingestion can cause harmful effects.

Measures of Toxicology:

Acute Toxicity: Not Classified

Skin Corrosion/Irritation: Not Classified

Serious Eye Damage/ Irritation: Not Classified

Respiratory or Skin Sensitization: Not Classified

Germ Cell Mutagenicity: Not Classified

Reproductive Toxicity: Not Classified

Carcinogenic Information: IARC Group: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: No data available

Persistence and Degradability: No data available

Bioaccumulative Potential: No data available

Mobility in Soil: No data available

Other Adverse Effects:

Prevent entry to sewers and public waterways. Avoid release to the environment. Ensure accordance with national and local regulations.

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of waste in accordance with all local, regional, national, and international regulations.

SECTION 14: TRANSPORTATION INFORMATION

UN Number: 1869

UN Proper Shipping Name: Magnesium Alloy

Transport Hazard Classes: 4.1

Packing Group: III

Environmental Hazards: N/A

Transport in Bulk: N/A

Special Precautions: Keep dry.

SECTION 15: REGULATORY INFORMATION

US Federal Regulations:

For Magnesium:

SARA Section 302 – None

SARA Section 311/312 Hazard Classes – Fire Hazard, Delayed (chronic) Health Hazard, Reactivity Hazard

SARA Section 313 Emissions Reporting – Does not contain any chemical that exceeds established thresholds.

US State Regulations:

For Magnesium:

California – Prop. 65 – Non-carcinogenic

Massachusetts – Right To Know List

Pennsylvania – Right To Know List

New Jersey – Right To Know List

SECTION 16: OTHER INFORMATION

Date of Preparation: 05/31/15

Prepared in accordance with OSHA HCS 29 CFR 1910.1200.

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SAFETY DATA SHEET

MAPP GAS (Petroleum Gas, MAPD)

Section 1. Identification

| | |
|--------------------------------------|---|
| GHS product identifier | : MAPP GAS (Petroleum Gas, MAPD) |
| Other means of identification | : MAP, MAPP, Methylacetylene-Propadiene, Mixture of Methylacetylene and Propadiene |
| Product type | : Liquefied gas |
| Product use | : Synthetic/Analytical chemistry. |
| Synonym | : MAP, MAPP, Methylacetylene-Propadiene, Mixture of Methylacetylene and Propadiene |
| SDS # | : 002015 |
| Supplier's details | : Airgas USA, LLC and its affiliates 259 North Radnor-Chester Road Suite 100 Radnor, PA 19087-5283 1-610-687-5253 |
| 24-hour telephone | : 1-866-734-3438 |

Section 2. Hazards identification

| | |
|---|---|
| OSHA/HCS status | : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). |
| Classification of the substance or mixture | : FLAMMABLE GASES - Category 1 GASES UNDER PRESSURE - Liquefied gas |

GHS label elements

Hazard pictograms



Signal word

: Danger

Hazard statements

: Extremely flammable gas.
May form explosive mixtures with air.
Contains gas under pressure; may explode if heated.
May cause frostbite.
May displace oxygen and cause rapid suffocation.

Precautionary statements

General

: Read and follow all Safety Data Sheets (SDS'S) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Always keep container in upright position. Approach suspected leak area with caution.

Prevention

: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Response

: Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so.

Storage

: Protect from sunlight. Store in a well-ventilated place.

Disposal

: Not applicable.

Hazards not otherwise classified

: Liquid can cause burns similar to frostbite.

Section 3. Composition/information on ingredients

| | |
|--------------------------------------|--|
| Substance/mixture | : Mixture |
| Other means of identification | : MAP, MAPP, Methylacetylene-Propadiene, Mixture of Methylacetylene and Propadiene |
| Product code | : 002015 |

| Ingredient name | % | CAS number |
|------------------|---------|------------|
| propylene | 37 - 55 | 115-07-1 |
| methyl acetylene | 27 - 33 | 74-99-7 |
| 1,2-propadiene | 13 - 15 | 463-49-0 |
| isobutane | 2 - 5 | 75-28-5 |
| N-Butane | 2 - 5 | 106-97-8 |
| Propane | 1 - 5 | 74-98-6 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

| | |
|---------------------|---|
| Eye contact | : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs. |
| Inhalation | : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. |
| Skin contact | : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Get medical attention if symptoms occur. In case of contact with liquid, warm frozen tissues slowly with lukewarm water and get medical attention. Do not rub affected area. Wash clothing before reuse. Clean shoes thoroughly before reuse. |
| Ingestion | : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if adverse health effects persist or are severe. Ingestion of liquid can cause burns similar to frostbite. If frostbite occurs, get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. As this product rapidly becomes a gas when released, refer to the inhalation section. |

Most important symptoms/effects, acute and delayed

Potential acute health effects

| | |
|---------------------|--|
| Eye contact | : Liquid can cause burns similar to frostbite. |
| Inhalation | : No known significant effects or critical hazards. |
| Skin contact | : Dermal contact with rapidly evaporating liquid could result in freezing of the tissues or frostbite. |
| Frostbite | : Try to warm up the frozen tissues and seek medical attention. |
| Ingestion | : Ingestion of liquid can cause burns similar to frostbite. |

Over-exposure signs/symptoms

| | |
|--------------------|---|
| Eye contact | : Adverse symptoms may include the following: , frostbite |
| Inhalation | : No specific data. |

Section 4. First aid measures

- Skin contact** : Adverse symptoms may include the following:, frostbite
- Ingestion** : Adverse symptoms may include the following:, frostbite

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance. Eliminate all ignition sources if safe to do so.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. For incidents involving large quantities, thermally insulated undergarments and thick textile or leather gloves should be worn.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : Accidental releases pose a serious fire or explosion hazard. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Section 6. Accidental release measures

Methods and materials for containment and cleaning up

- Small spill** : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.
- Large spill** : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Do not get in eyes or on skin or clothing. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.
- Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment.

- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Eliminate all ignition sources. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F). Keep container tightly closed and sealed until ready for use. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|------------------|---|
| propylene | ACGIH TLV (United States, 3/2017). TWA: 500 ppm 8 hours. |
| | ACGIH TLV (United States, 1/2005). TWA: 500 ppm 8 hours. Form: All forms |
| methyl acetylene | ACGIH TLV (United States, 3/2017). TWA: 1640 mg/m ³ 8 hours. |
| | TWA: 1000 ppm 8 hours. |
| | NIOSH REL (United States, 10/2016). TWA: 1650 mg/m ³ 10 hours. |
| | TWA: 1000 ppm 10 hours. |
| | OSHA PEL (United States, 6/2016). TWA: 1650 mg/m ³ 8 hours. |
| | TWA: 1000 ppm 8 hours. |
| 1,2-propadiene | OSHA PEL 1989 (United States, 3/1989). TWA: 1650 mg/m ³ 8 hours. |
| isobutane | TWA: 1000 ppm 8 hours. |
| | None. |
| | NIOSH REL (United States, 10/2016). TWA: 1900 mg/m ³ 10 hours. |
| | TWA: 800 ppm 10 hours. |

Section 8. Exposure controls/personal protection

| | |
|----------|--|
| N-Butane | ACGIH TLV (United States, 3/2017). STEL: 1000 ppm 15 minutes. NIOSH REL (United States, 10/2016). TWA: 1900 mg/m ³ 10 hours. TWA: 800 ppm 10 hours. OSHA PEL 1989 (United States, 3/1989). TWA: 1900 mg/m ³ 8 hours. TWA: 800 ppm 8 hours. |
| Propane | ACGIH TLV (United States, 3/2017). STEL: 1000 ppm 15 minutes. NIOSH REL (United States, 10/2016). TWA: 1800 mg/m ³ 10 hours. TWA: 1000 ppm 10 hours. OSHA PEL (United States, 6/2016). TWA: 1800 mg/m ³ 8 hours. TWA: 1000 ppm 8 hours. OSHA PEL 1989 (United States, 3/1989). TWA: 1800 mg/m ³ 8 hours. TWA: 1000 ppm 8 hours. ACGIH TLV (United States, 3/2017). Oxygen Depletion [Asphyxiant]. |

Appropriate engineering controls

- : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls

- : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

- : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

- : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection

- : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. If contact with the liquid is possible, insulated gloves suitable for low temperatures should be worn. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

- : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Section 8. Exposure controls/personal protection

- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
- Thermal hazards** : If there is a risk of contact with the liquid, all protective equipment worn should be suitable for use with extremely low temperature materials.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Gas. [Liquefied gas]
- Color** : Not available.
- Odor** : Not available.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point** : -102.7°C (-152.9°F) This is based on data for the following ingredient: Methyl Acetylene. Weighted average: -152.81°C (-243.1°F)
- Boiling point** : Not available.
- Critical temperature** : Lowest known value: 91.85°C (197.3°F) (Propylene).
- Flash point** : Not available.
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Lower: 2%
Upper: 13%
- Vapor pressure** : Not available.
- Vapor density** : Highest known value: 2.1 (Air = 1) (Butane). Weighted average: 1.52 (Air = 1)
- Gas Density (lb/ft³)** : Weighted average: 0.11
- Relative density** : Not applicable.
- Solubility** : Not available.
- Solubility in water** : Not available.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Not applicable.
- Flow time (ISO 2431)** : Not available.
- Molecular weight** : 42 g/mol

Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Hazardous reactions or instability may occur under certain conditions of storage or use.
- Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
- Incompatible materials** : Oxidizers

Section 10. Stability and reactivity

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous polymerization : May Occur.

Conditions to Avoid: Elevated temperatures and pressures. Polymerization catalysts, such as metal alkyls, can cause uncontrolled polymerization. Contamination with oxygen can cause propadiene to form hazardous peroxides.

INHIBITORS/STABILIZERS

An inhibitor is added to the MAPD mixture to prevent potential unstable peroxide formation. Butanes (iso and/or normal) are also added to the MAPD mixture to prevent potential concentration of the methylacetylene and propadiene from reaching concentration levels that would render the mixture unstable in case of weathering off (evaporation of light components).

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|-------------------------|-----------------------|---------|--------------------------|----------|
| isobutane | LC50 Inhalation Vapor | Rat | 658000 mg/m ³ | 4 hours |
| N-Butane | LC50 Inhalation Vapor | Rat | 658000 mg/m ³ | 4 hours |

Irritation/Corrosion

Not available.

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

| Product/ingredient name | OSHA | IARC | NTP |
|-------------------------|------|------|-----|
| propylene | - | 3 | - |

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Section 11. Toxicological information

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Liquid can cause burns similar to frostbite.
Inhalation : No known significant effects or critical hazards.
Skin contact : Dermal contact with rapidly evaporating liquid could result in freezing of the tissues or frostbite.
Ingestion : Ingestion of liquid can cause burns similar to frostbite.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:, frostbite
Inhalation : No specific data.
Skin contact : Adverse symptoms may include the following:, frostbite
Ingestion : Adverse symptoms may include the following:, frostbite

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Not available.

Persistence and degradability

Not available.

Bioaccumulative potential

Section 12. Ecological information

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|-------------------------|--------------------|-----|-----------|
| propylene | 1.77 | - | low |
| methyl acetylene | 0.94 | - | low |
| 1,2-propadiene | 1.45 | - | low |
| isobutane | 2.8 | - | low |
| N-Butane | 2.89 | - | low |
| Propane | 1.09 | - | low |

Mobility in soil






Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty Airgas-owned pressure vessels should be returned to Airgas. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

| | DOT | TDG | Mexico | IMDG | IATA |
|----------------------------|--|--|--|--|--|
| UN number | UN1060 | UN1060 | UN1060 | UN1060 | UN1060 |
| UN proper shipping name | Methyl Acetylene and Propadiene mixtures, stabilized | Methyl Acetylene and Propadiene mixtures, stabilized | Methyl Acetylene and Propadiene mixtures, stabilized | Methyl Acetylene and Propadiene mixtures, stabilized | Methyl Acetylene and Propadiene mixtures, stabilized |
| Transport hazard class(es) | 2.1  | 2.1  | 2.1  | 2.1  | 2.1  |
| Packing group | - | - | - | - | - |
| Environmental hazards | No. | No. | No. | No. | No. |

“Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product.”

Additional information

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2).
Explosive Limit and Limited Quantity Index 0.125
ERAP Index 3000
Passenger Carrying Road or Rail Index Forbidden

Section 14. Transport information

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined
Clean Air Act (CAA) 112 regulated flammable substances: Propylene; Methyl Acetylene; allene; Isobutane; Butane; propane

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Refer to Section 2: Hazards Identification of this SDS for classification of substance.

SARA 313

| | Product name | CAS number | % |
|--|--------------|------------|---------|
| Form R - Reporting requirements | Propylene | 115-07-1 | 37 - 55 |
| Supplier notification | Propylene | 115-07-1 | 37 - 55 |

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: PROPYLENE; PROPENE; PROPYNE; METHYL ACETYLENE; ISOBUTANE; BUTANE; PROPANE

New York : None of the components are listed.

New Jersey : The following components are listed: PROPYLENE; 1-PROPENE; METHYL ACETYLENE; 1-PROPYNE; PROPADIENE; 1,2-PROPADIENE; Isobutane; PROPANE, 2-METHYL-; BUTANE; PROPANE

Pennsylvania : The following components are listed: 1-PROPENE; 1-PROPYNE; PROPANE, 2-METHYL-; BUTANE; PROPANE

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Section 15. Regulatory information

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

| | |
|--------------------------|--|
| Australia | : All components are listed or exempted. |
| Canada | : All components are listed or exempted. |
| China | : Not determined. |
| Europe | : All components are listed or exempted. |
| Japan | : Japan inventory (ENCS): Not determined. Japan inventory (ISHL): Not determined. |
| Malaysia | : Not determined. |
| New Zealand | : All components are listed or exempted. |
| Philippines | : All components are listed or exempted. |
| Republic of Korea | : All components are listed or exempted. |
| Taiwan | : All components are listed or exempted. |
| Thailand | : Not determined. |
| Turkey | : Not determined. |
| United States | : All components are listed or exempted. |
| Viet Nam | : Not determined. |

Section 16. Other information

Hazardous Material Information System (U.S.A.)

| | | |
|------------------|---|---|
| Health | / | 1 |
| Flammability | | 4 |
| Physical hazards | | 3 |
| | | |

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)



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Section 16. Other information

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

| Classification | Justification |
|--------------------------------------|-----------------|
| FLAMMABLE GASES - Category 1 | Expert judgment |
| GASES UNDER PRESSURE - Liquefied gas | Expert judgment |

History

Date of printing : 2/6/2018

Date of issue/Date of revision : 2/6/2018

Date of previous issue : 7/1/2016

Version : 1

Key to abbreviations :

- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- UN = United Nations

References : Not available.

☑ Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



SDS Number: 102000018463

SDS Version 1.0

Revision Date: 05/20/2014

Print Date: 05/20/2014

MERIT® GRANULAR INSECTICIDE

102000018463

79231857

25933

Insecticide

Bayer CropScience Inc
#200, 160 Quarry Park Blvd, SE
Calgary, Alberta T2C 3G3
Canada

For MEDICAL, TRANSPORTATION or other EMERGENCY call: 1-800-334-7577 (24 hours/day)
For Product Information call: 1-888-283-6847

NOTE: Please refer to Section 11 for detailed toxicological information.

Caution! Harmful if swallowed or absorbed through skin. Causes eye irritation.
Avoid contact with skin, eyes and clothing. Wash thoroughly with soap and water
after handling.

granular

characteristic

light tan to brown

Eye contact, Skin Absorption, Inhalation, Ingestion

Causes eye irritation.

Harmful if absorbed through skin.

Harmful if swallowed.

This product or its components may have target organ effects.



No specific medical conditions are known which may be aggravated by exposure to this product. As with all materials which can cause upper respiratory tract irritation, persons with a history of asthma, emphysema, or hyperreactive airways disease may be more susceptible to overexposure. Pulmonary and respiratory diseases may be aggravated by exposure to respirable crystalline silica.

Highly toxic to aquatic invertebrates.

Imidacloprid

138261-41-3

0.50

When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.

Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.

Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.

To date no symptoms are known.

Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.



not applicable

no data available

not applicable

not applicable

no data available

Hazardous decomposition products due to incomplete combustion.

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

None known.

Keep out of smoke. Fight fire from upwind position. Avoid contact with spilled product or contaminated surfaces. Do not allow water to come into direct contact with the product.

Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

no data available

Isolate hazard area. Keep unauthorized people away. Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment.

Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations.

Do not allow to enter soil, waterways or waste water canal.

Handle and open container in a manner as to prevent spillage. Avoid dust formation. Avoid contact with skin, eyes and clothing. Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation.



Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. Smoking, eating and drinking should be prohibited in the application area.

Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water. Keep and wash PPE separately from other laundry.

Tightly fitting safety goggles

Chemical resistant nitrile rubber gloves

Wear long-sleeved shirt and long pants and shoes plus socks.

When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

| | | | | |
|-----------------|-------------|------------|------|-----------|
| Imidacloprid | 138261-41-3 | OES BCS* | TWA | 0.7 mg/m3 |
| Calcium sulfate | 13397-24-5 | CAD BC OEL | TWA | 10 mg/m3 |
| | | CAD BC OEL | STEL | 20 mg/m3 |
| | | CAD BC OEL | TWA | 3 mg/m3 |

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

light tan to brown

granular



characteristic

no data available

no data available

no data available

no data available

56 - 64 lb/ft³

not applicable

not applicable

not applicable

no data available

no data available

no data available

no data available

not applicable

Elevated temperatures

Aluminium

Diazomethane

Thermal decomposition can lead to release of:

Sulphur oxides

Calcium oxides

No hazardous reactions when stored and handled according to prescribed instructions.

Stable under recommended storage conditions.



Only an acute eye irritation study has been performed on this product as formulated. All other acute toxicity data have been bridged from a similar granular formulation containing a higher percentage of the active ingredient, imidacloprid. The non-acute information pertains to the technical-grade active ingredient.

male/female combined rat: LD50: > 4,820 mg/kg

male/female combined rabbit: LD50: > 2,000 mg/kg

male/female combined rat: LC50: > 5.09 mg/l
Exposure time: 4 h
Determined in the form of dust.
(actual)

male/female combined rat: LC50: > 20 mg/l
Exposure time: 1 h
Determined in the form of dust.
Extrapolated from the 4 hr LC50.
(actual)

rabbit: No skin irritation

rabbit: Mild eye irritation.

guinea pig: Non-sensitizing.

Imidacloprid did not cause specific target organ toxicity in experimental animal studies.

Imidacloprid was not carcinogenic in lifetime feeding studies in rats and mice.

None.

None.

None.

None.

Imidacloprid caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Imidacloprid is related to parental toxicity.

Imidacloprid caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Imidacloprid are related to maternal toxicity.



Imidacloprid was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

Rainbow trout (*Oncorhynchus mykiss*)
LC50: 211 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient imidacloprid.

Desmodemus subspicatus
Growth rate
EC50: > 10 mg/l
The value mentioned relates to the active ingredient imidacloprid.

Water flea (*Daphnia magna*)
EC50: 85 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient imidacloprid.

Chironomus riparius (non-biting midge)
LC50: 0.0552 mg/l
Exposure time: 24 h
The value mentioned relates to the active ingredient imidacloprid.

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Do not allow to get into surface water, drains and ground water.

Do not contaminate water, food, or feed by disposal. Dispose in accordance with all local, state/provincial and federal regulations. Follow advice on product label and/or leaflet.

Completely empty container into application equipment, then dispose of empty container in a sanitary landfill, by incineration or by other procedures approved by state/provincial and local authorities. If burned, stay out of smoke. Follow advice on product label and/or leaflet.

According to national and international transport regulations this material is not classified as dangerous goods / hazardous material.



25933

None.

None.

None.

None.

This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

None.

None.

None.

None.

None.

NFPA 704 (National Fire Protection Association):

Health - 1

Flammability - 1

Instability - 1

Others - none

HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 1

Flammability - 1

Physical Hazard - 1

PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason for Revision: New Safety Data Sheet.



Prepared by the HSE Department of Bayer CropScience Inc. (306)-721-0310.

Revision Date: 05/20/2014

This information is provided in good faith but without express or implied warranty. The customer assumes all responsibility for safety and use not in accordance with label instructions. The product names are registered trademarks of Bayer.

ThyssenKrupp Materials NA, Inc.
MATERIAL SAFETY DATA SHEET

SECTION I. MATERIAL IDENTIFICATION

| | | |
|--|--|---|
| COMPANY ThyssenKrupp Materials NA, Inc. 22355 West Eleven Mile Road Southfield, Michigan 48033 | RE-ISSUE DATE 4-Dec-08 | IDENTIFICATION NUMBER N/A |
| TRADE NAME Micarta | EMERGENCY PHONE NUMBER (248) 233-5681 | PREPARED BY: J. VanValkenburg |
| CHEMICAL NAME N/A | FORMULA DOT Glass cloth, paper, silicon, phenolic & melamine epoxy composite | DOT IDENTIFICATION NO. N/A |

SECTION II HAZARDOUS INGREDIENTS

| MATERIAL OR COMPONENT | % COMPOSITION | | OSHA-PEL | ACGIH TLV |
|---|---------------|---------------|--------------------|--------------------|
| | CAS NUMBER | BY WEIGHT (1) | 8-HR TWA | 8-HR TWA |
| PHENOL | 108-95-2 | <8-12 | 5.0 ppm 5.0 ppm | 5.0 ppm 5.0 ppm |
| FORMALDEHYDE | 50-00-0 | <2 | .75 ppm | .30 ppm |
| METHANOL | 67-56-1 | <10-11 | 200 ppm | 200 ppm |
| MOLYBDENUM/ DISULFIDE | 1317-33-5 | | 10 mg/m3 | 10 mg/m3 |
| SILICA | 60676-86-0 | | 0.1 mg/m3 | 0.1 mg/m3 |
| SILICON | 7440-21-3 | | 5.0 mg/m3 | 10.0 mg/m3 |
| CRESYLIC ACID | N /A | <4 | 5 ppm | 22.0 mg/m3 |
| This product is a thermostatic composite consisting of a cured phenol-formaldehyde on a cellulose substrate. OSHA PEL and ACGIH TLV have not been established for this material. Formaldehyde has been designated a carcinogen on the following lists: NTP/IARC/OSHA Precautions must be taken when formaldehyde is present In the air at concentrations greater than 0.1 ppmas described in the standard. | | | | |
| Micarta products may be comprised of all or variations of the ingredients shown here. | | | | |
| PEL=Permissible Exposure Limit (1) % of Alloying Material Vanes with Grade of Material. Other trace elements of <1% May be in Present. | | | | |

SECTION III. PHYSICAL DATA

| | |
|---|--|
| MATERIAL (At Normal Conditions) SOLID | APPEARANCE AND ODOR Flat or shapes - natural in color - slight phenolic odor |
| MELTING POINT N/A | SPECIFIC GRAVITY 1.3 -1.4 |

SECTION IV. FIRE AND EXPLOSIVE

| |
|---|
| SPECIAL FIRE FIGHTING PROCEDURES: Same as for wood fire - do not breathe fumes from burning laminate. |
|---|

SECTION V. REACTIVITY DATA

| | |
|--|--|
| STABILITY Stable | CONDITIONS TO AVOID Strong Oxidizing agents |
| HAZARDOUS DECOMPOSITION PRODUCTS Dust Or Fumes May Be Produced During Welding, Burning, Grinding And Possibly Machining. Refer To ANSI Z49.1 | Carbon dioxide, carbon monoxide, phenols, methane, formaldehyde & hydrocarbons |

SECTION VI. Environmental

| | |
|---------------------------------|--|
| SPILL OR LEAK PROCEDURES | N/A |
| WASTE DISPOSAL METHODS | Disposal must comply with applicable Federal, State and Local disposal and discharge laws. |

SECTION VII. HEALTH HAZARD DATA

| | |
|---------------------------------|--|
| NOTE: | MICARTA PRODUCTS IN THEIR NATURAL STATE DO NOT PRESENT AN INHALATION OR CONTACT HAZARD, HOWEVER OPERATIONS SUCH AS BURNING, WELDING, SAWING, BRAZING AND GRINDING MAY RELEASE FUMES AND/OR DUST WHICH MAY PRESENT HEALTH HAZARDS |
| EFFECTS OF OVEREXPOSURE: | |
| Acute | Dust or fume may cause irritation to the eyes, nose, or throat. Inhalation of Formaldehyde dust or fume may cause cancer. |
| Chronic | A very small number of exposed people may develop an allergic reaction after prolonged or repeated exposure. |
| Phenol | Exposure may cause skin irritation and liver and kidney damage. |
| Formaldehyde | Exposure may cause irritation to the eyes, skin and respiratory system. Formaldehyde is designated a carcinogen on the NTP/IARC/OSHA. |
| Methanol | Methanol has tested positive for carcinogenicity in rodents. |
| Molybdenum | Exposure may cause skin and respiratory irritation, and liver and kidney damage. |
| Disulfide | |
| Silica | Exposure may cause skin and respiratory Irritation. Silica crystalline as a respiratory dust has caused lung cancer in animals. |
| Silicon | An accumulation of Silicon in the lungs may result in benign pneumokoniosis. |
| Cresylic Acid | Exposure may cause skin and respiratory irritation, and liver and kidney damage. |

SECTION VIII. EMERGENCY AND FIRST AID PROCEDURES

| | |
|---|---|
| Inhalation | In the event of excessive exposure to dust or fume, remove the employee to fresh air. If breathing is difficult administer artificial respiration or oxygen. Obtain immediate medical assistance. |
| Skin: | Abrasions and cuts should be washed and closed by a clean compress and be immediately medically treated. Should skin irritation occur, wash affected area with mild soap and rinse with clean warm water. |
| Eyes: | Depending on the type and nature of exposure, relief may be obtained by fresh air or rinsing the eyes with clean water. Obtain medical assistance. |
| Medical Conditions Aggravated by Exposure: | Persons with a predisposition to respiratory disorders may be adversely affected by particulates or respiratory irritants generated during the mfg. process. |

SECTION IX. SPECIAL PROTECTION INFORMATION & CONTROL MEASURES

| | |
|---|---|
| Note: | Consult your regional codes or Code of Federal Regulations, Title 29, Part 1910. Subpart G-Occupational Health and Environmental Control, Subpart I Personal Protective Equipment. Subpart P-Welding, Cutting, and Brazing, and Subpart Z-Toxic and Hazardous Substances. Certain welding type activities may produce hazardous substances such as carbon monoxide, ozone, phosgene in the presence of certain chemicals, or produce Inert suffocating atmospheres in addition to the production of ultraviolet radiation and/or noise. |
| Ventilation: | Local exhaust or ventilation systems sufficient to maintain exposure levels to contaminants below prescribed limits may be required When inhalation controls are not sufficient to reduce the exposure below the applicable exposure limit then use OSHA/NIOSH approved respiratory protection within the use limitations of the respirator. |
| Personal Protection: | To avoid contact use appropriate protective gloves or clothing to protect against cutting edges Appropriate heat shielding garments should be used for activities using or generating heat. Eyes should be protected by using safetyglasses, goggles, helmet, face shield as appropriate to the operation |
| Precautions to be taken in handling and storage: | Be alert to sharp edges and unsecured lifts. |

SECTION X. OTHER INFORMATION

| | |
|--|--|
| SARA Section 313 Toxic Chemical List, de minimis Concentrations | |
| | This product does not contain toxic chemicals subject to the reporting requirements of Section 312 and 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372. |
| NFPA Ratings (NFPA No. 704) | |
| | HEALTH 2 |
| | FLAMMABILITY 1 |
| | REACTIVITY 0 |
| The Information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any representation or warranty, expressed or implied, regarding the accuracy or correctness. The conditions or methods of handling, storage, use, and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with handling, storage, use or disposal of the product. Data sheets of individual manufacturers are available upon request. | |

1. Identification:

Product Name: **A310, BR25, BR30, BR50, BR60, BR70, MC223, MC320LE, MC330, MC894, MCKHS2M, NP303, NP308, NP310, NP310AG, NP310BS, NP310BW, NP310E, NP310E BK, NP310HT, NP310L, NP310UD, NP317, NP320, NP320E, NP320E BK, NP321, NP323, NP333, NP342, NP342FW, NP342HT, NP342L, NP342LB, NP342LS, NP345, R310, R310E, R320LE, RM310, RM310E, RM320, RM320H, RM320LE, RM342, RMB320, RT310, RT310H, RT310S, RT320, RT320E, RT342, RT342H, RT360, RTB320, RTB320D, RTB320E, RTB320H, RTB320S, RTB320X, RTB320Z, RTB324**

Other/Generic Names: **Phenolic-Cotton Fabric Laminate**

Recommended Use: Industrial Use of Thermoset Laminate

Manufacturer: Norplex-Micarta
665 Lybrand St.
Postville, IA 52162
800-848-4431 (NOT for emergency contact)

Emergency Contact Information: Product as shipped is NOT hazardous and is NOT regulated for transportation. For non-transportation emergencies, contact authorities as required by conditions.

2. Hazard(s) Identification:

GHS Hazard Classification: No hazards are associated with this product as shipped. Hazards are associated with product only after further processing (machining, punching) or after thermal decomposition.

Dust generated from further processing or fumes generated from thermal decomposition:

Health, Specific target organ toxicity, single exposure, 3

Health, Skin corrosion/irradiation, 2

Health, Eye damage/irritation, 2B

Physical, Combustible dust

Hazard Pictogram: Not applicable for product as shipped. For dust generated from further processing or fumes generated from thermal decomposition:



Signal Word: Not applicable for product as shipped. For dust generated from further processing or fumes generated from thermal decomposition:

WARNING

Hazard Statement(s): Not applicable for product as shipped. For dust generated from further processing or fumes generated from thermal decomposition:

May cause respiratory irritation

Causes skin irritation

Causes eye irritation

May form combustible dust concentrations in air

Precautionary Statement(s):

Prevention: For dust generated from further processing or fumes generated from thermal decomposition:

Wear protective gloves & clothing to avoid dust contact with skin, wear protective glasses to avoid dust contact with eyes, avoid breathing dust or fumes, process only when adequate ventilation and dust controls are in place.

Response: For dust generated from further processing or fumes generated from thermal decomposition:

If on skin, wash thoroughly with water. If skin irritation persists, consult a physician. Remove contaminated clothing and wash before reuse.

If in eyes, irrigate cautiously with flowing water for 15 minutes, remove contact lenses if easy to do. If eye irritation persists, consult a physician.

If overcome by dust or fumes, remove to fresh air and keep comfortable for breathing. Consult a physician if not breathing or feeling unwell.

If dust becomes airborne, reduce levels below concentrations required to cause explosive conditions.

Storage:

The product as shipped requires no specific storage considerations.

Disposal:

The product as shipped is not considered hazardous. Be sure to follow all local, state and federal regulations when considering a disposal method.

3. Composition/Information On Ingredients:

No hazardous ingredients at reportable levels are present in this product as shipped.

4. First Aid Measures:

For dust generated from further processing or fumes generated from thermal decomposition:

If on skin, wash thoroughly with water. If skin irritation persists, consult a physician. Remove contaminated clothing and wash before reuse.

If in eyes, irrigate cautiously with flowing water for 15 minutes, remove contact lenses if easy to do. If eye irritation persists, consult a physician.

If overcome by dust or fumes, remove to fresh air and keep comfortable for breathing. Consult a physician if not breathing or feeling unwell.

Advice to physician: Treat symptomatically.

5. Fire Fighting Measures:

May give off toxic gases of CO, CO₂ and Phenol when burning or heated to point of thermal decomposition. Fire fighters should wear proper protective equipment and positive pressure self-contained breathing apparatus. Use water, CO₂ or dry chemical to fight fire.

6. Accidental Release Measures:

Material as shipped is in solid form. Accidental release is not normally a consideration.

7. Handling and Storage:

Handle only with proper protective equipment or in environments where adequate ventilation is available to avoid exposure to dust and fumes and which can reduce airborne concentrations to levels sufficiently low to avoid combustion. The product as shipped requires no specific storage considerations.

8. Exposure Controls/Personal Protection:

Use local exhaust ventilation to control dust. Use protective gloves and protective clothing if dust will come in contact with skin. Use protective glasses if dust will come in contact with eyes. If dust exposure will exceed exposure guidelines, use an approved dust respirator.

Exposure Guidelines:

| Ingredient Name: | CAS # | ACGIH TLV | OSHA PEL (TWA) |
|-------------------------|--------------|------------------|-----------------------|
| Total Dust | N/A | - | 15 mg/m ³ |

9. Physical and Chemical Properties:

Form: Solid, flat sheet, color dependent on pigment content.

Odor (if any): Possible slight phenolic.

Specific Gravity: 1.35

10. Stability and Reactivity:

This product is stable under expected handling and storage conditions. Incompatibilities have not been determined. If heated in excess of 300 deg C, products of combustion could include: CO, CO₂ and Phenol.

11. Toxicological Information:

No data available.

12. Ecological Information:

No data available.

13. Disposal Considerations:

Product as shipped is NOT considered a RCRA hazardous waste. However, disposal must be made in accordance with all local, state and federal regulations.

14. Transport Information:

Product as shipped is NOT a DOT regulated material.

15. Regulatory Information:

Specific regulatory considerations should be addressed as they arise. Due to changing regulatory environments, it is not possible to list all considerations.

16. Other information:

Product Name Additions Level: 1

Date of Last Revision: April 27, 2015

END OF SAFETY DATA SHEET

Issue Date 23-Mar-2015

Revision Date 24-Mar-2015

Version 2

1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Product Name MICROBAN X-590
Product Code LBD590XMLB-590CA
Customer Code 221572000

Other means of identification

Recommended use of the chemical and restrictions on use

Recommended Use Professional Disinfectant
Uses advised against Use only as stated on label.

Details of the supplier of the safety data sheet

Manufactured For / Distributed By
Legend Brands Products
15180 Josh Wilson Road
Burlington, WA 98233
800-932-3030

Emergency telephone number

24 Hour Emergency Phone Number 1-800-535-5053

2. HAZARDS IDENTIFICATION

Classification

| | |
|--|----------------|
| Acute toxicity - Oral | Not classified |
| Serious eye damage/eye irritation | Category 2 |
| Specific target organ toxicity (single exposure) | Category 3 |
| Flammable liquids | Category 3 |

Label elements

Emergency Overview

Warning

Hazard statements

Causes serious eye irritation
May cause drowsiness or dizziness

Flammable liquid and vapor

**Precautionary Statements - Prevention**

- Avoid breathing dust/fume/gas/mist/vapors/spray
- Use only outdoors or in a well-ventilated area
- Keep away from heat/sparks/open flames/hot surfaces. — No smoking
- Keep container tightly closed
- Ground/bond container and receiving equipment
- Use explosion-proof electrical/ventilating/lighting/equipment.
- Use only non-sparking tools
- Take precautionary measures against static discharge
- Wear protective gloves/protective clothing/eye protection/face protection
- Keep cool

Precautionary Statements - Response

- Specific Treatment (See Section 4 on the SDS)

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. Drink plenty of water.

In case of fire: Use CO₂, dry chemical, or foam for extinction.

Precautionary Statements - Storage

- Store in a well-ventilated place. Keep container tightly closed
- Store locked up

Precautionary Statements - Disposal

- Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)**Other Information**

Unknown Acute Toxicity

0% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS No. | Weight-% | Trade Secret |
|-----------------------|----------|----------|--------------|
| 2-Propanol | 67-63-0 | 10-30 | * |
| Benzethonium Chloride | 121-54-0 | .1-1 | * |
| 2-Hydroxybiphenyl | 90-43-7 | .1-1 | * |

4. FIRST AID MEASURES**First aid measures****General advice**

Immediate medical attention is required. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). If symptoms persist, call a physician.

| | |
|---------------------|---|
| Skin Contact | Wash off immediately with plenty of water. Immediate medical attention is not required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician. |
| Eye contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician. Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. |
| Inhalation | Remove to fresh air. If symptoms persist, call a physician. Immediate medical attention is not required. Move to fresh air in case of accidental inhalation of vapors. |
| Ingestion | Immediate medical attention is not required. Rinse mouth. Drink plenty of water. Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician. |

Self-protection of the first aider Remove all sources of ignition. Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

| | |
|-----------------|--|
| Symptoms | Any additional important symptoms and effects are described in Section 11: Toxicology Information. |
|-----------------|--|

Indication of any immediate medical attention and special treatment needed

| | |
|---------------------------|------------------------|
| Note to physicians | Treat symptomatically. |
|---------------------------|------------------------|

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

Do not use a solid water stream as it may scatter and spread fire.

Protective equipment and precautions for firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

| | |
|-----------------------------|---|
| Personal precautions | Remove all sources of ignition. Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required. Keep people away from and upwind of spill/leak. |
|-----------------------------|---|

Environmental precautions

| | |
|----------------------------------|---|
| Environmental precautions | Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. |
|----------------------------------|---|

Methods and material for containment and cleaning up

| | |
|--------------------------------|--|
| Methods for containment | Prevent further leakage or spillage if safe to do so. |
| Methods for cleaning up | Pick up and transfer to properly labeled containers. Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Soak up with inert absorbent material. |

7. HANDLING AND STORAGE

Precautions for safe handling**Advice on safe handling**

Ensure adequate ventilation, especially in confined areas. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. All equipment used when handling the product must be grounded. Use with local exhaust ventilation. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray.

Conditions for safe storage, including any incompatibilities**Storage Conditions**

Keep tightly closed in a dry and cool place. Keep in properly labeled containers. Keep containers tightly closed in a cool, well-ventilated place.

Incompatible materials

None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Exposure Guidelines**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|-----------------------|-------------------------------|---|---|
| 2-Propanol 67-63-0 | STEL: 400 ppm TWA: 200 ppm | TWA: 400 ppm TWA: 980 mg/m ³ (vacated) TWA: 400 ppm (vacated) TWA: 980 mg/m ³ (vacated) STEL: 500 ppm (vacated) STEL: 1225 mg/m ³ | IDLH: 2000 ppm TWA: 400 ppm TWA: 980 mg/m ³ STEL: 500 ppm STEL: 1225 mg/m ³ |

NIOSH IDLH *Immediately Dangerous to Life or Health*

Other Information

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls**Engineering Controls**

Showers, Eyewash stations & Ventilation systems

Individual protection measures, such as personal protective equipment**Eye/face protection**

Wear safety glasses with side shields (or goggles).

Skin and body protection

No special technical protective measures are necessary.

Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene

When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | |
|----------------|--------------------------|
| Physical state | Liquid |
| Appearance | Opaque |
| Color | Green |
| Odor | Pleasant |
| Odor threshold | No Information available |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|-------------------------------|--------------------------|-------------------------|
| pH | 6.5 - 7.5 | |
| Specific Gravity | .96 | |
| Viscosity | Water Thin | |
| Melting point/freezing point | No Information available | |
| Flash point | 27 °C 77 °F | |
| Boiling point / boiling range | No Information available | / |
| Evaporation rate | Same as water | |
| Flammability (solid, gas) | | |
| Flammability Limits in Air | | |
| Upper flammability limit: | No Information available | |
| Lower flammability limit: | No Information available | |
| Vapor pressure | No Information available | |
| Vapor density | No Information available | |
| Water solubility | Miscible in water | |
| Partition coefficient | No Information available | |
| Autoignition temperature | No Information available | |
| Decomposition temperature | No Information available | |

Other Information

| | |
|-----------------|-------|
| Density Lbs/Gal | 8 |
| VOC Content (%) | 25.29 |

10. STABILITY AND REACTIVITY

Reactivity

No data available

| | |
|------------------------------------|--|
| Stability | Stable under recommended storage conditions. |
| Possibility of Hazardous Reactions | None under normal processing. |
| Conditions to avoid | Heat, flames and sparks. |
| Incompatible materials | None known based on information supplied. |
| Hazardous Decomposition Products | None known based on information supplied. |

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

| | |
|--------------|---|
| Inhalation | No data available. |
| Eye contact | Severely irritating to eyes. |
| Skin Contact | Prolonged contact may cause redness and irritation. |
| Ingestion | May be harmful if swallowed. |

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|-----------------------|----------------------|-------------------------|---------------------------------------|
| 2-Propanol 67-63-0 | = 1870 mg/kg (Rat) | = 4059 mg/kg (Rabbit) | = 72600 mg/m ³ (Rat) 4 h |

| | | | |
|-------------------------------------|--|---|---|
| Octylphenol Ethoxylate 9036-19-5 | = 1700 mg/kg (Rat) = 4190 mg/kg (Rat) | - | - |
|-------------------------------------|--|---|---|

Information on toxicological effects

Symptoms No Information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No Information available.
Germ cell mutagenicity No Information available.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Chemical Name | ACGIH | IARC | NTP | OSHA |
|------------------------------|-------|---------|-----|------|
| 2-Propanol 67-63-0 | - | Group 3 | - | X |
| 2-Hydroxybiphenyl 90-43-7 | - | Group 3 | - | - |

IARC (International Agency for Research on Cancer)

Not classifiable as a human carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive toxicity No Information available.
STOT - single exposure No Information available.
STOT - repeated exposure No Information available.
Chronic toxicity Avoid repeated exposure.
Target organ effects EYES, Respiratory system, Skin.
Aspiration hazard No Information available.

Numerical measures of toxicity - Product Information

Unknown Acute Toxicity 0% of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document

12. ECOLOGICAL INFORMATION**Ecotoxicity**

| Chemical Name | Algae/aquatic plants | Fish | Crustacea |
|------------------------------|---|---|--|
| 2-Propanol 67-63-0 | 1000: 96 h Desmodesmus subspicatus mg/L EC50 1000: 72 h Desmodesmus subspicatus mg/L EC50 | 9640: 96 h Pimephales promelas mg/L LC50 flow-through 11130: 96 h Pimephales promelas mg/L LC50 static 1400000: 96 h Lepomis macrochirus µg/L LC50 | 13299: 48 h Daphnia magna mg/L EC50 |
| 2-Hydroxybiphenyl 90-43-7 | 0.85: 72 h Desmodesmus subspicatus mg/L EC50 | 3.4: 96 h Pimephales promelas mg/L LC50 flow-through 2.74: 96 h Lepomis macrochirus mg/L LC50 2.75: 96 h Oncorhynchus mykiss mg/L LC50 5.8: 96 h Poecilia reticulata mg/L LC50 static | 1 - 2.5: 48 h Daphnia magna mg/L EC50 Static |

Persistence and degradability No Information available.

Bioaccumulation No Information available.

| Chemical Name | Partition coefficient |
|---------------|-----------------------|
|---------------|-----------------------|

| | |
|------------------------------|------|
| 2-Propanol 67-63-0 | 0.05 |
| 2-Hydroxybiphenyl 90-43-7 | 3.18 |

Other adverse effects

This pesticide is toxic to fish and aquatic invertebrates.

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other water unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to the discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State water board or Regional office of the EPA.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods**Disposal of wastes**

70385-4 Pesticide Disposal:

To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, off remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

73085-4 Container Disposal:

Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. If recycling is not available, puncture and dispose of in a sanitary landfill, or incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Contaminated packaging
US EPA Waste Number**

Do not reuse container.
D001

This product contains one or more substances that are listed with the State of California as a hazardous waste.

| Chemical Name | California Hazardous Waste Status |
|-----------------------|-----------------------------------|
| 2-Propanol 67-63-0 | Toxic Ignitable |

14. TRANSPORT INFORMATION

Note: The basic description below is specific to the container size. This information is provided for at a glance DOT information. Please refer to the container and/or shipping papers for the appropriate shipping description before tendering this material for shipment. For additional information, please contact the distributor listed in section 1 of this SDS.

U.S. Department of Transportation (USDOT)**4x1 Gallon Case**

Compound Cleaning Liquid, NOI, LTD QTY (LTDY)

Pails & Drums (<119 Gallons)

UN1993, FLAMMABLE LIQUID, NOS, (CONTAINS ISOPROPANOL), 3, III

DOT Notes

(HM-FS3A)

This SDS is a universal document for all package/container sizes. This product is a PG III and MAY be transported under 49CFR as a "Limited Quantity or LTD QTY" in 4x1 gallon or smaller packages. Refer to package markings and/or shipping paper for an accurate basic description.

15. REGULATORY INFORMATION

International Inventories

TSCA

Complies

DSL/NDSL

Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

| Chemical Name | SARA 313 - Threshold Values % |
|----------------------|-------------------------------|
| 2-Propanol - 67-63-0 | 1.0 |

SARA 311/312 Hazard Categories

| | |
|-----------------------------------|-----|
| Acute health hazard | Yes |
| Chronic Health Hazard | No |
| Fire hazard | Yes |
| Reactive Hazard | No |
| Sudden release of pressure hazard | No |

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65

This product contains chemicals known to the state of California to cause cancer, or birth defects or other reproductive harm.

| Chemical Name | California Proposition 65 |
|-----------------------------|---------------------------|
| 2-Hydroxybiphenyl - 90-43-7 | Carcinogen |

U.S. State Right-to-Know Regulations

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|------------------------------|------------|---------------|--------------|
| 2-Propanol 67-63-0 | X | X | X |
| 2-Hydroxybiphenyl 90-43-7 | X | X | X |
| Propylene Glycol 57-55-6 | X | - | X |

U.S. EPA Label Information

EPA Pesticide Registration Number 70385-4

EPA Statement

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

EPA Pesticide Label

WARNING May be harmful if swallowed (inhaled or absorbed through the skin). Do not breathe vapors (dust or spray mist). Do not get in eyes, on skin or on clothing. May cause eye (and skin) irritation.

Additional information

No Information available.

16. OTHER INFORMATION

HMIS

| Health hazards | Flammability | Physical hazards | Personal protection |
|----------------|--------------|------------------|---------------------|
| 2 | 3 | 0 | B |

Prepared By

Regulatory Department

Issue Date

23-Mar-2015

Revision Date

24-Mar-2015

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Material Name: Microburst 3000 & 9000 Air Neutralizer- All Fragrances
Rubbermaid Commercial Products' SeBreeze 3000 & 9000 Series - All Fragrances

Manufacture Information: Rubbermaid Commercial Products LLC
3124 Valley Ave.
Winchester, Va. 22601-2694

Phone: (540) 667-8700

24 – Hour Emergency Contact
1-800-535-5053 (Infotrac)

2. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous ingredients as defined by OSHA, 29 CFR 1910.1200:

| <u>INGREDIENTS</u> | <u>CAS#</u> | <u>ACGIH-TLV</u> | <u>OSHA- PEL</u> | <u>LC₅₀</u> | <u>LD₅₀</u> | <u>%BY WT</u> |
|--------------------|-------------|------------------|------------------|------------------------|------------------------|---------------|
| Ethyl Alcohol. | 64-17-5 | 1000ppm | 1000ppm | 100mg/L | 7060 mg/kg, oral rat | 10-25 |
| Isobutane | 106-97-8 | 1000ppm | N/E | N/E | N/E | 20-30 |
| Propane | 74-98-6 | 2500ppm | 1000ppm, TWA | 280000ppm 4h, rat | N/E | 20-30 |
| Hexylene Glycol | 107-41-5 | 25ppm, ceiling | 25ppm | N/E | 3700mg/kg oral, rat | 10-25 |

3. HAZARDS IDENTIFICATION

FLAMMABLE LIQUID

Contents under pressure: do not expose to fire or extreme heat

Potential Health Effects:

Route of Entry: Eye: Y Skin: Y Inhalation: Y Ingestion: Y

Health Hazards: May cause eye and skin irritation, as well as respiratory irritation, may cause stomach distress

Signs/systems of

Over exposure: High vapor concentrations or excessive intentional inhalation may cause upper respiratory tract irritation, sleepiness and/or dizziness, and eye irritation.
Prolonged skin contact may cause mild redness and swelling. Contact with eyes may cause irritation, experienced as discomfort or pain, excessive blinking and tear production, with marked excess redness and swelling. Corneal injury may occur. This product can be absorbed through the skin.

Medical Conditions

aggravated by exposure: Skin contact may aggravate an existing skin condition.

4. FIRST AID MEASURES

EYE CONTACT: Immediately rinse eyes with plenty of water, occasionally lifting upper and lower lids, until no evidence of product remains. Obtain medical attention if irritation persists.

SKIN CONTACT: Rinse affected area with plenty of water until no evidence of product remains; obtain medical attention if irritation persists.

INGESTION: Treat symptomatically and supportively. Maintain airway and respiration. If vomiting occurs, keep head below hips to prevent aspiration. Dilute by rinsing the mouth and giving water or milk to drink is generally recommended. If unconscious, the victim should not be given anything to drink. Contact physician or local poison control center.

INHALATION: Not a normal route of harmful exposure. If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention.

Material Safety Data Sheet

5. FIRE FIGHTING MEASURES

Extinguishing Media: Alcohol type or all-purpose foam for large fires, CO2 or dry chemicals

Fire Fighting Procedures: Self-contained air supply suggested

Unusual Fire and Explosion Hazards: Contents under pressure. Container may explode with heat. Cool containers with spray and remove source of ignition if safe.

6. ACCIDENTAL RELEASE MEASURES

Before attempting clean up refer to hazard data given above. Remove sources of ignition. Although chance of a significant spill or leak is unlikely in aerosol containers, in the event of such an occurrence, absorb spilled material with non-flammable absorbent such as sand or vermiculite.

7. HANDLING AND STORAGE

Keep out of reach of children. Store in a cool dry place, away from heat or open flames. Exposure to temperatures above 120°F may cause container to burst.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Gloves: Not normally required

Eye Protection- Not normally required

Respiratory Tract: Not normally required

Ventilation: Local: Not required

Carcinogenic: Non – hazardous by WHIMS/ OSHA criteria

Teratogenicity, Mutagenicity, Reproductive Effects: No data available

Other protective equipment: None required

Protective Work/Hygiene Practices: Follow labeling instructions

9. PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity @20°C: 0.70

Pressure: @ 20°C: 70psig

VOC: All *MICROBURST AEROSOLS* have an Innovative Product Exemption

Appearance/Odor: Clear colorless liquid, fragrant.

10. STABILITY AND REACTIVITY

Conditions to Avoid: Aerosol containers are unstable at temperatures above 120°F /49°C; avoid open flames and very hot surfaces.

Incompatible Materials: Oxidizing agents, caustics, and acids

Hazardous Decomposition By-Products: May include and are not limited to oxides of carbon when heated to decomposition.

Hazardous Polymerization Conditions: None Known

11. TOXICOLOGY INFORMATION

Currently there is no data available.

12. ECOLOGICAL INFORMATION

Discharge, treatment, or disposal may be subject to national state or local laws.

Material Safety Data Sheet

13. DISPOSAL CONSIDERATION

Do not reuse empty containers. This container may be recycled in a few and growing number of communities where steel aerosol can recycling is available. Before offering for recycling, empty the can by using the product according to label. DO NOT PUNCTURE CAN! If recycling is not available, discard the containers into the trash.

14. TRANSPORTATION INFORMATION

| | STATUS | Shipping Name | CLASS | ID# | Pkng. Grp | |
|------|-----------|---------------------|-------|--------|-----------|---------|
| DOT | Regulated | Consumer Commodity | ORM-D | | N/A | |
| IATA | Regulated | Aerosols, flammable | 2.1 | UN1950 | N/A | LTD QTY |
| IMDG | Regulated | Aerosol | 2.1 | UN1950 | N/A | LTD QTY |

15. REGULATORY INFORMATION

NFPA RATINGS (Scale 0-4, where 4=high degree of hazard): HEALTH=2 FLAMMABILITY=3 REACTIVITY=1
HMIS RATINGS (Scale 0-4, where 4=severe hazard): HEALTH=2 FLAMMABILITY=3 REACTIVITY=1

SARA Chemicals: This product contains the following SARA 313/312/304/311/312 chemicals: NONE

TSCA Inventory Listing: (Toxic Substances Control Act) – All ingredients are listed on the chemical substance inventory exempt
California Proposition 65- NONE

FEDERAL AND STATE REGULATIONS: Hexylene Glycol

Pennsylvania
New Jersey
Illinois
Massachusetts
Rhode Island
Minnesota

Workplace Hazardous Materials Information System: WHMIS Classification: Class D-Division 2B, Class B- Division 5 Flammable liquid, Class A: Compressed Gas

16. OTHER INFORMATION

Revision Notes: MSDS: MSDS has been revised to comply with ANSI Z400.1-1998, 16 section MSDS format.

Rev.001, MSDS # 20507MB, 01/ 05, Rev. 002 09/06, Rev. 003 7/07.

N/A = Not Applicable

N.E. = not established

MSDS Prepared by: Regulatory Compliance

Disclaimer:

The information on the MSDS was obtained from sources that we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusion drawn herein is from sources other than direct test data on the substance itself. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of any way connected with handling, storage, use or disposal of this product. If this product is used as a component in another product, this MSDS information is not applicable.

Hoja de Datos de Seguridad de Materiales

1. IDENTIFICACIÓN DEL PRODUCTO Y DE LA COMPAÑÍA

Nombre del Producto: Microburst Air Neutralizer- All Fragrances

Fabricado por: Rubbermaid Commercial Products LLC

3124 Valley Ave.

Winchester, Va. 22601-2694

Teléfono: (540) 667-8700

Contacto de emergencia durante las 24 horas
1-800-535-5053 (Infotrac)

2. COMPOSICIÓN / INFORMACIÓN SOBRE LOS INGREDIENTES

Ingredientes peligrosos tal como se define en OSHA, 29 CFR 1910.1200:

| <u>INGREDIENTES</u> | <u>CAS#</u> | <u>ACGIH-TLV</u> | <u>OSHA-PEL</u> | <u>LC₅₀</u> | <u>LD₅₀</u> | <u>% POR PESO</u> |
|---------------------|-------------|------------------|-----------------|------------------------|------------------------|-------------------|
| Ethyl Alcohol | 64-17-5 | 1000ppm | 1000ppm, | 100mg/L | 7060mg/kg oral, rata | 10-25 |
| Propano | 74-98-6 | 2500ppm | 1000ppm, TWA | 280000ppm 4h, rata | No disponible | 20-30 |
| Hexileno glicol | 107-41-5 | Techo de 25ppm | No disponible | No disponible | 3.700mg/kg oral, rata | 5-10 |
| Isobutane | 106-97-8 | 1000ppm | N/E | N/E | N/E | 20-30 |

3. IDENTIFICACIÓN DE PELIGROS

¡LÍQUIDO INFLAMABLE

No exponer a fuego o calor extremos los contenidos bajo presión

Efectos potenciales para la salud:

Vía de ingreso: Ojos: Sí Piel: Sí Inhalación: Sí Ingestión: Sí

Peligros para la salud: Puede causar irritación cutánea y ocular; así como irritación respiratoria, puede ocasionar molestias estomacales.

Signos/Sistemas de

Sobre exposición:

Las concentraciones altas de vapor o la inhalación intencional excesiva puede causar irritación del tracto respiratorio, somnolencia, mareos e irritación de los ojos.

El contacto prolongado con la piel puede ocasionar enrojecimiento e hinchazón leves. El contacto con los ojos puede ocasionar irritación, la cual se manifiestan como molestia o dolor, parpadeo y lagrimeo excesivo, con enrojecimiento e hinchazón excesiva marcada. Se pueden presentar daños en la córnea. Este producto se puede absorber a través de la piel.

Afecciones médica

agravadas con la exposición: El contacto con la piel puede agravar una condición cutánea existente.

4. MEDIDAS DE PRIMEROS AUXILIOS

CONTACTO CON LOS OJOS: Enjuagar inmediatamente los ojos con abundante agua, levantando ocasionalmente los párpados superiores e inferiores, hasta que no quede rastro del producto. Consiga atención médica si persiste la irritación.

CONTACTO CON LA PIEL: Enjuague la zona afectada con abundante agua hasta que no queden evidencias del producto; obtenga atención médica si persiste la irritación.

INGESTIÓN: El tratamiento debe ser de acuerdo a los síntomas y con apoyo. Mantenga las vías respiratorias y la respiración. Si hay vómitos, mantenga la cabeza más abajo de las caderas para evitar la aspiración. Se recomienda por lo general diluir mediante enjuague bucal y dando de beber agua o leche. En caso de estar inconsciente, no se le debe dar nada de tomar a la víctima. Comuníquese con el médico o centro local de control de envenenamiento.

Hoja de Datos de Seguridad de Materiales

INHALACIÓN: No es una vía normal de exposición peligrosa. Si aparecen síntomas, traslade a la víctima al aire fresco. Si persisten las molestias, consiga atención médica.

5. MEDIDAS CONTRA INCENDIOS

Medios de extinción: Tipo de alcohol o espuma de uso múltiple para incendios de grandes dimensiones, CO₂ o productos químicos secos. Procedimientos contra incendios: Se sugiere suministro de aire autónomo
Peligros inusuales de incendio y explosión: Contenido bajo presión. El envase puede explotar con calor. Enfrie los envases con un rociador y retire la fuente de ignición si fuera seguro.

6. TRATAMIENTO DE FUGAS ACCIDENTALES

Antes de intentar realizar la limpieza refiérase a los datos sobre peligros proporcionados anteriormente. Retire las fuentes de ignición. A pesar de que es poco probable que ocurran filtraciones o derrames en los envases en aerosol, si ocurriera, absorba el material derramado con un material absorbente no inflamable como arena o vermiculita.

7. MANIPULACIÓN Y ALMACENAMIENTO

Mantenga fuera del alcance de los niños. Almacene en un ambiente seco y frío, lejos del calor o fuego abierto. La exposición a temperaturas superiores a los 120°F puede ocasionar la explosión del contenedor.

8. CONTROLES DE EXPOSICIÓN / PROTECCIÓN PERSONAL

Guantes: Generalmente no se requiere.

Protección ocular: Generalmente no se requiere.

Tracto respiratorio: Generalmente no se requiere.

Ventilación: Local: No se requiere

Carcinogénico: No es peligroso de acuerdo al criterio de WHIMS/ OSHA

Teratogenicidad, mutagenicidad, efectos reproductivos: No se dispone de información

Otro equipo de protección: No se requiere

Prácticas de protección en el trabajo /higiene: Seguir las instrucciones que aparecen en la etiqueta

9. CARACTERÍSTICAS FÍSICAS Y QUÍMICAS

Espectífico Gravit @ 20°C: 0.70

Pressure: @20 °C: 70psig

VOC: Todos *MICROBURST* los aerosoles tienen una exención innovadora del producto (IPE)

Appearance: Líquido descolorido claro con fragancia

10. ESTABILIDAD Y REACTIVIDAD

Condiciones que se deben evitar: Los envases en aerosol son inestables en temperaturas superiores a los 120°F /49°C; evite fuego abierto y superficies muy calientes.

Materiales incompatibles: Agentes de oxidación, productos cáusticos y ácidos

Descomposición peligrosa causada por productos secundarios: Pueden incluir y no se limitan a los óxidos de carbón cuando se calientan hasta la descomposición.

Condiciones de polimerización peligrosas: Ninguna conocida

11. INFORMACIÓN TOXICOLÓGICA

En la actualidad no se cuenta con datos disponibles.

Hoja de Datos de Seguridad de Materiales

12. INFORMACIÓN ECOLÓGICA

La descarga, tratamiento o eliminación puede estar sujeta a las leyes nacionales, estatales o locales.

13. CONSIDERACIONES PARA LA ELIMINACIÓN

No vuelva a utilizar los envases vacíos. Este envase puede ser reciclado en algunas comunidades o en un número creciente de ellas donde se realice el reciclado de latas de acero en aerosol. Antes de ofrecer la lata para reciclado, vacíe la misma usando el producto de acuerdo a la etiqueta. ¡NO PERFORE LA LATA! Si no se encuentra disponible el reciclado, elimine los envases en la basura.

14. INFORMACIÓN SOBRE EL TRANSPORTE

| | ESTADO | Nombre de envío | CLASE | ID# | Embalaje Grupo | |
|------|--------------|-----------------------------|-------|--------|----------------|---------|
| DOT | Reglamentado | Producto para el consumidor | ORM-D | | N/A | |
| IATA | Reglamentado | Aerosoles, inflamable | 2.1 | UN1950 | N/A | LTD QTY |
| IMDG | Reglamentado | Aerosoles | 2.1 | UN1950 | N/A | LTD QTY |

15. INFORMACIÓN REGLAMENTARIA

CATEGORÍAS NFPA (Escala 0-4, donde 4=alto grado de peligro): SALUD=2 INFLAMABILIDAD=3 REACTIVIDAD=1

CATEGORÍAS HMIS (Escala 0-4, donde 4=peligro grave): SALUD=2 INFLAMABILIDAD=3 REACTIVIDAD=1

Clasificación de peligro SARA 311, 312, 313,304: Peligro de incendio – Done

Listado del inventario de la TSCA: (Ley de Control de Sustancias Tóxicas)- Todos los ingredientes están listados en el inventario de exención de sustancias químicas.

California Proposition 65- Done.

REGULACIONES ESTATALES Y FEDERALES: Hexileno glicol

Pennsylvania

New Jersey

Illinois

Massachusetts

Rhode Island

Minnesota

Sistema de información de los materiales peligrosos en el lugar de trabajo: Clasificación WHMIS: Clase D-División 2B, Clase B-líquido inflamable División 5, Clase A: Gas comprimido

16. INFORMACIÓN ADICIONAL

Notas de revisión: MSDS: Las MSDS se han revisado para cumplir con la norma ANSI Z400.1-1998 del formato MSDS sección 16., Rev.001, MSDS # VOC-302-9905, 01/ 05, Rev. 002 09/06, Rev. 003 7/07.

N/A= No Aplicable

N.E.= No establecido

MSDS Preparada por: De conformidad con las regulaciones

Cláusula de exoneración de responsabilidad:

La información contenida en la MSDS se obtuvo de fuentes fidedignas. Sin embargo, dicha información se proporciona sin garantía alguna, expresa o implícita, en cuanto a la corrección de su contenido. Parte de la información presentada y las conclusiones del presente documento provienen de fuentes que no constituyen datos directos de pruebas sobre la sustancia en sí misma. Por esta y por otras razones, no asumimos responsabilidad alguna y expresamente nos liberamos de la responsabilidad por pérdida, daño o gasto que se origine en alguna actividad conectada con el manipuleo, almacenamiento, uso o eliminación del producto. Si el producto se utiliza como un componente en otro producto, es posible que la información contenida en esta MSDS no sea aplicable.

Fiche signalétique

1. IDENTIFICATION DU PRODUIT ET DU FABRICANT

Nom du produit : Microburst Air Neutralizer- All Fragrances

Fabriqué par : Rubbermaid Commercial Products LLC

3124 Valley Ave.

Winchester, Va. 22601-2694

Téléphone : (540) 667-8700

Ligne d'urgence 24 heures

1-800-535-5053 (Infotrac)

2. COMPOSITION / RENSEIGNEMENTS SUR LES INGRÉDIENTS

Composants dangereux selon la définition d'OSHA, 29 CFR 1910.1200 :

| <u>INGRÉDIENTS</u> | <u>N° CAS</u> | <u>ACGIH-TLV</u> | <u>OSHA- PEL</u> | <u>LC₅₀</u> | <u>LD₅₀</u> | <u>% AU POIDS</u> |
|--------------------|---------------|------------------|------------------|------------------------|------------------------|-------------------|
| Ethyl Alcohol | 64-17-5 | 1000 ppm | 1000ppm | 100mg/L | 7060 mg/kg oral, rat | 10-25 |
| Propane | 74-98-6 | 2 500 ppm | 1000 ppm, TWA | 280 000 ppm 4h, rat | N/E | 20-30 |
| He xylène glycol | 107-41-5 | 25 ppm, plafond | Non disponible | Non disponible | 3700 mg/kg oral, rat | 5-10 |
| Isobutane | 106-97-8 | 1000ppm | N/E | N/E | N/E | 20-30 |

3. IDENTIFICATION DES DANGERS

LIQUIDE INFLAMMABLE

Le contenu sous pression ne doit pas être exposé au feu ou à la chaleur intense.

Risques pour la santé:

Voie de pénétration : Yeux : Y Peau : Y Inhalation : Y Ingestion : Y

Dangers pour la santé : Peut causer l'irritation de la peau et des yeux, ainsi que l'irritation respiratoire et des maux d'estomac.

Signes/symptômes de surexposition :

Les concentrations élevées de vapeur ou l'inhalation excessive intentionnelle peuvent causer des lésions des voies respiratoires, de la somnolence et/ou des étourdissements, et une irritation des yeux.

Le contact prolongé avec la peau peut causer de petites rougeurs et des enflures. Le contact avec les yeux peut causer de l'irritation, de l'inconfort ou une douleur, des larmes et un battement fréquent des paupières, avec rougeurs et enflures. Des blessures à la cornée peuvent également survenir. Ce produit peut être absorbé par la peau.

Conditions médicales

aggravées par l'exposition : Le contact avec la peau peut aggraver un problème de peau existant.

4. PREMIERS SOINS

CONTACT AVEC LES YEUX : Rincer immédiatement à grande eau en soulevant occasionnellement les paupières supérieures et inférieures, jusqu'à ce qu'il ne reste aucune trace de produit. Appeler un médecin si l'irritation persiste.

CONTACT AVEC LA PEAU : Rincer la zone affectée à grande eau jusqu'à ce qu'il ne reste aucune trace de produit. Appeler un médecin si l'irritation persiste.

INGESTION : Traiter les symptômes et assurer le soutien de la victime. Maintenir les voies respiratoires ouvertes et la respiration. Si la personne vomit, garder sa tête sous les hanches afin d'empêcher l'aspiration. Diluer en rinçant la bouche et en faisant boire de l'eau ou du lait. Si la victime est inconsciente, ne pas la faire boire. Appeler un médecin ou un centre antipoison.

Fiche signalétique

INHALATION : Ne constitue pas une voie d'exposition dangereuse. Si des symptômes se développent, déplacer la victime à l'air frais. Si les symptômes persistent, appeler un médecin.

5. MESURES DE LUTTE CONTRE L'INCENDIE

Méthode d'extinction : mousse de type alcool ou tout usage pour incendies majeurs, CO₂ ou produit chimique sec.

Procédures de lutte contre l'incendie : équipement respiratoire autonome suggéré.

Risques inhabituels d'explosion ou d'incendie : contenu sous pression. Le contenant peut exploser s'il est chauffé. Refroidir les contenants avec de l'eau vaporisée et retirer la source d'allumage si cela est sécuritaire.

6. MESURES EN CAS DE DÉVERSEMENT ACCIDENTEL

Avant de procéder au nettoyage, consulter les données sur les risques indiquées ci-dessus. Dans l'éventualité peu probable d'un déversement ou d'une fuite d'un aérosol, absorber la matière renversée avec un absorbant ininflammable tel que le sable ou la vermiculite.

7. MANUTENTION ET ENTREPOSAGE

Garder hors de portée des enfants. Entreposer dans un endroit frais et sec, loin de la chaleur ou des flammes nues. Toute exposition à des températures supérieures à 120 °F peut faire exploser le contenant.

8. CONTRÔLES D'EXPOSITION / PROTECTION PERSONNELLE

Gants : généralement non requis.

Protection des yeux : généralement non requise.

Protection respiratoire : généralement non requise.

Ventilation : locale : non requise.

Carcinogène : non dangereux selon les critères de WHIMS/ OSHA.

Tératogénicité, mutagénicité, conséquences sur la reproduction : aucune donnée disponible.

Autre équipement de protection : non requis.

Mesures de précaution / d'hygiène : suivre les consignes apparaissant sur l'étiquette.

9. PROPRIÉTÉS PHYSIQUES ET CHIMIQUES

Spécifique Gravit @ 20°C : 0.70

Pressure@20°C: 78psig

VOC: Tous *AÉROSOLS DE MICROBURST* ayez une exemption innovatrice de produit (IPE)

Apparence/Odora : Clédar colores liquida with fragrance.

10. STABILITÉ ET RÉACTIVITÉ

Conditions à éviter : les contenants pressurisés sont instables à des températures à 120 °F /49 °C ; éviter les flammes nues et les surfaces très chaudes.

Matières incompatibles : agents oxydants, agents corrosifs et acides.

Décomposition dangereuse des sous-produits : peut inclure, entre autres, le monoxyde de carbone lorsqu'ils sont chauffés à des fins de décomposition.

Conditions dangereuses de polymérisation : aucune connue.

11. RENSEIGNEMENTS SUR LA TOXICOLOGIE

Aucune donnée disponible actuellement.

Fiche signalétique

12. RENSEIGNEMENTS ÉCOLOGIQUES

Le déchargement, le traitement ou le rejet peut être assujéti aux lois locales, provinciales ou nationales.

13. MISE AUX REBUTS

Ne pas réutiliser les récipients vides. Ce contenant peut être recyclé dans un nombre croissant de communautés où les bombes aérosols en acier peuvent être recyclées. Avant de mettre le produit au recyclage, vider la bombe en suivant les consignes sur l'étiquette. NE PAS LA PERCER ! Si le contenant ne peut être recyclé, le mettre aux rebuts.

14. RENSEIGNEMENTS SUR LE TRANSPORT

| | STATUT | Appellation | CATÉGORIE | N° ID | Groupe emballage | |
|------|------------|----------------------|-----------|--------|------------------|---------|
| DOT | Réglementé | Bien de consommation | ORM-D | | N/A | |
| IATA | Réglementé | Aérosol, inflammable | 2.1 | UN1950 | N/A | LTD QTY |
| IMDG | Réglementé | Aérosol | 2.1 | UN1950 | N/A | LTD QTY |

15. RÉGLEMENTATION

COTES DE DANGER NFPA (échelle 0-4, où 4=risque élevé de danger) : SANTÉ=2 INFLAMMABILITÉ=3 RÉACTIVITÉ=1
COTES DE DANGER HMIS (échelle 0-4, où 4=risque élevé de danger) : SANTÉ=2 INFLAMMABILITÉ=3 RÉACTIVITÉ=1

Classification SARA 311-312, 313 : risque d'incendie – None

Liste TSCA: (Loi sur le contrôle des substances toxiques) – Tous les ingrédients sont indiqués sur la liste des substances chimiques exemptes.

Proposition 65 de la Californie – None.

RÉGLEMENTATION FÉDÉRALE ET DES ÉTATS : He xylène Glycol

Pennsylvania

New Jersey

Illinois

Massachusetts

Rhode Island

Minnesota

Système d'information sur les matières dangereuses utilisées au travail : classification SIMDUT : catégorie D-Division 2B, catégorie B-Division 5 liquide inflammable, catégorie A : gaz comprimé.

16. AUTRES RENSEIGNEMENTS

Notes de révision : fiche signalétique révisée afin d'être conforme à ANSI Z400.1-1998 16-section format fiche signalétique

Rév. 001, fiche signalétique n° VOC-302-9905, 01/ 05, Rév. 002 09/06, Rév. 003 7/07. Rev. 004, 08/08/25

N/A = non applicable

N.E. = non établi

Fiche signalétique rédigée par : Regulatory Compliance

Avis de non-responsabilité :

Les renseignements indiqués dans cette fiche signalétique proviennent de sources que nous jugeons fiables. Cependant, les renseignements sont fournis sans aucune garantie, expresse ou tacite, concernant leur exactitude. Certains renseignements présentés et certaines conclusions tirées dans les présentes proviennent de sources autres que les données d'essais directes sur la substance en question. C'est pourquoi, et pour d'autres raisons, que nous n'assumons aucune responsabilité, et déclinons toute responsabilité suite à une perte, des dommages ou des frais liés de quelle que façon que ce soit à la manutention, à l'entreposage, à l'utilisation ou au rejet de ce produit. Si ce produit est utilisé comme composante d'un autre produit, les renseignements présentés dans cette fiche signalétique ne s'appliquent pas.

A00178 MST VANDALISM MRK RMVR 20net16

Version 1.1

Revision Date 07/14/2016

Print Date 03/15/2018

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Material name : A00178 MST VANDALISM MRK RMVR 20net16

Material number : 000000000001001632

Manufacturer or supplier's details

Company : Zep Inc.

Address : 1310 Seaboard Industrial Blvd., NW
Atlanta, GA 30318

Telephone : 404-352-1680

Emergency telephone numbers**For SDS Information** : Compliance Services 1-877-428-9937**For a Medical Emergency** : 877-541-2016 Toll Free - All Calls Recorded**For a Transportation Emergency** : CHEMTREC: 800-424-9300 - All Calls Recorded.
In the District of Columbia 202-483-7616**Recommended use of the chemical and restrictions on use**

Recommended use : Specialty Cleaner and Remover

SECTION 2. HAZARDS IDENTIFICATION**Emergency Overview**

| | |
|------------|------------------------------------|
| Appearance | Aerosol containing a liquefied gas |
| Colour | colourless |
| Odour | aromatic |

GHS Classification

Flammable aerosols : Category 1
Gases under pressure : Liquefied gas
Skin irritation : Category 2
Eye irritation : Category 2A
Reproductive toxicity : Category 2
Specific target organ toxicity - single exposure : Category 3 (Central nervous system)
Specific target organ toxicity - repeated exposure : Category 2
(Inhalation)

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H222 Extremely flammable aerosol.
H280 Contains gas under pressure; may explode if heated.

A00178 MST VANDALISM MRK RMVR 20net16

Version 1.1

Revision Date 07/14/2016

Print Date 03/15/2018

H315 Causes skin irritation.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure if inhaled.

Precautionary statements

: **Prevention:**

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Pressurized container: Do not pierce or burn, even after use.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear eye protection/ face protection.
P280 Wear protective gloves.
P281 Use personal protective equipment as required.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

Disposal:

Dispose of contents/container in accordance with local regulation.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

| Chemical name | CAS-No. | Concentration [%] |
|---------------|----------|-------------------|
| acetone | 67-64-1 | >= 50 - < 70 |
| toluene | 108-88-3 | >= 10 - < 20 |

A00178 MST VANDALISM MRK RMVR 20net16

Version 1.1

Revision Date 07/14/2016

Print Date 03/15/2018

| | | |
|-----------------|----------|-------------|
| propane | 74-98-6 | >= 5 - < 10 |
| 2-butoxyethanol | 111-76-2 | >= 5 - < 10 |
| butanone | 78-93-3 | >= 5 - < 10 |
| butane | 106-97-8 | >= 5 - < 10 |

The exact percentages of disclosed substances are withheld as trade secrets.

SECTION 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.
- If inhaled : Remove person to fresh air. If signs/symptoms continue, get medical attention.
- In case of skin contact : In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Wash clothing before reuse.
Call a physician if irritation develops or persists.
- In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.
- If swallowed : DO NOT induce vomiting unless directed to do so by a physician or poison control center.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Carbon dioxide (CO2)
Foam
Dry chemical
Water
- Unsuitable extinguishing media : High volume water jet
- Hazardous combustion products : Carbon dioxide (CO2)
Carbon monoxide
Smoke
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Further information : Use a water spray to cool fully closed containers.
Standard procedure for chemical fires.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

A00178 MST VANDALISM MRK RMVR 20net16

Version 1.1

Revision Date 07/14/2016

Print Date 03/15/2018

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Ensure adequate ventilation.
Remove all sources of ignition.
Evacuate personnel to safe areas.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
- Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Sweep up or vacuum up spillage and collect in suitable container for disposal.

SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Take precautionary measures against static discharges.
Provide sufficient air exchange and/or exhaust in work rooms.
Dispose of rinse water in accordance with local and national regulations.
Do not breathe vapours or spray mist.
Always replace cap after use.
- Conditions for safe storage : BEWARE: Aerosol is pressurized. Keep away from direct sun exposure and temperatures over 50 °C. Do not open by force or throw into fire even after use. Do not spray on flames or red-hot objects.
No smoking.
Observe label precautions.
Keep in a cool, well-ventilated place.
Electrical installations / working materials must comply with the technological safety standards.
- Materials to avoid : Strong oxidizing agents
Do not store near acids.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible | Basis |
|------------|---------|----------------------------------|----------------------------------|-------|
|------------|---------|----------------------------------|----------------------------------|-------|

SAFETY DATA SHEET



A00178 MST VANDALISM MRK RMVR 20net16

Version 1.1

Revision Date 07/14/2016

Print Date 03/15/2018

| | | | concentration | |
|-----------------|----------|------|--------------------------|-----------|
| acetone | 67-64-1 | TWA | 500 ppm | ACGIH |
| | | STEL | 750 ppm | ACGIH |
| | | TWA | 250 ppm 590 mg/m3 | NIOSH REL |
| | | TWA | 1,000 ppm 2,400 mg/m3 | OSHA Z-1 |
| | | TWA | 750 ppm 1,800 mg/m3 | OSHA P0 |
| | | STEL | 1,000 ppm 2,400 mg/m3 | OSHA P0 |
| toluene | 108-88-3 | TWA | 20 ppm | ACGIH |
| | | TWA | 100 ppm 375 mg/m3 | NIOSH REL |
| | | ST | 150 ppm 560 mg/m3 | NIOSH REL |
| | | TWA | 200 ppm | OSHA Z-2 |
| | | CEIL | 300 ppm | OSHA Z-2 |
| | | Peak | 500 ppm | OSHA Z-2 |
| | | TWA | 100 ppm 375 mg/m3 | OSHA P0 |
| | | STEL | 150 ppm 560 mg/m3 | OSHA P0 |
| propane | 74-98-6 | TWA | 1,000 ppm | ACGIH |
| | | TWA | 1,000 ppm 1,800 mg/m3 | NIOSH REL |
| | | TWA | 1,000 ppm 1,800 mg/m3 | OSHA Z-1 |
| | | TWA | 1,000 ppm 1,800 mg/m3 | OSHA P0 |
| 2-butoxyethanol | 111-76-2 | TWA | 20 ppm | ACGIH |
| | | TWA | 5 ppm 24 mg/m3 | NIOSH REL |
| | | TWA | 50 ppm 240 mg/m3 | OSHA Z-1 |
| | | TWA | 25 ppm 120 mg/m3 | OSHA P0 |
| butanone | 78-93-3 | TWA | 200 ppm | ACGIH |
| | | STEL | 300 ppm | ACGIH |
| | | TWA | 200 ppm 590 mg/m3 | NIOSH REL |
| | | ST | 300 ppm 885 mg/m3 | NIOSH REL |
| | | TWA | 200 ppm 590 mg/m3 | OSHA Z-1 |
| | | TWA | 200 ppm 590 mg/m3 | OSHA P0 |
| | | STEL | 300 ppm 885 mg/m3 | OSHA P0 |
| butane | 106-97-8 | TWA | 800 ppm 1,900 mg/m3 | NIOSH REL |
| | | TWA | 800 ppm 1,900 mg/m3 | OSHA P0 |

Biological occupational exposure limits

A00178 MST VANDALISM MRK RMVR 20net16

Version 1.1

Revision Date 07/14/2016

Print Date 03/15/2018

| Component | CAS-No. | Control parameters | Biological specimen | Sampling time | Permissible concentration | Basis |
|---------------------|----------|-------------------------|---------------------|--|---------------------------|-----------|
| 2-PROPANONE | 67-64-1 | Acetone | Urine | End of shift (As soon as possible after exposure ceases) | 50 mg/l | ACGIH BEI |
| METHYLBENZENE | 108-88-3 | Toluene | In blood | Prior to last shift of workweek | 0.02 mg/l | ACGIH BEI |
| METHYLBENZENE | | Toluene | Urine | End of shift (As soon as possible after exposure ceases) | 0.03 mg/l | ACGIH BEI |
| METHYLBENZENE | | o-Cresol | Urine | End of shift (As soon as possible after exposure ceases) | 0.3 mg/g | ACGIH BEI |
| Remarks: Creatinine | | | | | | |
| 2-BUTOXYETHANOL | 111-76-2 | Butoxyacetic acid (BAA) | Urine | End of shift (As soon as possible after exposure ceases) | 200 mg/g | ACGIH BEI |
| Remarks: Creatinine | | | | | | |
| 2-BUTANONE | 78-93-3 | methyl ethyl ketone | Urine | End of shift (As soon as possible after exposure ceases) | 2 mg/l | ACGIH BEI |

Engineering measures : effective ventilation in all processing areas

Personal protective equipment

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.
Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Hand protection
Remarks : The suitability for a specific workplace should be discussed

A00178 MST VANDALISM MRK RMVR 20net16

Version 1.1

Revision Date 07/14/2016

Print Date 03/15/2018

with the producers of the protective gloves.

- Eye protection : Safety glasses
Ensure that eyewash stations and safety showers are close to the workstation location.
- Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.
-

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : Aerosol containing a liquefied gas
- Colour : colourless
- Odour : aromatic
- Odour Threshold : No data available
- pH : No data available
- Melting point/freezing point : No data available
- Boiling point : No data available
- Flash point :
Not applicable
- Evaporation rate : No data available
- Flammability (solid, gas) : Extremely flammable aerosol.
- Upper explosion limit : No data available
- Lower explosion limit : No data available
- Vapour pressure : No data available
- Relative vapour density : No data available
- Density : 0.810 g/cm³
- Solubility(ies)
- Water solubility : partly soluble
- Partition coefficient: n-octanol/water : No data available
- Auto-ignition temperature : not determined
- Thermal decomposition : No data available
- Heat of combustion : 35.04 kJ/g

A00178 MST VANDALISM MRK RMVR 20net16

Version 1.1

Revision Date 07/14/2016

Print Date 03/15/2018

SECTION 10. STABILITY AND REACTIVITY

| | |
|------------------------------------|---|
| Reactivity | : Stable |
| Chemical stability | : Stable under normal conditions. |
| Possibility of hazardous reactions | : Vapours may form explosive mixture with air. No decomposition if stored and applied as directed. |
| Conditions to avoid | : Heat, flames and sparks. Extremes of temperature and direct sunlight. |
| Incompatible materials | : Acids Oxidizing agents |
| Hazardous decomposition products | : Carbon monoxide Carbon dioxide (CO ₂) |

SECTION 11. TOXICOLOGICAL INFORMATION**Potential Health Effects****Carcinogenicity:**

| | |
|--------------|---|
| IARC | No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| ACGIH | Confirmed animal carcinogen with unknown relevance to humans 2-butoxyethanol 111-76-2 |
| OSHA | No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. |
| NTP | No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. |

Acute toxicity**Product:**

| | |
|---------------------------|---|
| Acute oral toxicity | : Acute toxicity estimate : 4,978 mg/kg Method: Calculation method |
| Acute inhalation toxicity | : Acute toxicity estimate : > 10 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method |
| Acute dermal toxicity | : Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method |

Components:

A00178 MST VANDALISM MRK RMVR 20net16

Version 1.1

Revision Date 07/14/2016

Print Date 03/15/2018

acetone:

Acute oral toxicity : LD50 Rat: 5,800 mg/kg

Acute inhalation toxicity : LC50 Rat: 132 mg/l
Exposure time: 3 h

LC50 Rat: 50.1 mg/l

Acute dermal toxicity : LD50 Guinea pig: > 7,426 mg/kg

LD50 Rabbit: > 7,426 mg/kg

propane:Acute inhalation toxicity : LC50 Mouse: 1,237 mg/l
Exposure time: 2 hLC50 Rat: 658 mg/l
Exposure time: 4 h

LC50 Rat: 1,355 mg/l

butanone:

Acute oral toxicity : LD50 Oral Rat: 2,737 mg/kg

Acute inhalation toxicity : LC50 Mouse: 32,000 mg/l
Exposure time: 4 h

LC50 : 38,000 mg/l

Acute dermal toxicity : LD50 Dermal Rabbit: 6,480 mg/kg

butane:Acute inhalation toxicity : LC50 Mouse: 1,237 mg/l
Exposure time: 2 h

LC50 Rat: 1,355 mg/l

Skin corrosion/irritation**Product:**

Remarks: May cause skin irritation in susceptible persons.

Serious eye damage/eye irritation**Product:**

Remarks: Eye irritation

Respiratory or skin sensitisation

No data available

A00178 MST VANDALISM MRK RMVR 20net16

Version 1.1

Revision Date 07/14/2016

Print Date 03/15/2018

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

acetone:**toluene:****propane:****2-butoxyethanol:****butanone:****butane:****STOT - single exposure**

No data available

STOT - repeated exposure

No data available

Aspiration toxicity

No data available

Further information**Product:**

Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting., Concentrations substantially above the TLV value may cause narcotic effects., Solvents may degrease the skin.

Components:**toluene:**

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity**

No data available

Persistence and degradability

No data available

Bioaccumulative potential**Product:**

Partition coefficient: n- : Remarks: No data available
octanol/water

Components:**toluene :**

A00178 MST VANDALISM MRK RMVR 20net16

Version 1.1

Revision Date 07/14/2016

Print Date 03/15/2018

Partition coefficient: n-octanol/water
butanone :
Partition coefficient: n-octanol/water
butane :
Partition coefficient: n-octanol/water

: Pow: 2.73

: log Pow: 0.29

: Pow: 2.89

Mobility in soil

No data available

Other adverse effects

No data available

Product:

Regulation 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances

Remarks This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No data available

Components:**toluene :**

Additional ecological information : No data available

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : Do not dispose of waste into sewer.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Dispose of in accordance with local regulations.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

| |
|---|
| Transportation Regulation: 49 CFR (USA): ORM-D, CONSUMER COMMODITY |
|---|

SAFETY DATA SHEET



A00178 MST VANDALISM MRK RMVR 20net16

Version 1.1

Revision Date 07/14/2016

Print Date 03/15/2018

Transportation Regulation: IMDG (Vessel):
UN1950, AEROSOLS, FLAMMABLE, 2.1, - Limited quantity

Transportation Regulation: IATA (Cargo Air):
UN1950, Aerosols, flammable, 2.1, - Limited quantity

Transportation Regulation: IATA (Passenger Air):
UN1950, Aerosols, flammable, 2.1, - Limited quantity

Transportation Regulation: TDG (Canada):
UN1950, AEROSOLS, FLAMMABLE, 2.1, - Limited quantity

The product as delivered to the customer conforms to packaging requirements for shipment by road under US Department of Transportation (DOT) regulations. Additional transportation classifications noted above are for reference only, and not a certification or warranty of the suitability of the packaging for shipment under these alternative transport regulations.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

| Components | CAS-No. | Component RQ (lbs) | Calculated product RQ (lbs) |
|------------|----------|--------------------|-----------------------------|
| toluene | 108-88-3 | 1000 | * |

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Sudden Release of Pressure Hazard
Acute Health Hazard
Chronic Health Hazard
Fire Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:
toluene 108-88-3 17 %

California Prop 65 WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
toluene 108-88-3

The components of this product are reported in the following inventories:

TSCA On TSCA Inventory

A00178 MST VANDALISM MRK RMVR 20net16

Version 1.1

Revision Date 07/14/2016

Print Date 03/15/2018

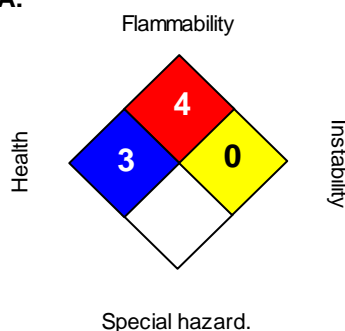
DSL

All components of this product are on the Canadian DSL

For information on the country notification status for other regions please contact the manufacturer's regulatory group.

Inventory Acronym and Validity Area Legend:

TSCA (USA), DSL (Canada), NDSL (Canada)

SECTION 16. OTHER INFORMATION**Further information****NFPA:****HMIS III:**

| | |
|------------------------|-----------|
| HEALTH | 3* |
| FLAMMABILITY | 4 |
| PHYSICAL HAZARD | 2 |

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

OSHA - GHS Label Information:

Hazard pictograms



Signal word

: **Danger:**

Hazard statements

: Extremely flammable aerosol. Contains gas under pressure; may explode if heated. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure if inhaled.

Precautionary statements

: **Prevention:** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapours/spray. Wash skin thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear eye protection/face protection. Wear protective gloves. Use personal protective equipment as required.
Response: IF ON SKIN: Wash with plenty of soap and water. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/attention. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Storage: Store in a well-ventilated place. Keep container tightly closed. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.
Disposal: Dispose of contents/container in accordance with local regulation.

SAFETY DATA SHEET



A00178 MST VANDALISM MRK RMVR 20net16

Version 1.1

Revision Date 07/14/2016

Print Date 03/15/2018

| | |
|----------------|------------|
| Version: | 1.1 |
| Revision Date: | 07/14/2016 |
| Print Date: | 03/15/2018 |

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. Users should make their own investigations to determine the suitability and applicability of the information for their particular purposes.

This SDS has been prepared by the Compliance Services organization supporting this manufacturer, supplier or distributor.

Zep Inc. markets products under well recognized and established brand names such as Zep®, Zep Commercial®, Zep Professional®, Enforcer®, National Chemical™, Selig™, Misty®, Next Dimension™, Petro®, i-Chem®, TimeMist®, TimeWick™, MicrobeMax®, Country Vet®, Konk®, Original Bike Spirits®, Blue Coral®, Black Magic®, Rain-X®, Niagara National™, FC Forward Chemicals®, Rexodan®, Mykal™, and a number of private labeled brands.

A00807MST WAXOFF GLD WX STPR 20net18 OBS

Version 2.0

Revision Date 07/15/2015

Print Date 03/15/2018

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Material name : A00807MST WAXOFF GLD WX STPR 20net18 OBS

Material number : 000000000001033964

Manufacturer or supplier's details

Company : Zep Inc.

Address : 1310 Seaboard Industrial Blvd., NW
Atlanta, GA 30318

Telephone : 404-352-1680

Emergency telephone numbers**For SDS Information** : Compliance Services 1-877-428-9937**For a Medical Emergency** : 877-541-2016 Toll Free - All Calls Recorded**For a Transportation Emergency** : CHEMTREC: 800-424-9300 - All Calls Recorded.
In the District of Columbia 202-483-7616**SECTION 2. HAZARDS IDENTIFICATION****Emergency Overview**

| | |
|------------|------------------------------------|
| Appearance | Aerosol containing a liquefied gas |
| Colour | clear |
| Odour | mint-like |

GHS ClassificationFlammable aerosols : Category 1
Gases under pressure : Liquefied gas
Skin corrosion : Category 1A
Serious eye damage : Category 1**GHS Label element**

Hazard pictograms



Signal word

: Danger

Hazard statements

: H222 Extremely flammable aerosol.
H280 Contains gas under pressure; may explode if heated.
H314 Causes severe skin burns and eye damage.

Precautionary statements

: **Prevention:**
P210 Keep away from heat/sparks/open flames/hot surfaces.
No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Pressurized container: Do not pierce or burn, even after use.
P260 Do not breathe dust or mist.

A00807MST WAXOFF GLD WX STPR 20net18 OBS

Version 2.0

Revision Date 07/15/2015

Print Date 03/15/2018

P264 Wash skin thoroughly after handling.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 + P310 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Immediately call a POISON CENTER or doctor/ physician.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.

P363 Wash contaminated clothing before reuse.

Storage:

P405 Store locked up.

P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

Disposal:

Dispose of contents/container in accordance with local regulation.

Potential Health Effects**Carcinogenicity:****IARC**

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH

Confirmed animal carcinogen with unknown relevance to humans

OSHA2-butoxyethanol 111-76-2
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.**NTP**

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

| Chemical Name | CAS-No. | Concentration [%] |
|-----------------|----------|-------------------|
| 2-butoxyethanol | 111-76-2 | >= 10 - < 20 |
| butane | 106-97-8 | >= 10 - < 20 |
| 2-aminoethanol | 141-43-5 | >= 1 - < 5 |
| propane | 74-98-6 | >= 1 - < 5 |

A00807MST WAXOFF GLD WX STPR 20net18 OBS

Version 2.0

Revision Date 07/15/2015

Print Date 03/15/2018

SECTION 4. FIRST AID MEASURES

- | | |
|-------------------------|---|
| General advice | : Move out of dangerous area. Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended. |
| If inhaled | : If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician. |
| In case of skin contact | : If skin irritation persists, call a physician. Wash off immediately with plenty of water for at least 15 minutes. If on clothes, remove clothes. |
| In case of eye contact | : Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist. Rinse immediately with plenty of water for at least 15 minutes. |
| If swallowed | : Keep respiratory tract clear. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Take victim immediately to hospital. |
-

SECTION 5. FIREFIGHTING MEASURES

- | | |
|--------------------------------------|---|
| Suitable extinguishing media | : Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical Water spray jet |
| Unsuitable extinguishing media | : High volume water jet |
| Specific hazards during firefighting | : Do not allow run-off from fire fighting to enter drains or water courses. |
| Hazardous combustion products | : Carbon dioxide (CO2) Carbon monoxide Smoke Nitrogen oxides (NOx) |
| Specific extinguishing methods | : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Further information | : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers. |

A00807MST WAXOFF GLD WX STPR 20net18 OBS

Version 2.0

Revision Date 07/15/2015

Print Date 03/15/2018

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Ensure adequate ventilation.
Remove all sources of ignition.
Evacuate personnel to safe areas.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Sweep up or vacuum up spillage and collect in suitable container for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Do not breathe vapours or spray mist.
Take precautionary measures against static discharges.
Provide sufficient air exchange and/or exhaust in work rooms.
Dispose of rinse water in accordance with local and national regulations.
Always replace cap after use.

Conditions for safe storage : BEWARE: Aerosol is pressurized. Keep away from direct sun exposure and temperatures over 50 °C. Do not open by force or throw into fire even after use. Do not spray on flames or red-hot objects.
No smoking.
Observe label precautions.
Keep in a dry, cool and well-ventilated place.
Electrical installations / working materials must comply with the technological safety standards.

Materials to avoid : Do not store near acids.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

A00807MST WAXOFF GLD WX STPR 20net18 OBS

Version 2.0

Revision Date 07/15/2015

Print Date 03/15/2018

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|-----------------|----------|----------------------------------|---|-----------|
| 2-butoxyethanol | 111-76-2 | TWA | 20 ppm | ACGIH |
| | | TWA | 5 ppm 24 mg/m3 | NIOSH REL |
| | | TWA | 50 ppm 240 mg/m3 | OSHA Z-1 |
| | | TWA | 25 ppm 120 mg/m3 | OSHA P0 |
| butane | 106-97-8 | TWA | 800 ppm 1,900 mg/m3 | NIOSH REL |
| | | TWA | 800 ppm 1,900 mg/m3 | OSHA P0 |
| 2-aminoethanol | 141-43-5 | TWA | 3 ppm | ACGIH |
| | | STEL | 6 ppm | ACGIH |
| | | TWA | 3 ppm 8 mg/m3 | NIOSH REL |
| | | ST | 6 ppm 15 mg/m3 | NIOSH REL |
| | | TWA | 3 ppm 6 mg/m3 | OSHA Z-1 |
| | | STEL | 6 ppm 15 mg/m3 | OSHA P0 |
| | | TWA | 3 ppm 8 mg/m3 | OSHA P0 |
| propane | 74-98-6 | TWA | 1,000 ppm | ACGIH |
| | | TWA | 1,000 ppm 1,800 mg/m3 | NIOSH REL |
| | | TWA | 1,000 ppm 1,800 mg/m3 | OSHA Z-1 |
| | | TWA | 1,000 ppm 1,800 mg/m3 | OSHA P0 |

Biological occupational exposure limits

| Component | CAS-No. | Control parameters | Biological specimen | Sampling time | Permissible concentration | Basis |
|---------------------|----------|-------------------------|---------------------|--|---------------------------|-----------|
| 2-BUTOXYETHANOL | 111-76-2 | Butoxyacetic acid (BAA) | Urine | End of shift (As soon as possible after exposure ceases) | 200 mg/g | ACGIH BEI |
| Remarks: Creatinine | | | | | | |

Personal protective equipment

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Hand protection

Remarks

: The suitability for a specific workplace should be discussed with the producers of the protective gloves.

A00807MST WAXOFF GLD WX STPR 20net18 OBS

Version 2.0

Revision Date 07/15/2015

Print Date 03/15/2018

| | |
|--------------------------|---|
| Eye protection | : Ensure that eyewash stations and safety showers are close to the workstation location. Safety glasses |
| Skin and body protection | : Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place. |
| Hygiene measures | : When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday. |

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--|--|
| Appearance | : Aerosol containing a liquefied gas |
| Colour | : clear |
| Odour | : mint-like |
| Odour Threshold | : No data available |
| pH | : 12 |
| Melting point/freezing point | : No data available |
| Boiling point | : No data available |
| Flash point | : No data available |
| Evaporation rate | : No data available |
| Flammability (solid, gas) | : Extremely flammable aerosol. |
| Upper explosion limit | : No data available |
| Lower explosion limit | : No data available |
| Vapour pressure | : No data available |
| Relative vapour density | : No data available |
| Density | : No data available |
| Solubility(ies) | |
| Water solubility | : completely soluble |
| Solubility in other solvents | : not determined |
| Partition coefficient: n-octanol/water | : No data available No data available |
| Auto-ignition temperature | : not determined |
| Thermal decomposition | : No data available |

A00807MST WAXOFF GLD WX STPR 20net18 OBS

Version 2.0

Revision Date 07/15/2015

Print Date 03/15/2018

SECTION 10. STABILITY AND REACTIVITY

| | |
|------------------------------------|---|
| Reactivity | : Stable |
| Chemical stability | : Stable under normal conditions. |
| Possibility of hazardous reactions | : Vapours may form explosive mixture with air. No decomposition if stored and applied as directed. |
| Conditions to avoid | : Heat, flames and sparks. Extremes of temperature and direct sunlight. |
| Incompatible materials | : Acids Copper Alkali metals |
| Hazardous decomposition products | : Carbon oxides Nitrogen oxides (NO _x) |

SECTION 11. TOXICOLOGICAL INFORMATION**Acute toxicity****Product:**

| | |
|---------------------------|---|
| Acute oral toxicity | : Acute toxicity estimate : 3,018 mg/kg Method: Calculation method |
| Acute inhalation toxicity | : Acute toxicity estimate : 7.63 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method |
| Acute dermal toxicity | : Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method |

Components:**butane:**

| | |
|---------------------------|--|
| Acute inhalation toxicity | : LC50 Mouse: 1,237 mg/l Exposure time: 2 h LC50 Rat: 1,355 mg/l |
|---------------------------|--|

2-aminoethanol:

| | |
|---------------------------|--|
| Acute oral toxicity | : LD50 Oral Mouse: 700 mg/kg LD50 Oral Rat: 1,515 mg/kg |
| Acute inhalation toxicity | : LC50 Mouse: > 1.21 mg/l |

propane:

A00807MST WAXOFF GLD WX STPR 20net18 OBS

Version 2.0

Revision Date 07/15/2015

Print Date 03/15/2018

Acute inhalation toxicity : LC50 Mouse: 1,237 mg/l
Exposure time: 2 h

LC50 Rat: 658 mg/l
Exposure time: 4 h

LC50 Rat: 1,355 mg/l

Skin corrosion/irritation**Product:**

Remarks: Extremely corrosive and destructive to tissue.

Serious eye damage/eye irritation**Product:**

Remarks: May cause irreversible eye damage.

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

2-butoxyethanol:
butane:
2-aminoethanol:
propane:

STOT - single exposure

No data available

STOT - repeated exposure

No data available

Aspiration toxicity

No data available

Further information**Product:**

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

A00807MST WAXOFF GLD WX STPR 20net18 OBS

Version 2.0

Revision Date 07/15/2015

Print Date 03/15/2018

Ecotoxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential**Product:**

Partition coefficient: n-octanol/water : Remarks: No data available

Remarks: No data available

Components:**butane :**

Partition coefficient: n-octanol/water : Pow: 2.89

Mobility in soil

No data available

Other adverse effects

No data available

Product:

Regulation 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances

Remarks This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No data available

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**Waste from residues : Do not dispose of waste into sewer.
Dispose of in accordance with local regulations.
The product should not be allowed to enter drains, water courses or the soil.Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

SAFETY DATA SHEET



A00807MST WAXOFF GLD WX STPR 20net18 OBS

Version 2.0

Revision Date 07/15/2015

Print Date 03/15/2018

Transportation Regulation: 49 CFR (USA):
ORM-D, CONSUMER COMMODITY

Transportation Regulation: IMDG (Vessel):
UN1950, AEROSOLS, FLAMMABLE, 2.1, - Limited quantity

Transportation Regulation: IATA (Cargo Air):
UN1950, AEROSOLS, FLAMMABLE, 2.1, - Limited quantity

Transportation Regulation: IATA (Passenger Air):
UN1950, AEROSOLS, FLAMMABLE, 2.1, - Limited quantity

Transportation Regulation: TDG (Canada):
UN1950, AEROSOLS, FLAMMABLE, 2.1, - Limited quantity

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

| Components | CAS-No. | Component RQ (lbs) | Calculated product RQ (lbs) |
|---------------------|----------|-----------------------|--------------------------------|
| 2,2'-iminodiethanol | 111-42-2 | 100 | * |

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Sudden Release of Pressure Hazard
Fire Hazard
Acute Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop 65 WARNING! This product contains a chemical known to the State of California to cause cancer.

2,2'-iminodiethanol

111-42-2

The components of this product are reported in the following inventories:

TSCA On TSCA Inventory
DSL This product contains one or several components that are not on the Canadian DSL nor NDSL.
AICS Not in compliance with the inventory
NZIoC Not in compliance with the inventory
PICCS Not in compliance with the inventory

A00807MST WAXOFF GLD WX STPR 20net18 OBS

Version 2.0

Revision Date 07/15/2015

Print Date 03/15/2018

IECSC Not in compliance with the inventory

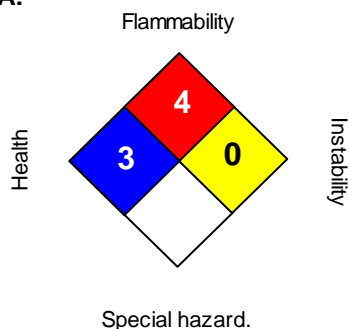
Inventory Acronym and Validity Area Legend:

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

| | |
|-----------------|---|
| HEALTH | 3 |
| FLAMMABILITY | 4 |
| PHYSICAL HAZARD | 2 |

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

OSHA GHS Label Information:

Hazard pictograms



Signal word

: **Danger:**

Hazard statements

: Extremely flammable aerosol. Contains gas under pressure; may explode if heated.
Causes severe skin burns and eye damage.

Precautionary statements

: **Prevention:** Keep away from heat/sparks/open flames/hot surfaces. No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Do not breathe dust or mist. Wash skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.
Response: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse.
Storage: Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.
Disposal: Dispose of contents/container in accordance with local regulation.

| | |
|----------------|------------|
| Version: | 2.0 |
| Revision Date: | 07/15/2015 |
| Print Date: | 03/15/2018 |

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information in this

A00807MST WAXOFF GLD WX STPR 20net18 OBS

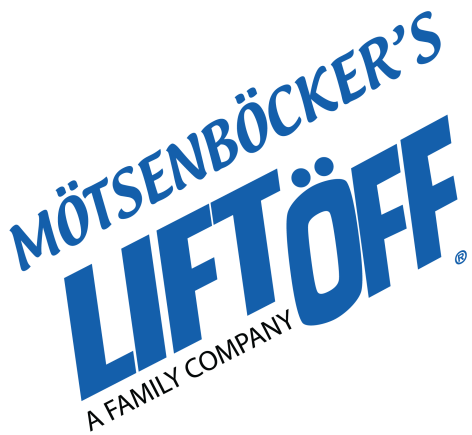
Version 2.0

Revision Date 07/15/2015

Print Date 03/15/2018

document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. Users should make their own investigations to determine the suitability and applicability of the information for their particular purposes. This SDS has been prepared by the Compliance Services organization supporting this manufacturer, supplier or distributor.

Zep Inc. markets products under well recognized and established brand names such as Zep®, Zep Commercial®, Zep Professional®, Enforcer®, National Chemical™, Selig™, Misty®, Next Dimension™, Petro®, i-Chem®, TimeMist®, TimeWick™, MicrobeMax®, Country Vet®, Konk®, Original Bike Spirits®, Blue Coral®, Black Magic®, Rain-X®, Niagara National™, FC Forward Chemicals®, Rexodan®, Mykal™, and a number of private labeled brands.



Mötsenböcker's Lift Off, Inc.

P.O. Box 90947
San Diego, CA 92169
Phone: 858-581-0222



Safety Data Sheet

1. Product And Company Identification

Product Name: Mötsenböcker's Lift Off # 2 Sticky, Oily, Greasy Tape Remover (Non-Aerosol)
Product Code: MLO2SDS
Product Reference Number: NJTSRN: 407-01, 407-02, 407-03, 407-14, 407-16, 407-25, 407-45, 408-01, 408-55, 415-01, 421-01

Responsible Party: Mötsenböcker's Lift Off, Inc.
P.O. Box 90947
San Diego, CA 92169

Information Phone Number: 1-858-581-0222 1-800-346-1633 (Toll Free)
Fax: 1-858-483-6965
Website: www.liftoffinc.com

24 Hour Emergency Phone Number:
INFOTRAC@ 800-535-5053

SDS Date of Preparation: 05/08/2015
Product Use and Uses Advised Against: Adhesives, Grease, Oily Stains and Tape Remover



2. Hazards Identification

Note: This product is a consumer product and is labeled in accordance with the Consumer Product Safety Commission regulations and not OSHA regulations. The requirements for the labeling of consumer products take precedence over OSHA labeling so the actual product label will not contain the OSHA label elements shown below on this SDS.

Note: This product has been tested for sustained combustibility by Stresau Laboratory, Inc. Due to the nature of the product, it does not sustain combustibility. It will not start a fire from sparks.

e-CFR data is current as of June 19, 2015

Title 16 → Chapter II → Subchapter C → Part 1500

(ii) The term *flammable* shall apply to any substance having a flashpoint above 20 °F (−6.7 °C) and below 100 °F (37.8 °C), as determined by the method described at §1500.43a, except that:

(A) Any mixture having one component or more with a flashpoint at or above 100 °F (37.8 °C) which

comprises at least 99 percent of the total volume of the mixture is not considered to be a flammable substance; and

(B) Any mixture containing 24 percent or less of water miscible alcohols, by volume, in aqueous solution is not considered to be flammable if the mixture does not present a significant flammability hazard when used by consumers.

GHS Classification:



| Physical: | Health: |
|---------------|--|
| Not Hazardous | Aspiration Toxicity Category 1 Skin Irritation Category 2 |

Refer to Section 5 for additional information

GHS Label Elements:



DANGER!

Statements of Hazard

May be fatal if swallowed and enters airways.
Causes skin irritation.
May cause drowsiness or dizziness.

Prevention

Avoid breathing mist, vapors or spray.
Wash thoroughly after handling
Use only outdoors or in a well-ventilated area.
Wear protective gloves.

Storage

Store in a well-ventilated place. Keep container tightly closed.

Response

IF SWALLOWED: Immediately call a POISON CENTER or doctor.
Do NOT induce vomiting.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation occurs: Get medical attention.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Disposal

Dispose of contents and container in accordance with local and national regulations.

3. Composition/Information on Ingredients*

| Component | CAS No. | Amount |
|------------------|--------------|--------|
| Dimethoxymethane | 109-87-5 | 5-10% |
| Other | Trade Secret | 64% |

***There are other components in the product composition. The exact concentrations are a trade secret, proprietary and patented.**

4. First Aid Measures

Inhalation: Remove person to fresh air. If breathing is difficult or symptoms develop, have qualified personnel administer oxygen. Get medical attention.

Skin Contact: Wash skin thoroughly with soap and water. Get medical attention if irritation develops or persists. Launder clothing before re-use.

Eye Contact: May cause eye irritation. If contact occurs, immediately flush eyes with large quantities of water for 15 minutes, holding the eyelids apart. Get medical attention if irritation persists.

Ingestion: If swallowed, do not induce vomiting, may cause stomach distress. Rinse mouth with water. Get medical assistance by calling a doctor or poison center. Never give anything by mouth to a person who is unconscious or drowsy.

Most Important Symptoms: May cause mild eye irritation. May cause minor skin irritation. Inhalation of vapors or mists may cause respiratory irritation. Ingestion may cause nausea, vomiting or diarrhea.

Indication of Immediate Medical Attention/Special Treatment: Immediate medical attention is required if ingested.

5. Firefighting Measures

Suitable (and Unsuitable) Extinguishing Media: Use water fog, alcohol foam, carbon dioxide or dry chemical to extinguish the fire. Cool fire exposed containers with water.

Specific Hazards Arising from the Chemical: Combustion may produce oxides of carbon, hydrogen chloride and phosgene. This product has been tested for sustained combustibility by Stresau Laboratory, Inc. Due to the nature of the product, it does not Sustain combustibility. It will not start a fire from sparks

e-CFR data is current as of June 19, 2015

[Title 16](#) → [Chapter II](#) → [Subchapter C](#) → Part 1500

(ii) The term *flammable* shall apply to any substance having a flashpoint above 20 °F (–6.7 °C) and below 100 °F (37.8 °C), as determined by the method described at §1500.43a, except that:

(A) Any mixture having one component or more with a flashpoint at or above 100 °F (37.8 °C) which comprises at least 99 percent of the total volume of the mixture is not considered to be a flammable substance; and

(B) Any mixture containing 24 percent or less of water miscible alcohols, by volume, in aqueous solution is not considered to be flammable if the mixture does not present a significant flammability hazard when used by consumers.

Special Protective Equipment and Precautions for Fire-fighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

6. Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures: Evacuate spill area and keep unprotected personnel away. Ventilate the area. Wear appropriate protective clothing and equipment as described in Section 8.

Environmental Procedures: Prevent entry in storm sewers and waterways. Report spill as required by local and national regulations.

Methods for Containment and Clean-Up: Contains and collect with an inert material. Place into an appropriate container for disposal. Wash spill site with soap and water.

7. Handling and Storage

Precautions for Safe Handling: Avoid contact with eyes, skin and clothing. Avoid breathing mists or vapors. Do not swallow, Use with adequate ventilation. Keep containers closed when not in use.

Empty containers retain product residue and may be hazardous. Do not reuse empty containers.

Conditions for Safe Storage, Including Any Incompatibilities: Store in a cool, well-ventilated area away from oxidizing agents and other incompatible materials. Protect containers from physical damage. Keep out of the reach of children.

8. Exposure Controls / Personal Protection

Exposure Guidelines:

| CHEMICAL | EXPOSURE LIMIT |
|---|---|
| Petroleum Distillates (as stoddard solvent) | 500 ppm TWA OSHA PEL 100 ppm TWA ACGIH TLV |

Engineering Controls: General ventilation should be adequate for all normal use.

Personal Protective Equipment

Respiratory Protection: None required under normal use conditions. In operations where exposure limits are exceeded, a NIOSH approved respirator with an organic vapor cartridge and a dust/mist prefilter or supplied air respirator is recommended. Selection and use of respiratory equipment must be in accordance with OSHA 1910.134 and good industrial hygiene practice.

Gloves: None required under normal use conditions.

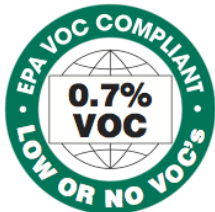
Eye Protection: Safety goggles are recommended if eye contact is possible.

Other Protective Equipment/Clothing: None under normal use conditions.

9. Physical and Chemical Properties

Appearance and Odor: Clear liquid with a pungent odor.

| | |
|--|--|
| Physical State: Liquid | Odor Threshold: Not determined |
| pH: Not applicable | Specific Gravity: 0.95 |
| Initial Boiling Point/Range: 160-360°F (71-182°C) | Vapor Pressure: Not determined |
| Melting/Freezing Point: Not determined | Vapor Density: Greater than air. |
| Solubility In Water: Partial | Percent Volatile: Not determined |
| Viscosity: Not determined | Evaporation Rate: Not determined |
| Coefficient Of Water/Oil Distribution: Not determined | VOC Content: .7% (7.2 g/l) |
| Flash Point: >200°F (>93.3°C) PMCC* | Autoignition Temp: Not determined |
| Decomposition Temperature: Not determined | Flammability Limits: LEL: Not determined UEL: Not determined |
| Flammability (solid, gas): Not applicable | |



*See Section 5

10. Stability and Reactivity

Reactivity: Not normally reactive

Chemical Stability: Stable.

Possibility of Hazardous Reactions: Will react with acids and strong oxidizing agents.

Conditions to Avoid: Keep away from excessive heat and open flames.

Incompatible Materials: Avoid strong oxidizing agents.

Hazardous Decomposition Products: Thermal decomposition will generate oxides of carbon, hydrogen chloride and phosgene.

11. Toxicological Information

POTENTIAL HEALTH EFFECTS:

Acute Hazards:

Inhalation: Mist and vapors may cause mild irritation of mucous membranes and upper respiratory tract.

Skin Contact: May cause skin irritation.

Eye Contact: May cause eye irritation with redness and tearing.

Ingestion: Swallowing may cause gastrointestinal upset and nausea.

Chronic Hazards: None currently known.

Carcinogenicity Listing: None of the components is listed as a carcinogen or potential carcinogen by IARC, NTP, or OSHA.

Acute Toxicity Values:

Dimethyloxymethane: LD50: Oral Rat 6423 mg/kg; LD50: Skin Rabbit LD50 >5000 mg/kg; LC50: Inhalation mouse LC50 57 mg/L/4 hr.

12. Ecological Information

Ecotoxicity:

Dimethyloxymethane: 96 hr EC50 Danio rerio >1000 mg/L, 48 hr LC50 daphnia magna >1000 mg/kg

Bio accumulative Potential: Dimethyloxymethane: BCF 0.6.

Mobility in Soil: No data available

Other Adverse Effects: No data available

13. Disposal Considerations

Dispose of in accordance with all local, state/provincial and federal regulations. Offer empty containers for recycling.

14. Transport Information

| | UN Number | Proper shipping name | Hazard | Packing | Environmental |
|--|-----------|----------------------|--------|---------|---------------|
|--|-----------|----------------------|--------|---------|---------------|

| | | | Class | Group | Hazard |
|------|--|---------------|-------|-------|--------|
| DOT | | Not Regulated | | | |
| TDG | | Not Regulated | | | |
| IMDG | | Not Regulated | | | |
| IATA | | Not Regulated | | | |

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form.

Special precautions: None known.

15. Regulatory Information

United States:

EPA TSCA INVENTORY: All of the components of this material are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory.

CERCLA Section 103: This product is not subject to CERCLA reporting requirements, however, oil spills are reportable to the National Response Center under the Clean Water Act and many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA Hazard Category (311/312): Acute health.

SARA 313: Not currently known. This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372): **None**

16. Other Information



| | |
|-----------------|---|
| HEALTH | 2 |
| FLAMMABILITY | 1 |
| PHYSICAL HAZARD | 0 |

REVISION SUMMARY:

May 8, 2015 Update to OSHA HazCom 2012 / GHS SDS format: Changes to all sections.

January 1, 2012 Update Revision

March 11, 2009 Update Revision

March 15, 2001 Change in formulation

Prepare by: Industrial Health & Safety Consultants, Inc.

The above information is believed to be correct with respect to the formula used to manufacture the product. As data, standards and regulations change, and the conditions of use and handling are beyond our control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.

CONSUMER LABELING

What is a consumer product?

OSHA Description:

- Any consumer product or hazardous substance, as those terms are defined in the Consumer Product Safety Act (15 U.S.C. 2051 et seq.) and Federal Hazardous Substances Act (15 U.S.C. 1261 et seq.) respectively.

Consumer Product Safety Commission:

- A product brought into or around a dwelling and related buildings (garages, sheds, etc.). Does not include industrial supplies – labeled as and marketed solely for industrial use.
- Includes products designed primarily for professional use but available to consumers in retail stores for non-professional use.

Who governs consumer product labeling?

OSHA exempts consumer products from labeling under OSHA.

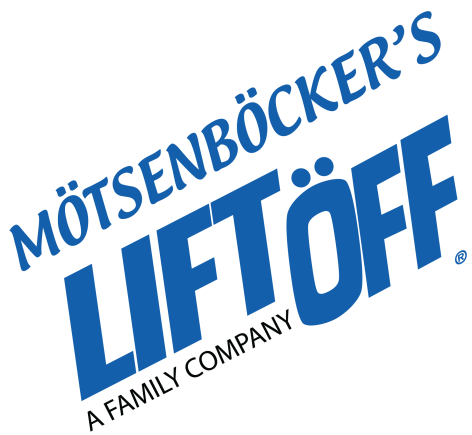
- Any consumer product or hazardous substance as those terms are defined in the Consumer Product Safety Act (15 U.S.C. 205 et seq.) and Federal Hazardous Substances Act (15 U.S.C. 1261 et seq.) respectively, when subject to a consumer product safety standard or labeling requirement of those Acts, or regulations issued under those Acts by the Consumer Product Safety Commission

OSHA fully exempts consumer products from Hazard Communication if used in the workplace in a consumer manner.

- The Consumer Product Safety Commission (CPSC) mandates labeling for all hazardous substances that are consumer products.
- If products are sold retail and available for use around the home, they must be labeled per the CPSC.
- OSHA does require a SDS to inform workers of hazards.

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This information was provided by Industrial Health & Safety Consultants, Inc. of Shelton, CT.



Mötsenböcker's Lift Off, Inc.

P.O. Box 90947
San Diego, CA 92169
Phone: 858-581-0222



Safety Data Sheet

1. Product And Company Identification

Product Name: Mötsenböcker's Lift Off #3 Pen, Ink & Marker Remover
Product Code: MLO3SDS
Product Reference Number: NJTSRN #409-01, 409-02, 409-03, 409-14, 410-01, 410-55, 415-01, 421-01

Responsible Party: Mötsenböcker's Lift Off, Inc.
P.O. Box 90947
San Diego, CA 92169

Information Phone Number: 1-858-581-0222 1-800-346-1633 (Toll Free)
Fax: 1-858-483-6965
Website: www.liftoffinc.com

24 Hour Emergency Phone Number:
INFOTRAC@ 800-535-5053

SDS Date of Preparation: 05/08/2015
Product Use and Uses Advised Against: Pen, Ink and Graffiti Remover



2. Hazards Identification

Note: This product is a consumer product and is labeled in accordance with the Consumer Product Safety Commission regulations and not OSHA regulations. The requirements for the labeling of consumer products take precedence over OSHA labeling so the actual product label will not contain the OSHA label elements shown below on this SDS.

Note: This product has been tested for sustained combustibility by Stresau Laboratory, Inc. Due to the nature of the product, it does not Sustain combustibility. It will not start a fire from sparks. Due its water-based composition, this product is capable of stopping a fire.

e-CFR data is current as of June 19, 2015

Title 16 → Chapter II → Subchapter C → Part 1500

(ii) The term *flammable* shall apply to any substance having a flashpoint above 20 °F (−6.7 °C) and below 100 °F (37.8 °C), as determined by the method described at §1500.43a, except that:

(A) Any mixture having one component or more with a flashpoint at or above 100 °F (37.8 °C) which

comprises at least 99 percent of the total volume of the mixture is not considered to be a flammable substance; and

(B) Any mixture containing 24 percent or less of water miscible alcohols, by volume, in aqueous solution is not considered to be flammable if the mixture does not present a significant flammability hazard when used by consumers.

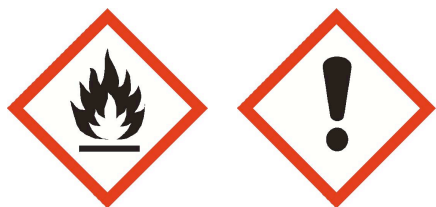
GHS Classification:



| Physical: | Health: |
|-----------------------------|---|
| Flammable Liquid Category 3 | Skin Irritation Category 1 Eye Irritation Category 1 |

Refer to Section 5 for additional information

GHS Label Elements:



WARNING!

Statements of Hazard

Non-flammable liquid and vapor.

Prevention

Keep away from heat, sparks, open flames, and hot surfaces.

Keep container tightly closed.

Wash exposed skin thoroughly after handling.

Wear eye protection.

Storage

Store in a well-ventilated place. Keep cool.

Response

If skin irritation occurs: Get medical attention.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical attention.

Disposal

Dispose of contents and container in accordance with local and national regulations.

3. Composition/Information on Ingredients*

| Component | CAS No. | Amount |
|-----------------|----------|--------|
| Glycol Ether DB | 112-34-5 | 10-20% |
| Acetone | 67-64-1 | 5-10% |

***There are other components in the product composition. The exact concentrations are a trade secret, proprietary and patent pending.**

4. First Aid Measures

Inhalation: If inhaled, remove to fresh air. Prolonged exposure to product may cause dizziness.

Skin Contact: Contact with product can dry and 'defat' skin, causing irritation or dermatitis. Wash skin thoroughly with soap and water. Get medical attention if irritation develops or persists. Launder clothing before re-use.

Eye Contact: May cause eye irritation. If contact occurs, immediately flush eyes with large quantities of water for 15 minutes, holding the eyelids apart. Get medical attention if irritation persists.

Ingestion: If swallowed, do not induce vomiting, may cause stomach distress. Rinse mouth with water. Get medical assistance by calling a doctor or poison center. Never give anything by mouth to a person who is unconscious or drowsy.

Most Important Symptoms: Causes eye irritation. May cause minor skin irritation. Inhalation of mists may cause respiratory irritation. Inhalation of vapors may cause dizziness and headache.

Indication of Immediate Medical Attention/Special Treatment: Immediate medical attention should not be required with normal use.

5. Firefighting Measures

Suitable (and Unsuitable) Extinguishing Media: Use media suitable for surrounding fire. Cool fire exposed containers with water.

Specific Hazards Arising from the Chemical: While this product is classified as a flammable liquid under OSHA regulations, it does not sustain combustion when tested in accordance with 49CFR, Part 173, Appendix H. This product has been tested for sustained combustibility by Stresau Laboratory, Inc. Due to the nature of the product, it does not sustain combustibility. It will not start a fire from sparks. Due its water-based composition, this product is capable of stopping a fire.

e-CFR data is current as of June 19, 2015

[Title 16](#) → [Chapter II](#) → [Subchapter C](#) → Part 1500

(ii) The term *flammable* shall apply to any substance having a flashpoint above 20 °F (−6.7 °C) and below 100 °F (37.8 °C), as determined by the method described at §1500.43a, except that:

(A) Any mixture having one component or more with a flashpoint at or above 100 °F (37.8 °C) which comprises at least 99 percent of the total volume of the mixture is not considered to be a flammable substance; and

(B) Any mixture containing 24 percent or less of water miscible alcohols, by volume, in aqueous solution is not considered to be flammable if the mixture does not present a significant flammability hazard when used by consumers.

Special Protective Equipment and Precautions for Fire-fighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

6. Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures: Evacuate spill area and keep unprotected personnel away. Eliminate all ignition sources and ventilate the area. Wear appropriate protective clothing and equipment as described in Section 8.

Environmental Procedures: Prevent entry in storm sewers and waterways. Report spill as required by local and national regulations.

Methods for Containment and Clean-Up: Stop spill at the source if it is safe to do so. Absorb with an inert material. Collect into a suitable container for disposal. Rinse area with water.

7. Handling and Storage

Precautions for Safe Handling: Avoid eye and skin contact. Avoid breathing mists or vapors. Use only with adequate ventilation. Keep containers closed when not in use.

Empty containers retain product residue and may be hazardous.

Conditions for Safe Storage, Including Any Incompatibilities: Store in a cool, well-ventilated area away from acids and other incompatible materials. Keep out of the reach of children.

8. Exposure Controls / Personal Protection

Exposure Guidelines:

| CHEMICAL | EXPOSURE LIMIT |
|--|--|
| Glycol Ether DB | 10 ppm TWA ACGIH TLV (Inhalable fraction and vapor) |
| Acetone (The EPA has classified acetone as a non-toxic chemical and a non-VOC component.) | 500 ppm TWA, 750 ppm STEL ACGIH TLV 1000 ppm TWA OSHA PEL |

Engineering Controls: General ventilation should be adequate for all normal use.

Personal Protective Equipment

Respiratory Protection: None required under normal use conditions. In operations where exposure limits are exceeded, a NIOSH approved respirator with an organic vapor cartridge and a dust/mist prefilter or supplied air respirator is recommended. Selection and use of respiratory equipment must be in accordance with OSHA 1910.134 and good industrial hygiene practice.

Gloves: None required under normal use conditions.

Eye Protection: Safety goggles are recommended if eye contact is possible.

Other Protective Equipment/Clothing: None required under normal use conditions.

9. Physical and Chemical Properties

Appearance and Odor: Clear liquid with mild odor.

| | |
|--|--|
| Physical State: Liquid | Odor Threshold: Not determined |
| pH: 9-10 | Specific Gravity: 1.0 |
| Initial Boiling Point/Range: 194°F (90°C) | Vapor Pressure: Not determined |
| Melting/Freezing Point: Not determined | Vapor Density: Greater than air. |
| Solubility In Water: Complete | Percent Volatile: >70% |
| Viscosity: Not determined | Evaporation Rate: Not determined |
| Coefficient Of Water/Oil Distribution: Not determined | VOC Content: 18.18% (182 g/l) |
| Flash Point: 76°F (23.8°C)* | Autoignition Temp: Not determined |
| Decomposition Temperature: Not determined | Flammability Limits: LEL: Not determined UEL: Not determined |
| Flammability (solid, gas): Not applicable | |



*See Section 5

10. Stability and Reactivity

Reactivity: Not normally reactive

Chemical Stability: Stable.

Possibility of Hazardous Reactions: Will react with acids and strong oxidizing agents.

Conditions to Avoid: Not currently known.

Incompatible Materials: Acids and strong oxidizing agents.

Hazardous Decomposition Products: Thermal decomposition will generate oxides of carbon.

11. Toxicological Information

POTENTIAL HEALTH EFFECTS:

Acute Hazards:

Inhalation: Mist and vapors may cause mild irritation mucous membranes and upper respiratory tract.

Skin Contact: May cause minor irritation.

Eye Contact: Causes eye irritation.

Ingestion: Swallowing may cause gastrointestinal upset and nausea.

Chronic Hazards: None currently known.

Carcinogenicity Listing: None of the components is listed as a carcinogen or potential carcinogen by IARC, NTP, or OSHA.

Acute Toxicity Values:

Acetone: LD50: Oral Rat 5,800 mg/kg, LD50: Skin Rabbit >7,426 mg/kg, LC50: Inhalation Rat 76 mg/L/ 4 hr.

Glycol Ether DB: LD50: Oral Rat 4,500 mg/kg; LD50: Skin Rabbit 4,120 mg/kg

12. Ecological Information

Ecotoxicity

Acetone: LC50 Rainbow trout - 5540 mg/L/96 hr. EC50 Daphnia pulex - 8800 mg/L/48 hr.

Glycol Ether DB: LC50 Oncorhynchus mykiss 1,474 mg/L/96 hr., EC50 Daphnia magna: 1,550 mg/L/48 hr., EC50 Pseudokirchnerella subcapitata 911 mg/L/ 72 hr.

Persistence and Degradability:

This product has been tested and certified biodegradable by

Scientific Certification Systems.

Bio accumulative Potential: Acetone: BCF = 3, EDTA: 3

This product is not expected to bioaccumulate in aquatic organisms.

Mobility in Soil: No data available

Other Adverse Effects: No data available



13. Disposal Considerations

Dispose of in accordance with all local, state/provincial and federal regulations. Offer empty containers for recycling.

14. Transport Information

| | UN Number | Proper shipping name | Hazard Class | Packing Group | Environmental Hazard |
|------|-----------|----------------------|--------------|---------------|----------------------|
| DOT | | Not Regulated | | | |
| TDG | | Not Regulated | | | |
| IMDG | | Not Regulated | | | |
| IATA | | Not Regulated | | | |

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form.

Special precautions: None known.

15. Regulatory Information

United States:

EPA TSCA INVENTORY: All of the components of this material are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory.

CERCLA Section 103: This product has a RQ of 50,000 lbs. based on the RQ for Acetone of 5,000 lbs present at 10.0% maximum. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA Hazard Category (311/312): Fire Hazard, Acute health.

SARA 313: Not currently known. This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372):

Glycol Ether

111-76-2

3-10%

16. Other Information



| | |
|-----------------|---|
| HEALTH | 1 |
| FLAMMABILITY | 0 |
| PHYSICAL HAZARD | 0 |

NFPA Rating (NFPA 704): Health: 1 Fire: 0 Instability: 0
HMIS Rating: Health: 1 Fire: 0 Physical Hazard: 0

REVISION SUMMARY:

May 8, 2015 Update to OSHA HazCom 2012 / GHS SDS format: Changes to all sections.

January 1, 2012 Revision update.

January 1, 2006 Revision update

Prepare by: Industrial Health & Safety Consultants, Inc.

The above information is believed to be correct with respect to the formula used to manufacture the product. As data, standards and regulations change, and the conditions of use and handling are beyond our control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.

CONSUMER LABELING

What is a consumer product?

OSHA Description:

- Any consumer product or hazardous substance, as those terms are defined in the Consumer Product Safety Act (15 U.S.C. 2051 et seq.) and Federal Hazardous Substances Act (15 U.S.C. 1261 et seq.) respectively.

Consumer Product Safety Commission:

- A product brought into or around a dwelling and related buildings (garages, sheds, etc.). Does not include industrial supplies – labeled as and marketed solely for industrial use.
- Includes products designed primarily for professional use but available to consumers in retail stores for non-professional use.

Who governs consumer product labeling?

OSHA exempts consumer products from labeling under OSHA.

- Any consumer product or hazardous substance as those terms are defined in the Consumer Product Safety Act (15 U.S.C. 205 et seq.) and Federal Hazardous Substances Act (15 U.S.C. 1261 et seq.) respectively, when subject to a consumer product safety standard or labeling requirement of those Acts, or regulations issued under those Acts by the Consumer Product Safety Commission

OSHA fully exempts consumer products from Hazard Communication if used in the workplace in a consumer manner.

- The Consumer Product Safety Commission (CPSC) mandates labeling for all hazardous substances that are consumer products.
- If products are sold retail and available for use around the home, they must be labeled per the CPSC.
- OSHA does require a SDS to inform workers of hazards.

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This information was provided by Industrial Health & Safety Consultants, Inc. of Shelton, CT.



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product number 811
Product name Netcare Lemon Furniture Polish
Effective date 09-Jun-2011
Company information Network Services Company
1100 East Woodfield Rd, Suite 200
Schaumburg, IL 60173 United States
Company phone General Assistance 630-543-7600
Emergency telephone US 800-424-9300
Emergency telephone outside US 703-527-3887
Version # 11
Supersedes date 12-Aug-2009

2. Hazards Identification

Emergency overview CONTENTS UNDER PRESSURE. Aerosol.
Prolonged exposure may cause chronic effects.

Potential health effects

Eyes Health injuries are not known or expected under normal use.

Skin Health injuries are not known or expected under normal use.

Inhalation Intentional misuse by concentrating and inhaling the product can be harmful or fatal.

Ingestion Exposure by ingestion of an aerosol is unlikely.

Target organs Central nervous system.

Chronic effects May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage.

Signs and symptoms Narcosis.

3. Composition / Information on Ingredients

| Components | CAS # | Percent |
|--|----------|---------|
| n-Butane | 106-97-8 | 1 - 3 |
| Propane | 74-98-6 | 1 - 3 |
| Non-hazardous and other components below reportable levels | | > 90 |

4. First Aid Measures

First aid procedures

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops or persists.

Skin contact Immediately take off all contaminated clothing. Rinse skin with water.

Inhalation If symptoms develop move victim to fresh air. If symptoms persist, get medical attention.

Ingestion If ingestion of a large amount does occur, call a poison control center immediately.

Notes to physician Symptoms may be delayed.

5. Fire Fighting Measures

Flammable properties Vapor or gas may spread to distant ignition sources and flash back. Runoff to sewer may cause fire or explosion hazard.

Extinguishing media

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Protection of firefighters

Protective equipment and precautions for firefighters

In the event of fire and/or explosion do not breathe fumes. Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Containers should be cooled with water to prevent vapor pressure build up. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

6. Accidental Release Measures

Methods for containment

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Stop the flow of material, if this is without risk. Prevent entry into waterways, sewers, basements or confined areas.

Methods for cleaning up

Should not be released into the environment. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean contaminated surface thoroughly.

7. Handling and Storage

Handling

Pressurized container: Do not pierce or burn, even after use. Do not handle or store near an open flame, heat or other sources of ignition. Do not smoke while using or until sprayed surface is thoroughly dry. Use only in area provided with appropriate exhaust ventilation. Do not use if spray button is missing or defective. Avoid prolonged exposure.

Storage

Level 1 Aerosol.

Contents under pressure. Do not puncture, incinerate or crush. The pressure in sealed containers can increase under the influence of heat. Do not handle or store near an open flame, heat or other sources of ignition. Do not expose to heat or store at temperatures above 120°F/49°C as can may burst. Avoid exposure to long periods of sunlight. Keep out of the reach of children. Level 1 Aerosol (NFPA 30B) Do not store, incinerate, or heat this material above 120 degrees Fahrenheit.

8. Exposure Controls / Personal Protection

Exposure limits

ACGIH

Components

CAS

TWA

STEL

Ceiling

n-Butane

106-97-8

1000 ppm

Not established

Not established

Propane

74-98-6

1000 ppm

Not established

Not established

OSHA

Components

CAS

TWA

STEL

Ceiling

Propane

74-98-6

1000 ppm

Not established

Not established

Personal protective equipment

Eye / face protection

Not normally needed.

Skin protection

No special protective equipment required.

Respiratory protection

No personal respiratory protective equipment normally required. If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.

9. Physical & Chemical Properties

Appearance

Compressed liquefied gas.

Boiling point

186.8 °F (86.1 °C) estimated

Color

White.

Density

0.9662 g/cm³ estimated

Flammability (HOC)

4.2926 kJ/g estimated

Flash back

No

Flash point

-156 °F (-104.4 °C) estimated

Form

Liquid. Aerosol.

| | |
|------------------|--------------------|
| Freezing point | Not available |
| Odor | fruity |
| pH | 9.87 - 10.87 |
| Physical state | Liquid. |
| Pressure | 65 - 85 psig @ 70F |
| Solubility | Completely |
| Specific gravity | 0.9663 estimated |

10. Chemical Stability & Reactivity Information

| | |
|----------------------------------|--|
| Conditions to avoid | Heat, flames and sparks. |
| Incompatible materials | None known. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological Information

| | |
|---------------|---|
| Acute effects | Acute LC50: 3325 mg/l/4h estimated, Rat, Inhalation Acute LD50: 26282 mg/kg estimated, Rat, Dermal |
|---------------|---|

Component analysis - LD50

Toxicology Data - Selected LD50s and LC50s

| | | |
|----------|----------|----------------------------------|
| n-Butane | 106-97-8 | Inhalation LC50 Rat 658 mg/L 4 h |
| Propane | 74-98-6 | Inhalation LC50 Rat 658 mg/L 4 h |

| | |
|----------------|--|
| Sensitization | Not expected to be hazardous by OSHA criteria. |
| Teratogenicity | Not expected to be hazardous by OSHA criteria. |

12. Ecological Information

| | |
|-------------|---|
| Ecotoxicity | Components of this product have been identified as having potential environmental concerns. |
|-------------|---|

LC50 3443 mg/L, Fish, 96.00 Hours,
EC50 26691 mg/L, Daphnia, 48.00 Hours,

13. Disposal Considerations

| | |
|-----------------------|---|
| Waste codes | D001: Waste Flammable material with a flash point <140 F |
| Disposal instructions | Contents under pressure. Do not puncture, incinerate or crush. Dispose of this material and its container at hazardous or special waste collection point. Do not allow this material to drain into sewers/water supplies. If discarded, this product is considered a RCRA ignitable waste, D001. Dispose in accordance with all applicable regulations. |

14. Transport Information

Department of Transportation (DOT) Requirements

Basic shipping requirements:

| | |
|-------------------------|--------------------|
| Proper shipping name | Consumer commodity |
| Hazard class | ORM-D |
| Subsidiary hazard class | None |

Additional information:

| | |
|----------------------|----------|
| Packaging exceptions | 156, 306 |
| Packaging non bulk | 156, 306 |
| Packaging bulk | None |

IMDG**Basic shipping requirements:**

Proper shipping name AEROSOLS
Hazard class 2.1
UN number 1950
Additional information:
Packaging exceptions LTD QTY
Item 5F
Labels required None
Transport Category 2

**IATA****Basic shipping requirements:**

Proper shipping name Aerosols, flammable
Hazard class 2.1
UN number 1950
Additional information:
Packaging exceptions LTD QTY
Labels required 2.1



15. Regulatory Information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical Yes

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 302 extremely hazardous substance No
Section 311 hazardous chemical Yes
Hazard categories (311/312) Immediate Hazard - Yes
 Delayed Hazard - No
 Fire Hazard - Yes
 Pressure Hazard - Yes
 Reactivity Hazard - No

Inventory status

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|--|------------------------|
| China | Inventory of Existing Chemical Substances in China (IECSC) | No |
| Europe | European Inventory of New and Existing Chemicals (EINECS) | No |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations WARNING: This product contains a chemical known to the State of California to cause cancer.

U.S. - Pennsylvania - RTK (Right to Know) List

| | | |
|----------|----------|---------|
| n-Butane | 106-97-8 | Present |
| Propane | 74-98-6 | Present |

16. Other Information

Further information HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings

Health: 1

Flammability: 2

Physical hazard: 0

Personal protection:

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

MSDS sections updated

Product and Company Identification: Product Review

Prepared by

Regulatory Compliance

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Article
Product name : PVC Plastic Fittings / Valves
Product code : Not available

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Various uses from plumbing to other piping application and types of flow control

1.3. Details of the supplier of the safety data sheet

NIBCO INC.
1516 Middlebury St.
Elkhart, IN 46516 - USA
General: 574-295-3000 / 800-642-5463
Technical Services: Voice 888-4446-4226 / Fax 888-336-4226
MSDSCoordinator@NIBCO.com - <http://www.nibco.com>

1.4. Emergency telephone number

Emergency number : ChemTel: 800-255-3924; International: +01-813-248-0585

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

This product is classified as an "article" under the OSHA HAZCOM 2012, Subpart Z - Toxic & Hazardous Substances, and as such is exempt from the requirement for classification.

2.2. Label elements

GHS-US labelling

This product is classified as an "article" under the OSHA HAZCOM 2012, Subpart Z - Toxic & Hazardous Substances, and as such is exempt from the requirement for labeling.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

| Name | Product identifier | % | GHS-US classification |
|----------------|--------------------|---|-----------------------|
| None required. | | | |

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Not applicable for product in finished form.
First-aid measures after skin contact : Not applicable for product in finished form. If irritation occurs, flush skin with plenty of water. Get medical attention if irritation persists.
First-aid measures after eye contact : Not applicable for product in finished form. If irritation occurs, immediately flush eyes with plenty of water. Remove contact lenses, if worn. If irritation persists, get medical attention.
First-aid measures after ingestion : Not applicable for product in finished form.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : Not a normal route of exposure.
Symptoms/injuries after skin contact : No known adverse effects.
Symptoms/injuries after eye contact : No known adverse effects.
Symptoms/injuries after ingestion : Not a normal route of exposure.

PVC Plastic Fittings / Valves

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

4.3. Indication of any immediate medical attention and special treatment needed

Not applicable.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray, dry chemical, foam, carbon dioxide.
Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Products of combustion may include, and are not limited to: oxides of carbon, hydrogen chloride, and small amounts of hydrocarbons and benzene.

5.3. Advice for firefighters

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Not applicable.

6.2. Methods and material for containment and cleaning up

For containment : Not applicable for product in finished form.
Methods for cleaning up : Pick up large pieces, then place in a suitable container.

6.3. Reference to other sections

See section 8 for further information on protective clothing and equipment and section 13 for advice on waste disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : No special precautions required.
Hygiene measures : Wash hands before eating, drinking, or smoking.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep away from intense heat and flames..

7.3. Specific end use(s)

Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls : Ventilation is not normally required.
Hand protection : None necessary under normal conditions of use.
Eye protection : None necessary under normal conditions of use.
Skin and body protection : None necessary under normal conditions of use.
Respiratory protection : Not normally needed.
Environmental exposure controls : Handle in accordance with good industrial hygiene and safety practice.
Other information : Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking. Handle according to established industrial hygiene and safety practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid
Appearance : Plastic articles
Colour : White / Gray / Red / Orange / Dark Gray
Odour : Odourless
Odour threshold : No data available
pH : No data available
Melting point : 200 °F

PVC Plastic Fittings / Valves

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

| | |
|--|---------------------|
| Freezing point | : No data available |
| Boiling point | : No data available |
| Flash point | : No data available |
| Relative evaporation rate (butylacetate=1) | : No data available |
| Flammability (solid, gas) | : Not flammable |
| Explosive limits | : No data available |
| Explosive properties | : No data available |
| Oxidising properties | : No data available |
| Vapour pressure | : No data available |
| Relative density | : 1.42 |
| Relative vapour density at 20 °C | : No data available |
| Solubility | : Insoluble. |
| Partition coefficient: n-octanol/water | : No data available |
| Log Kow | : No data available |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Viscosity | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reaction known under conditions of normal use.

10.2. Chemical stability

Stable under normal storage conditions.

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

Keep away from intense heat and flames..

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon, hydrogen chloride, and small amounts of hydrocarbons and benzene.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

| | |
|--|-----------------------------------|
| Acute toxicity | : Not applicable. |
| Skin corrosion/irritation | : Not applicable. |
| Serious eye damage/irritation | : Not applicable. |
| Respiratory or skin sensitisation | : Not applicable. |
| Germ cell mutagenicity | : Not applicable. |
| Carcinogenicity | : Not applicable. |
| Reproductive toxicity | : Not applicable. |
| Specific target organ toxicity (single exposure) | : Not applicable. |
| Specific target organ toxicity (repeated exposure) | : Not applicable. |
| Aspiration hazard | : Not applicable. |
| Symptoms/injuries after inhalation | : Not a normal route of exposure. |
| Symptoms/injuries after skin contact | : No known adverse effects. |
| Symptoms/injuries after eye contact | : No known adverse effects. |
| Symptoms/injuries after ingestion | : Not a normal route of exposure. |

PVC Plastic Fittings / Valves

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

12.2. Persistence and degradability

PVC Plastic Fittings / Valves

| | |
|-------------------------------|------------------|
| Persistence and degradability | Not established. |
|-------------------------------|------------------|

12.3. Bioaccumulative potential

PVC Plastic Fittings / Valves

| | |
|---------------------------|------------------|
| Bioaccumulative potential | Not established. |
|---------------------------|------------------|

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : This material must be disposed of in accordance with all local, state, provincial, and federal regulations.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated for transport

Additional information

Other information : No supplementary information available.

Special transport precautions : Do not handle until all safety precautions have been read and understood.

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or exempt from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

15.2. US State regulations

PVC Plastic Fittings / Valves

| | |
|----------------------------|---|
| State or local regulations | This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. |
|----------------------------|---|

SECTION 16: Other information

Date of issue : 06/01/2015

Other information : None.

Notice to Reader:

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Nickel Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations
Revision Date: 12/15/2014 Date of issue: 10/30/2014

Version: 1.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Nickel Alloys

Synonyms: Ni

1.2. Intended Use of the Product

Use of the Substance/Mixture: No use is specified.

1.3. Name, Address, and Telephone of the Responsible Party

Distributor

ThyssenKrupp Materials NA, Inc.
22355 W. Eleven Mile Road
Southfield, Michigan 48034
TEL: 248-233-5713

1.4. Emergency Telephone Number

Emergency Number : 248-233-5713

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Not classified

2.2. Label Elements

GHS-US Labeling No labeling applicable

2.3. Other Hazards

This product is present in a massive form as an alloy. It does not present the same hazards when the individual components are in their powdered forms. The materials present in this product in their powdered forms present aquatic toxicity to the environment, pyrophoricity, flammability, self-heating capabilities, carcinogenicity, water reactivity, and acute toxicity. When processed or where dust is generated a combustible dust hazard may be present. Avoid generating dust, generating sparks, ignition sources, and take all precautions.

Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath.

Under normal use and handling of the solid form of this material there are few health hazards. Cutting, welding, melting, grinding etc. of these materials will produce dust, fume or particulate containing the component elements of these materials. Exposure to the dust, fume or particulate of these materials may present significant health hazards. Exposure to dust or fume may cause irritation of the eyes, skin and respiratory tract. Fine particulates dispersed in air may present an explosion hazard.

2.4. Unknown Acute Toxicity (GHS-US) No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable

| Name | Product Identifier | % (w/w) | Classification (GHS-US) |
|----------|--------------------|---|--|
| Nickel | (CAS No) 7440-02-0 | 30 - 60, 60 - 99 | Skin Sens. 1, H317 Carc. 2, H351 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 3, H412 |
| Chromium | (CAS No) 7440-47-3 | < 0.1, 0.1 - 1, 1 - 5, 5 - 10, 10 - 30, 30 - 48 | Comb. Dust |
| Copper | (CAS No) 7440-50-8 | < 0.1, 0.1 - | Comb. Dust |

Nickel Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | | | |
|------------|--------------------|---|---|
| | | 1, 1 - 5, 5 - 10, 10 - 30, 30 - 45 | Aquatic Acute 1, H400 Aquatic Chronic 3, H412 |
| Iron | (CAS No) 7439-89-6 | < 0.1, 0.1 - 1, 1 - 5, 5 - 10, 10 - 30, 30 - 44 | Not classified |
| Molybdenum | (CAS No) 7439-98-7 | < 0.1, 0.1 - 1, 1 - 5, 5 - 10, 10 - 16 | Comb. Dust |
| Cobalt | (CAS No) 7440-48-4 | < 0.1, 0.1 - 1, 1 - 5, 5 - 10, 10 - 13 | Acute Tox. 4 (Oral), H302 Acute Tox. 1 (Inhalation:dust,mist), H330 Eye Irrit. 2A, H319 Resp. Sens. 1B, H334 Skin Sens. 1, H317 Carc. 2, H351 Repr. 2, H361 Aquatic Acute 3, H402 Aquatic Chronic 1, H410 |
| Niobium | (CAS No) 7440-03-1 | < 0.1, 0.1 - 1, 1 - 5 | Flam. Sol. 1, H228 |
| Aluminum | (CAS No) 7429-90-5 | < 0.1, 0.1 - 1, 1 - 5 | Comb. Dust Flam. Sol. 1, H228 Water-react. 2, H261 |
| Manganese | (CAS No) 7439-96-5 | < 0.1, 0.1 - 1, 1 - 5 | Comb. Dust |
| Tantalum | (CAS No) 7440-25-7 | < 0.1, 0.1 - 1, 1 - 5 | Flam. Sol. 1, H228 |
| Titanium | (CAS No) 7440-32-6 | < 0.1, 0.1 - 1, 1 - 5 | Flam. Sol. 1, H228 |
| Tungsten | (CAS No) 7440-33-7 | < 0.1, 0.1 - 1, 1 - 5 | Flam. Sol. 1, H228 Self-heat. 2, H252 |
| Silicon | (CAS No) 7440-21-3 | < 0.1, 0.1 - 1, 1 - 2 | Comb. Dust |
| Carbon | (CAS No) 7440-44-0 | < 0.1, 0.1 - 1, 1 - 2 | Comb. Dust |
| Yttrium | (CAS No) 7440-65-5 | < 0.1, 0.1 - 1 | Flam. Sol. 1, H228 Pyr. Sol. 1, H250 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 |
| Boron | (CAS No) 7440-42-8 | < 0.1 | Not classified |

Full text of H-phrases: see section 16

More than one of the ranges of concentration prescribed by Controlled Products Regulations has been used where necessary due to varying composition.

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

General: IF exposed or concerned: Get medical advice/attention. Never give anything by mouth to an unconscious person.

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Keep at rest and in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

Nickel Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

Skin Contact: Cool skin rapidly with cold water after contact with molten product. Removal of solidified molten material from skin requires medical assistance. Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Wash with plenty of soap and water. Wash contaminated clothing before reuse. Obtain medical attention if irritation persists.

Eye Contact: Removal of solidified molten material from the eyes requires medical assistance. Immediately rinse with water for a prolonged period (at least 15 minutes) while holding the eyelids wide open. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.

Ingestion: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER/doctor/physician if you feel unwell.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

General: Welding, cutting, or processing this material may release dust or fumes that are hazardous.

Inhalation: Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath.

Skin Contact: May cause an allergic skin reaction. Dust from physical alteration of this product causes skin irritation. Causes severe skin burns. Contact with fumes or metal powder will irritate skin. Contact with hot, molten metal will cause thermal burns. Dust may cause irritation in skin folds or by contact in combination with tight clothing. Mechanical damage via flying particles and chipped slag is possible.

Eye Contact: Dust may cause mechanical irritation to eyes, nose, throat, and lungs.

Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: In massive form, no hazard exists. If physically altered to present slivers, ribbons, dusts or fumes from molten material: Aluminum: Inhalation of finely divided aluminum powder may cause pulmonary fibrosis. Inhalation of iron oxide fumes undergoing decomposition may cause irritation and flu-like symptoms, otherwise iron oxide is not hazardous. Inhalation of Nickel compounds has been shown in studies to provide an increased incidence of cancer of the nasal cavity, lung and possibly larynx in nickel refinery workers. Nickel: May cause a form of dermatitis known as nickel itch and intestinal irritation, which may cause disorders, convulsions and asphyxia. Chromium: Certain hexavalent chromium compounds have been demonstrated to be carcinogenic on the basis of epidemiological investigations on workers and experimental studies in animals. Increased incidences of respiratory cancer have been found in chromium (VI) workers. There is an increased incidence of lung cancer in industrial workers exposed to chromium (VI) compounds. Please refer to IARC volume 23 for a more detailed discussion. Manganese: Chronic exposure can cause inflammation of the lung tissue, scarring the lungs (pulmonary fibrosis). Copper: Overexposure to fumes may cause metal fume fever (chills, muscle aches, nausea, fever, dry throat, cough, weakness, lassitude); metallic or sweet taste; discoloration of skin and hair. Tissue damage of mucous membranes may follow chronic dust exposure. Silicon: Can cause chronic bronchitis and narrowing of the airways.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire. Dry sand; Class D Extinguishing Agent (for metal powder fires).

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire. Do not use water when molten material is involved, may react violently or explosively on contact with water.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: A non-combustible material, not considered flammable but will melt above 1260 °C (2300 °F).

Explosion Hazard: In molten state: reacts violently with water (moisture).

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Under fire conditions, hazardous fumes will be present.

Firefighting Instructions: Exercise caution when fighting any chemical fire.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Oxides of tin. Oxides of nickel. Oxides of copper. Chromium oxides. Oxides of silicone and carbon. Cobalt oxide. Oxides of aluminum. Molybdenum oxides. Oxides of titanium. Oxides of boron. Oxides of Tantalum.

Nickel Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not handle until all safety precautions have been read and understood. Do not breathe vapors from molten product.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain and collect as any solid.

Methods for Cleaning Up: Clear up spills immediately and dispose of waste safely. For particulates and dust: Avoid actions that cause dust to become airborne during clean-up such as dry sweeping or using compressed air. Use HEPA vacuum or thoroughly wet with water to clean-up dust. Use PPE described in Section 8. Vacuum must be fitted with HEPA filter to prevent release of particulates during clean-up.

6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection. Concerning disposal elimination after cleaning, see item 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: May generate flammable/explosive dusts or turnings when brushed, machined or ground. Use care during processing to minimize generation of dust. Where excessive dust may result, use approved respiratory protection equipment. Heating of product can release toxic or irritating fumes; ensure proper ventilation is employed, proper precautions are enforced, and applicable regulations are followed. Inhalation of fumes may cause metal fume fever.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store in a dry, cool and well-ventilated place.

Incompatible Materials: Strong acids, strong bases, strong oxidizers. Alkalis. Metal oxides. Water, humidity. Corrosive substances in contact with metals may produce flammable hydrogen gas.

7.3. Specific End Use(s)

No use is specified.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

| Nickel (7440-02-0) | | |
|--------------------|--------------------------------------|--|
| Mexico | OEL TWA (mg/m ³) | 1 mg/m ³ |
| USA ACGIH | ACGIH TWA (mg/m ³) | 1.5 mg/m ³ (inhalable fraction) |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 1 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 0.015 mg/m ³ |
| USA IDLH | US IDLH (mg/m ³) | 10 mg/m ³ |
| Alberta | OEL TWA (mg/m ³) | 1.5 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 0.05 mg/m ³ |
| Manitoba | OEL TWA (mg/m ³) | 1.5 mg/m ³ (inhalable fraction) |

Nickel Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | | |
|------------------------------------|-------------------------------|--|
| New Brunswick | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 1.5 mg/m ³ (inhalable fraction) |
| Nova Scotia | OEL TWA (mg/m ³) | 1.5 mg/m ³ (inhalable fraction) |
| Nunavut | OEL STEL (mg/m ³) | 2 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Northwest Territories | OEL STEL (mg/m ³) | 2 mg/m ³ |
| Northwest Territories | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Ontario | OEL TWA (mg/m ³) | 1 mg/m ³ (inhalable) |
| Prince Edward Island | OEL TWA (mg/m ³) | 1.5 mg/m ³ (inhalable fraction) |
| Québec | VEMP (mg/m ³) | 1 mg/m ³ |
| Saskatchewan | OEL STEL (mg/m ³) | 3 mg/m ³ (inhalable fraction) |
| Saskatchewan | OEL TWA (mg/m ³) | 1.5 mg/m ³ (inhalable fraction) |
| Yukon | OEL STEL (mg/m ³) | 3 mg/m ³ |
| Yukon | OEL TWA (mg/m ³) | 1 mg/m ³ |

| | | |
|------------------------------------|--------------------------------------|-----------------------|
| Chromium (7440-47-3) | | |
| Mexico | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.5 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 1 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 0.5 mg/m ³ |
| USA IDLH | US IDLH (mg/m ³) | 250 mg/m ³ |
| Alberta | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Manitoba | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| New Brunswick | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Nova Scotia | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Nunavut | OEL STEL (mg/m ³) | 1.5 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Northwest Territories | OEL STEL (mg/m ³) | 1.5 mg/m ³ |
| Northwest Territories | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Ontario | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Prince Edward Island | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Québec | VEMP (mg/m ³) | 0.5 mg/m ³ |
| Saskatchewan | OEL STEL (mg/m ³) | 1.5 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Yukon | OEL STEL (mg/m ³) | 3.0 mg/m ³ |
| Yukon | OEL TWA (mg/m ³) | 0.1 mg/m ³ |

| | | |
|---------------------------|--------------------------------------|---|
| Copper (7440-50-8) | | |
| Mexico | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) 1 mg/m ³ (dust and mist) |
| Mexico | OEL STEL (mg/m ³) | 2 mg/m ³ (fume) 2 mg/m ³ (dust and mist) |
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 0.1 mg/m ³ (fume) 1 mg/m ³ (dust and mist) |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 1 mg/m ³ (dust and mist) 0.1 mg/m ³ (fume) |
| USA IDLH | US IDLH (mg/m ³) | 100 mg/m ³ (dust, fume and mist) |
| Alberta | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| British Columbia | OEL TWA (mg/m ³) | 1 mg/m ³ (dust and mist) |
| Manitoba | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |

Nickel Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | | |
|------------------------------------|-------------------------------|------------------------------|
| New Brunswick | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Nova Scotia | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Nunavut | OEL STEL (mg/m ³) | 0.6 mg/m ³ (fume) |
| Nunavut | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Northwest Territories | OEL STEL (mg/m ³) | 0.6 mg/m ³ (fume) |
| Northwest Territories | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Ontario | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Prince Edward Island | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Québec | VEMP (mg/m ³) | 0.2 mg/m ³ (fume) |
| Saskatchewan | OEL STEL (mg/m ³) | 0.6 mg/m ³ (fume) |
| Saskatchewan | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Yukon | OEL STEL (mg/m ³) | 0.2 mg/m ³ (fume) |
| Yukon | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |

| | | |
|------------------------------------|--------------------------------|--|
| Molybdenum (7439-98-7) | | |
| USA ACGIH | ACGIH TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) 3 mg/m ³ (respirable fraction) |
| USA IDLH | US IDLH (mg/m ³) | 5000 mg/m ³ |
| Alberta | OEL TWA (mg/m ³) | 10 mg/m ³ (total) |
| British Columbia | OEL TWA (mg/m ³) | 3 mg/m ³ (respirable) |
| Manitoba | OEL TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) |
| Nova Scotia | OEL TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) |
| Ontario | OEL TWA (mg/m ³) | 10 mg/m ³ (metal-inhalable) |
| Prince Edward Island | OEL TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) |
| Saskatchewan | OEL STEL (mg/m ³) | 20 mg/m ³ (inhalable fraction) |
| Saskatchewan | OEL TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) |

| | | |
|------------------------------------|--------------------------------------|---|
| Cobalt (7440-48-4) | | |
| Mexico | OEL TWA (mg/m ³) | 0.1 mg/m ³ (dust and fume) |
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.02 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 0.1 mg/m ³ (dust and fume) |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 0.05 mg/m ³ (dust and fume) |
| USA IDLH | US IDLH (mg/m ³) | 20 mg/m ³ (dust and fume) |
| Alberta | OEL TWA (mg/m ³) | 0.02 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 0.02 mg/m ³ |
| Manitoba | OEL TWA (mg/m ³) | 0.02 mg/m ³ |
| New Brunswick | OEL TWA (mg/m ³) | 0.02 mg/m ³ |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 0.02 mg/m ³ |
| Nova Scotia | OEL TWA (mg/m ³) | 0.02 mg/m ³ |
| Nunavut | OEL STEL (mg/m ³) | 0.3 mg/m ³ (dust and fume) |
| Nunavut | OEL TWA (mg/m ³) | 0.1 mg/m ³ (metal-dust and fume) |
| Northwest Territories | OEL STEL (mg/m ³) | 0.3 mg/m ³ (dust and fume) |
| Northwest Territories | OEL TWA (mg/m ³) | 0.1 mg/m ³ (dust and fume) |
| Ontario | OEL TWA (mg/m ³) | 0.02 mg/m ³ |
| Prince Edward Island | OEL TWA (mg/m ³) | 0.02 mg/m ³ |
| Québec | VEMP (mg/m ³) | 0.02 mg/m ³ |
| Saskatchewan | OEL STEL (mg/m ³) | 0.06 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 0.02 mg/m ³ |
| Yukon | OEL STEL (mg/m ³) | 0.15 mg/m ³ (dust and fume) |
| Yukon | OEL TWA (mg/m ³) | 0.05 mg/m ³ (dust and fume) |

Nickel Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | | |
|------------------------------------|---|--|
| Aluminum (7429-90-5) | | |
| Mexico | OEL TWA (mg/m ³) | 10 mg/m ³ (dust) |
| USA ACGIH | ACGIH TWA (mg/m ³) | 1 mg/m ³ (respirable fraction) |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction) |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust) |
| Alberta | OEL TWA (mg/m ³) | 10 mg/m ³ (dust) |
| British Columbia | OEL TWA (mg/m ³) | 1.0 mg/m ³ (respirable) |
| Manitoba | OEL TWA (mg/m ³) | 1 mg/m ³ (respirable fraction) |
| New Brunswick | OEL TWA (mg/m ³) | 10 mg/m ³ (metal dust) |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 1 mg/m ³ (respirable fraction) |
| Nova Scotia | OEL TWA (mg/m ³) | 1 mg/m ³ (respirable fraction) |
| Nunavut | OEL STEL (mg/m ³) | 20 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 10 mg/m ³ |
| Northwest Territories | OEL STEL (mg/m ³) | 20 mg/m ³ |
| Northwest Territories | OEL TWA (mg/m ³) | 10 mg/m ³ |
| Ontario | OEL TWA (mg/m ³) | 1 mg/m ³ (respirable) |
| Prince Edward Island | OEL TWA (mg/m ³) | 1 mg/m ³ (respirable fraction) |
| Québec | VEMP (mg/m ³) | 10 mg/m ³ |
| Saskatchewan | OEL STEL (mg/m ³) | 20 mg/m ³ (dust) |
| Saskatchewan | OEL TWA (mg/m ³) | 10 mg/m ³ (dust) |
| Manganese (7439-96-5) | | |
| Mexico | OEL TWA (mg/m ³) | 0.2 mg/m ³ 1 mg/m ³ (fume) |
| Mexico | OEL STEL (mg/m ³) | 3 mg/m ³ (fume) |
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.02 mg/m ³ (respirable fraction) 0.1 mg/m ³ (inhalable fraction) |
| USA OSHA | OSHA PEL (Ceiling) (mg/m ³) | 5 mg/m ³ (fume) |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 1 mg/m ³ (fume) |
| USA NIOSH | NIOSH REL (STEL) (mg/m ³) | 3 mg/m ³ |
| USA IDLH | US IDLH (mg/m ³) | 500 mg/m ³ |
| Alberta | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| Manitoba | OEL TWA (mg/m ³) | 0.02 mg/m ³ (respirable fraction) |
| New Brunswick | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 0.02 mg/m ³ (respirable fraction) |
| Nova Scotia | OEL TWA (mg/m ³) | 0.02 mg/m ³ (respirable fraction) |
| Nunavut | OEL Ceiling (mg/m ³) | 5 mg/m ³ |
| Nunavut | OEL STEL (mg/m ³) | 3 mg/m ³ (fume) |
| Nunavut | OEL TWA (mg/m ³) | 1 mg/m ³ (fume) |
| Northwest Territories | OEL Ceiling (mg/m ³) | 5 mg/m ³ |
| Northwest Territories | OEL STEL (mg/m ³) | 3 mg/m ³ (fume) |
| Northwest Territories | OEL TWA (mg/m ³) | 1 mg/m ³ (fume) |
| Ontario | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| Prince Edward Island | OEL TWA (mg/m ³) | 0.02 mg/m ³ (respirable fraction) |
| Québec | VEMP (mg/m ³) | 0.2 mg/m ³ (total dust and fume) |
| Saskatchewan | OEL STEL (mg/m ³) | 0.6 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| Yukon | OEL Ceiling (mg/m ³) | 5 mg/m ³ |

Nickel Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | | |
|------------------------------------|---------------------------------------|--|
| Tantalum (7440-25-7) | | |
| Mexico | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Mexico | OEL STEL (mg/m ³) | 10 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 5 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 5 mg/m ³ (dust) |
| USA NIOSH | NIOSH REL (STEL) (mg/m ³) | 10 mg/m ³ (dust) |
| USA IDLH | US IDLH (mg/m ³) | 2500 mg/m ³ (dust) |
| Alberta | OEL TWA (mg/m ³) | 5 mg/m ³ (dust) |
| British Columbia | OEL TWA (mg/m ³) | 5 mg/m ³ |
| New Brunswick | OEL TWA (mg/m ³) | 5 mg/m ³ (dust) |
| Nunavut | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Northwest Territories | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Northwest Territories | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Québec | VEMP (mg/m ³) | 5 mg/m ³ (dust) |
| Saskatchewan | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Yukon | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Yukon | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Tungsten (7440-33-7) | | |
| USA ACGIH | ACGIH TWA (mg/m ³) | 5 mg/m ³ |
| USA ACGIH | ACGIH STEL (mg/m ³) | 10 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 5 mg/m ³ |
| USA NIOSH | NIOSH REL (STEL) (mg/m ³) | 10 mg/m ³ |
| Alberta | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Alberta | OEL TWA (mg/m ³) | 5 mg/m ³ |
| British Columbia | OEL STEL (mg/m ³) | 10 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Manitoba | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Manitoba | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Newfoundland & Labrador | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Nova Scotia | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Nova Scotia | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Nunavut | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Northwest Territories | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Northwest Territories | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Ontario | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Ontario | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Prince Edward Island | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Prince Edward Island | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Saskatchewan | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Yukon | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Yukon | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Silicon (7440-21-3) | | |
| Mexico | OEL TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) |
| Mexico | OEL STEL (mg/m ³) | 20 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction) |

Nickel Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | | |
|------------------------------------|--------------------------------------|---|
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust) |
| British Columbia | OEL TWA (mg/m ³) | 10 mg/m ³ (total dust) |
| New Brunswick | OEL TWA (mg/m ³) | 10 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 5 mg/m ³ (respirable mass) |
| Northwest Territories | OEL TWA (mg/m ³) | 5 mg/m ³ (respirable mass) |
| Ontario | OEL TWA (mg/m ³) | 10 mg/m ³ (total dust) |
| Québec | VEMP (mg/m ³) | 10 mg/m ³ (containing no Asbestos and <1% Crystalline silica-total dust) |
| Saskatchewan | OEL STEL (mg/m ³) | 20 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 10 mg/m ³ |
| Yukon | OEL STEL (mg/m ³) | 20 mg/m ³ |
| Yukon | OEL TWA (mg/m ³) | 30 mppcf |
| Carbon (7440-44-0) | | |
| Mexico | OEL TWA (mg/m ³) | 2 mg/m ³ (dust) |
| Yttrium (7440-65-5) | | |
| Mexico | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Mexico | OEL STEL (mg/m ³) | 3 mg/m ³ |
| USA ACGIH | ACGIH TWA (mg/m ³) | 1 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 1 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 1 mg/m ³ |
| USA IDLH | US IDLH (mg/m ³) | 500 mg/m ³ |
| Alberta | OEL TWA (mg/m ³) | 1 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Manitoba | OEL TWA (mg/m ³) | 1 mg/m ³ |
| New Brunswick | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Nova Scotia | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Nunavut | OEL STEL (mg/m ³) | 3 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Northwest Territories | OEL STEL (mg/m ³) | 3 mg/m ³ |
| Northwest Territories | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Ontario | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Prince Edward Island | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Québec | VEMP (mg/m ³) | 1 mg/m ³ |
| Saskatchewan | OEL STEL (mg/m ³) | 3 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Yukon | OEL STEL (mg/m ³) | 3 mg/m ³ |
| Yukon | OEL TWA (mg/m ³) | 1 mg/m ³ |

8.2. Exposure Controls

Appropriate Engineering Controls: Use local exhaust or general dilution ventilation or other suppression methods to maintain dust levels below exposure limits. Power equipment should be equipped with proper dust collection devices. Ensure all national/local regulations are observed.

Personal Protective Equipment: Protective clothing. Gloves. Safety glasses. Dust formation: dust mask. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing: Chemically resistant materials and fabrics. With molten material wear thermally protective clothing.

Nickel Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

Hand Protection: Wear chemically resistant protective gloves. If material is hot, wear thermally resistant protective gloves.

Eye Protection: Chemical goggles or safety glasses.

Skin and Body Protection: Wear suitable protective clothing. Wash contaminated clothing before reuse.

Respiratory Protection: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

| | |
|---|---|
| Physical State | : Solid |
| Appearance | : Silver to grayish black |
| Odor | : Odorless |
| Odor Threshold | : Not available |
| pH | : Not available |
| Evaporation Rate | : Not available |
| Melting Point | : 1260 °C (2300 °F) |
| Freezing Point | : Not available |
| Boiling Point | : Not available |
| Flash Point | : Not applicable |
| Auto-ignition Temperature | : Not available |
| Decomposition Temperature | : Not available |
| Flammability (solid, gas) | : Not available |
| Lower Flammable Limit | : Not available |
| Upper Flammable Limit | : Not available |
| Vapor Pressure | : Not available |
| Relative Vapor Density at 20 °C | : Not available |
| Relative Density | : Not available |
| Specific Gravity | : 7.6 - 7.8 |
| Solubility | : Insoluble in water |
| Partition Coefficient: N-octanol/water | : Not available |
| Viscosity | : Not available |
| Explosion Data – Sensitivity to Mechanical Impact | : Not expected to present an explosion hazard due to mechanical impact. |
| Explosion Data – Sensitivity to Static Discharge | : Not expected to present an explosion hazard due to static discharge. |

SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Hazardous reactions will not occur under normal conditions.
- 10.2. Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid:** Avoid creating or spreading dust. Sparks, heat, open flame and other sources of ignition.
- 10.5. Incompatible Materials:** When molten: water. Strong acids, strong bases, strong oxidizers. Alkalis. Metal oxides. Moisture. Corrosive substances in contact with metals may produce flammable hydrogen gas.
- 10.6. Hazardous Decomposition Products:** Oxides of iron and carbon. Organic acid vapors. Chromium (VI) compounds. Oxides of nickel.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects - Product

Acute Toxicity: Not classified. Not classified.

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Not classified

Serious Eye Damage/Irritation: Not classified.

Respiratory or Skin Sensitization: Not classified. Not classified.

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not classified

Nickel Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

Carcinogenicity: Not classified.

Specific Target Organ Toxicity (Repeated Exposure): Not classified.

Reproductive Toxicity: Not classified.

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath.

Symptoms/Injuries After Skin Contact: May cause an allergic skin reaction. Dust from physical alteration of this product causes skin irritation. Causes severe skin burns. Contact with fumes or metal powder will irritate skin. Contact with hot, molten metal will cause thermal burns. Dust may cause irritation in skin folds or by contact in combination with tight clothing. Mechanical damage via flying particles and chipped slag is possible.

Symptoms/Injuries After Eye Contact: Dust may cause mechanical irritation to eyes, nose, throat, and lungs.

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: In massive form, no hazard exists. If physically altered to present slivers, ribbons, dusts or fumes from molten material: Aluminum: Inhalation of finely divided aluminum powder may cause pulmonary fibrosis. Inhalation of iron oxide fumes undergoing decomposition may cause irritation and flu-like symptoms, otherwise iron oxide is not hazardous. Inhalation of Nickel compounds has been shown in studies to provide an increased incidence of cancer of the nasal cavity, lung and possibly larynx in nickel refinery workers. Nickel: May cause a form of dermatitis known as nickel itch and intestinal irritation, which may cause disorders, convulsions and asphyxia. Chromium: Certain hexavalent chromium compounds have been demonstrated to be carcinogenic on the basis of epidemiological investigations on workers and experimental studies in animals. Increased incidences of respiratory cancer have been found in chromium (VI) workers. There is an increased incidence of lung cancer in industrial workers exposed to chromium (VI) compounds. Please refer to IARC volume 23 for a more detailed discussion. Manganese: Chronic exposure can cause inflammation of the lung tissue, scarring the lungs (pulmonary fibrosis). Copper: Overexposure to fumes may cause metal fume fever (chills, muscle aches, nausea, fever, dry throat, cough, weakness, lassitude); metallic or sweet taste; discoloration of skin and hair. Tissue damage of mucous membranes may follow chronic dust exposure. Silicon: Can cause chronic bronchitis and narrowing of the airways.

11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

| | |
|-------------------------------|--------------------------------|
| Nickel (7440-02-0) | |
| LD50 Oral Rat | > 9000 mg/kg |
| Chromium (7440-47-3) | |
| LD50 Oral Rat | > 5000 mg/kg |
| Molybdenum (7439-98-7) | |
| LD50 Oral Rat | > 2000 mg/kg |
| LD50 Dermal Rat | > 2000 mg/kg |
| Cobalt (7440-48-4) | |
| LD50 Oral Rat | 215.9 - 1140 mg/kg |
| LC50 Inhalation Rat | > 10 mg/l (Exposure time: 1 h) |
| ATE US (dust, mist) | 0.01 mg/l/4h |
| Niobium (7440-03-1) | |
| LD50 Oral Rat | > 10 g/kg |
| Manganese (7439-96-5) | |
| LD50 Oral Rat | > 2000 mg/kg |
| Carbon (7440-44-0) | |
| LD50 Oral Rat | > 10000 mg/kg |
| Yttrium (7440-65-5) | |
| ATE US (oral) | 500.00 mg/kg body weight |
| ATE US (dermal) | 1,100.00 mg/kg body weight |
| ATE US (gases) | 4,500.00 ppmV/4h |

Nickel Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | |
|--|--|
| ATE US (vapors) | 11.00 mg/l/4h |
| ATE US (dust, mist) | 1.50 mg/l/4h |
| Nickel (7440-02-0) | |
| IARC Group | 2B |
| National Toxicity Program (NTP) Status | Reasonably anticipated to be Human Carcinogen. |
| Chromium (7440-47-3) | |
| IARC Group | 3 |
| Cobalt (7440-48-4) | |
| IARC Group | 2B |

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity No additional information available

| | |
|--------------------------------|---|
| Nickel (7440-02-0) | |
| LC50 Fish 1 | 100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio) |
| EC50 Daphnia 1 | 13 (13 - 200) µg/l (Exposure time: 48h - Species: Ceriodaphnia dubia [static]) |
| LC 50 Fish 2 | 1.3 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static]) |
| EC50 Daphnia 2 | 1 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static]) |
| EC50 Other Aquatic Organisms 2 | 0.174 (0.174 - 0.311) mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata [static]) |
| Copper (7440-50-8) | |
| LC50 Fish 1 | <= 0.0068 (0.0068 - 0.0156) mg/l (Exposure time: 96 h - Species: Pimephales promelas) |
| EC50 Daphnia 1 | 0.03 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static]) |
| EC50 Other Aquatic Organisms 1 | 0.0426 (0.0426 - 0.0535) mg/l (Exposure time: 72 h - Species: Pseudokirchneriella subcapitata [static]) |
| LC 50 Fish 2 | 0.3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static]) |
| EC50 Other Aquatic Organisms 2 | 0.031 (0.031 - 0.054) mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata [static]) |
| Cobalt (7440-48-4) | |
| LC50 Fish 1 | 100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static]) |
| Manganese (7439-96-5) | |
| NOEC chronic fish | 3.6 mg/l (Exposure time: 96h; Species: Oncorhynchus mykiss) |

Persistence and Degradability

| | |
|-------------------------------|----------------------------|
| Nickel Alloys | |
| Persistence and Degradability | Not established. |
| Copper (7440-50-8) | |
| Persistence and Degradability | Not readily biodegradable. |

12.3. Bioaccumulative Potential

| | |
|---------------------------|----------------------|
| Nickel Alloys | |
| Bioaccumulative Potential | Not established. |
| Cobalt (7440-48-4) | |
| BCF Fish 1 | (no bioaccumulation) |

12.4. Mobility in Soil Not available

12.5. Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Treatment Methods: Recycle product or dispose properly.

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.

Nickel Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

SECTION 14: TRANSPORT INFORMATION

- | | | |
|-------|-------------------------|-----------------------------|
| 14.1. | In Accordance with DOT | Not regulated for transport |
| 14.2. | In Accordance with IMDG | Not regulated for transport |
| 14.3. | In Accordance with IATA | Not regulated for transport |
| 14.4. | In Accordance with TDG | Not regulated for transport |

SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

| | |
|---|--|
| Nickel Alloys | |
| SARA Section 311/312 Hazard Classes | Delayed (chronic) health hazard |
| Nickel (7440-02-0) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| RQ (Reportable Quantity, Section 304 of EPA's List of Lists): | 100 lb (only applicable if particles are < 100 µm) |
| SARA Section 313 - Emission Reporting | 0.1 % |
| Chromium (7440-47-3) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| SARA Section 313 - Emission Reporting | 1.0 % |
| Copper (7440-50-8) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| SARA Section 313 - Emission Reporting | 1.0 % |
| Iron (7439-89-6) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Molybdenum (7439-98-7) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Cobalt (7440-48-4) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| SARA Section 313 - Emission Reporting | 0.1 % |
| Niobium (7440-03-1) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Aluminum (7429-90-5) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| SARA Section 313 - Emission Reporting | 1.0 % (dust or fume only) |
| Manganese (7439-96-5) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| SARA Section 313 - Emission Reporting | 1.0 % |
| Tantalum (7440-25-7) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Titanium (7440-32-6) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Tungsten (7440-33-7) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Silicon (7440-21-3) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |

Nickel Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| |
|---|
| Carbon (7440-44-0) |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |
| Yttrium (7440-65-5) |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |
| Boron (7440-42-8) |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |

15.2. US State Regulations

| | |
|--|--|
| Nickel (7440-02-0) | |
| U.S. - California - Proposition 65 - Carcinogens List | WARNING: This product contains chemicals known to the State of California to cause cancer. |
| Cobalt (7440-48-4) | |
| U.S. - California - Proposition 65 - Carcinogens List | WARNING: This product contains chemicals known to the State of California to cause cancer. |
| Nickel (7440-02-0) | |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances U.S. - Pennsylvania - RTK (Right to Know) List | |
| Chromium (7440-47-3) | |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances U.S. - Pennsylvania - RTK (Right to Know) List | |
| Copper (7440-50-8) | |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List | |
| Molybdenum (7439-98-7) | |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List | |
| Cobalt (7440-48-4) | |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List | |
| Aluminum (7429-90-5) | |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List | |
| Manganese (7439-96-5) | |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List | |

Nickel Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| |
|---|
| Tantalum (7440-25-7) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List |
| Titanium (7440-32-6) |
| U.S. - New Jersey - Right to Know Hazardous Substance List |
| Tungsten (7440-33-7) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List |
| Silicon (7440-21-3) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List |
| Yttrium (7440-65-5) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List |
| Boron (7440-42-8) |
| U.S. - New Jersey - Right to Know Hazardous Substance List |

15.3. Canadian Regulations

| | |
|--|---|
| Nickel Alloys | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Nickel (7440-02-0) | |
| Listed on the Canadian DSL (Domestic Substances List) Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 0.1 % | |
| WHMIS Classification | Class D Division 2 Subdivision B - Toxic material causing other toxic effects |
| Chromium (7440-47-3) | |
| Listed on the Canadian DSL (Domestic Substances List) Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 0.1 % | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Copper (7440-50-8) | |
| Listed on the Canadian DSL (Domestic Substances List) Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Iron (7439-89-6) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| WHMIS Classification | Class B Division 4 - Flammable Solid |
| Molybdenum (7439-98-7) | |
| Listed on the Canadian DSL (Domestic Substances List) Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Cobalt (7440-48-4) | |
| Listed on the Canadian DSL (Domestic Substances List) | |

Nickel Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | |
|---|---|
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 0.1 % | |
| WHMIS Classification | Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects |

Niobium (7440-03-1)

| |
|---|
| Listed on the Canadian DSL (Domestic Substances List) |
|---|

Aluminum (7429-90-5)

| | |
|---|--|
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Class B Division 6 - Reactive Flammable Material Class B Division 4 - Flammable Solid |

Manganese (7439-96-5)

| | |
|---|---|
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |

Tantalum (7440-25-7)

| | |
|---|---|
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |

Titanium (7440-32-6)

| |
|---|
| Listed on the Canadian DSL (Domestic Substances List) |
|---|

Tungsten (7440-33-7)

| | |
|---|---|
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |

Silicon (7440-21-3)

| | |
|---|---|
| Listed on the Canadian DSL (Domestic Substances List) | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |

Carbon (7440-44-0)

| | |
|---|---|
| Listed on the Canadian DSL (Domestic Substances List) | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |

Yttrium (7440-65-5)

| | |
|---|--|
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Class B Division 6 - Reactive Flammable Material Class B Division 4 - Flammable Solid |

Boron (7440-42-8)

| |
|---|
| Listed on the Canadian DSL (Domestic Substances List) |
|---|

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 12/15/2014

Nickel Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

Other Information

: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

| | |
|--|---|
| Acute Tox. 1 (Inhalation:dust,mist) | Acute toxicity (inhalation:dust,mist) Category 1 |
| Acute Tox. 4 (Dermal) | Acute toxicity (dermal) Category 4 |
| Acute Tox. 4 (Inhalation) | Acute toxicity (inhalation) Category 4 |
| Acute Tox. 4 (Oral) | Acute toxicity (oral) Category 4 |
| Aquatic Acute 1 | Hazardous to the aquatic environment - Acute Hazard Category 1 |
| Aquatic Acute 3 | Hazardous to the aquatic environment - Acute Hazard Category 3 |
| Aquatic Chronic 1 | Hazardous to the aquatic environment - Chronic Hazard Category 1 |
| Aquatic Chronic 3 | Hazardous to the aquatic environment - Chronic Hazard Category 3 |
| Carc. 2 | Carcinogenicity Category 2 |
| Comb. Dust | Combustible Dust |
| Eye Irrit. 2A | Serious eye damage/eye irritation Category 2A |
| Flam. Sol. 1 | Flammable solids Category 1 |
| Pyr. Sol. 1 | Pyrophoric solids Category 1 |
| Repr. 2 | Reproductive toxicity Category 2 |
| Resp. Sens. 1B | Respiratory sensitisation Category 1B |
| Self-heat. 2 | Self-heating substances and mixtures Category 2 |
| Skin Sens. 1 | Skin sensitization Category 1 |
| STOT RE 1 | Specific target organ toxicity (repeated exposure) Category 1 |
| Water-react. 2 | Substances and mixtures which in contact with water emit flammable gases Category 2 |
| H228 | Flammable solid |
| H232 | May form combustible dust concentrations in air |
| H250 | Catches fire spontaneously if exposed to air |
| H252 | Self-heating in large quantities; may catch fire |
| H261 | In contact with water releases flammable gases |
| H302 | Harmful if swallowed |
| H312 | Harmful in contact with skin |
| H317 | May cause an allergic skin reaction |
| H319 | Causes serious eye irritation |
| H330 | Fatal if inhaled |
| H332 | Harmful if inhaled |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled |
| H351 | Suspected of causing cancer |
| H361 | Suspected of damaging fertility or the unborn child |
| H372 | Causes damage to organs through prolonged or repeated exposure |
| H400 | Very toxic to aquatic life |
| H402 | Harmful to aquatic life |
| H410 | Very toxic to aquatic life with long lasting effects |
| H412 | Harmful to aquatic life with long lasting effects |

Party Responsible for the Preparation of This Document

ThyssenKrupp Materials NA, Inc.
22355 W. Eleven Mile Road
Southfield, Michigan 48034
TEL: 248-233-5681

Nickel Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

North America GHS US 2012 & WHMIS 2

MATERIAL SAFETY DATA SHEET

NFPA RATING: Health = 1 Flammability = 0 Reactivity = 0
HMIS RATING: Health = 1 Flammability = 0 Reactivity = 0

SECTION I -- IDENTITY AND MANUFACTURER'S INFORMATION (567N-26B)**Manufacturer's Name:** HILLYARD INDUSTRIES**Product Name:** NORTH STAR☆**Address:** 302 North Fourth Street**Date Prepared:** February 15, 2012 (version 1)

St. Joseph, MO 64502

Prepared by: Regulatory Affairs Department

Emergency Telephone No.: (800) 424-9300 (Only in the event of chemical emergency involving a spill, leak, fire, exposure or accident involving chemicals.)

Other information calls: (816) 233-1321 (Ext. 8285)<http://www.hillyard.com>***SECTION II -- INGREDIENTS/IDENTITY INFORMATION****Components****(Specific Chemical Identity:**

| Common Name(s) | CAS# | OSHA PEL | ACGIH TLV | OTHER LIMITS RECOMMENDED | % |
|-------------------------------------|---------------------|--------------------|--------------------|---------------------------------|----------|
| Water | 7732-18-5 | N/E | N/E | N/A | --- |
| Acrylic Copolymer Emulsion | Unknown to Hillyard | N/E | N/E | N/A | --- |
| Polythene Emulsions | 9010-77-9 | N/E | N/E | N/A | --- |
| Polypropylene Wax Emulsion | Unknown to Hillyard | N/E | N/E | N/A | 2-4 |
| Diethylene Glycol Monoethyl Ether** | 111-90-0 | N/E | N/E | N/A | 1-3 |
| Tributoxyethyl Phosphate** | 78-51-3 | N/E | N/E | N/A | 1-3 |
| Zinc Oxide ⁽¹⁾ | 1314-13-2 | 5mg/m ³ | 5mg/m ³ | N/A | <1 |

(1) Regulated by OSHA: CA, ID, FL, IL, MA, MN, NJ, PA, RI, WA

**This product contains the following chemicals subject to reporting requirements of SARA Title III, Section 313: Diethylene Glycol Monoethyl Ether and Tributoxyethyl Phosphate.

NORTH STAR☆ meets the CARB VOC requirements.

N/A= Not Applicable N/E= Not Established

***SECTION III -- PHYSICAL / CHEMICAL CHARACTERISTICS**

| | | |
|---------------------------------------|--|--------------------------------|
| *Boiling Point: >200°F | Specific Gravity (H₂O) = 1): 25°C = 1.03 | *Density = 8.592 lbs/gl |
| *Vapor Pressure (mm Hg.): 17.6 | *Percent Volatile by Volume (%): 77 - 79% | |
| *Vapor Density (AIR = 1): 1.3 | Evaporation Rate (ethyl ether = 1): Slower than 1 | |
| Solubility in Water: Complete | *Appearance and Odor: Milky solution; ammonia odor | |
| pH (concentrate) = 8.0 - 9.0 | | |

SECTION IV -- FIRE AND EXPLOSION HAZARD DATA**Flash point:** >200° (Tag Closed Cup)**Flammable Limits:** LEL = N/A UEL = N/A**Extinguishing Media:** Not applicable

Special Fire Fighting Procedures: Wear self-contained breathing apparatus (pressure-demand, MSHA/NIOSH approved or equivalent) and full protective gear.

Unusual Fire and Explosion Hazards: Material can spatter above 100°C/212°F. Onset of decomposition is 77°C/350°F. Polymer film can burn.

SECTION V -- PHYSICAL HAZARDS**Stability:** Stable**Conditions to Avoid:** Freezing. If frozen, product is unusable.**Incompatibility (Materials to Avoid):** None known to Hillyard**Hazardous Decomposition Products or Byproducts:** None known to Hillyard**Hazardous Polymerization:** Will not occur.**SECTION VI -- HEALTH HAZARD DATA**

Routes of entry: Inhalation? Yes Skin? Yes Ingestion? Yes

HEALTH HAZARDS (1. Acute and 2. Chronic)

1. According to Primary Skin Irritation Test (FHSA), product is not an irritant; prolonged contact may cause moderate skin irritation in sensitive individuals. Eye Irritation Test (FHSA), not an eye irritant; however, prolonged exposure may cause conjunctivae irritation in sensitive individuals. Overexposure to high airborne levels or liquid splashes of Dipropylene glycol methyl ether may cause eye, nose, throat, and skin irritation. Harmful if swallowed.
2. None known to Hillyard Industries.

HEALTH HAZARD DATA (CONTINUED):**Chemical listed as Carcinogen or Potential Carcinogen:****National Toxicology Program** = No **I.A.R.C. Monographs** = No **OSHA** = No

This product has no carcinogens listed by IARC, NTP, NIOSH, or ACGIH as of this date, greater than or equal to 0.1%.

Signs and Symptoms of Exposure: Prolonged eye contact with concentrate can cause slight irritation; test subjects showed eyes cleared up in 48 hours. Prolonged skin contact with concentrate can cause moderate skin irritation but test subjects recovered by day 8.**Medical Conditions Generally Aggravated by Exposure:** Dipropylene glycol methyl ether may aggravate obstructive airway diseases (persons with impaired pulmonary functions) and liver and kidney problems. Persons with pre-existing skin disorders may be more susceptible to irritation.**Emergency and First Aid Procedures:** **Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes. **Skin:** Immediately flush skin with plenty of water for 15 minutes. **Ingestion:** If swallowed induce vomiting immediately. Immediately consult medical personnel. **Inhalation:** Remove to fresh air. If discomfort persists, get medical attention.**SECTION VII -- PRECAUTIONS FOR SAFE HANDLING AND USE****Steps To Be Taken In Case Material Is Released Or Spilled:** Pick up with mop or wet vac and wash away with water. Absorb large spills with oil-dri or similar inert absorbent. Collect material for proper disposal.**Waste Disposal Method:** Wash small quantities down sewer with large amount of water. Contains ammonia which may be toxic to aquatic life. Keep spills and cleaning runoffs out of municipal sewers and open bodies of water. Large spills should be picked up with wet vac or absorbent material. Landfill or incinerate solids. Dispose of liquid per local, state or federal regulations.**Precautions To Be Taken In Handling And Storing:** Freezing of product may rupture container. Product shelf life is best retained by storage at 45 - 100°F temperature.**Other Precautions:** Inhalation exposure to spray mist should be maintained at less than 10 mg/m³ per eight hours exposure (TWA limit established for nuisance dust. USE WITH ADEQUATE VENTILATION. Avoid breathing vapors or spray mist. Open windows and doors, use exhaust fans or other means **to insure fresh air entry during application and drying**. Refer to OSHA Standard 29 CFR 1910.94 for technical guidelines on keeping air contamination below acceptable exposure limits. Keep container closed when not in use.**SECTION VIII -- CONTROL MEASURES****Respiratory Protection (Specify Type):** Wear appropriate, properly fitted respirator (NIOSH or MSHA approved) unless air monitoring demonstrates vapor or mist levels are below applicable limits.**Ventilation:** Good ventilation for public areas is 10 air changes per hour.**Local Exhaust** = Recommended **Mechanical (General)** = Recommended **Special** = N/A **Other** = N/A**Protective Gloves:** Prolonged or repeated contact use solvent-resistant rubber or neoprene gloves**Eye Protection:** None needed for normal use**Other Protective Clothing or Equipment:** Protective clothing such as uniforms or coveralls.**Work / Hygienic Practices:** Wash contaminated clothing before reuse (including shoes).**SECTION IX - TRANSPORTATION INFORMATION****DOT SHIPPING DESCRIPTION ON BILL OF LADING:****Applicable regulations:** 49 CFR = no; IMCO = no; IATA = no.**Proper shipping name:** Liquid Floor Wax & Polish**UN No.:** not applicable; **Limited Qty.:** not applicable; **Hazard Class:** not applicable.**Labels required:** not required **DOT Exception:** not applicable**EPA Hazardous waste number / code:** not listed**Hazardous waste characteristics:****Ignitability** = not applicable; **Corrosivity** = not applicable; **Reactivity** = not applicable.**DISCLAIMER OF WARRANTIES****NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OF ANY NATURE ARE MADE WITH RESPECT TO THE PRODUCT(S) OR INFORMATION CONTAINED IN THIS MATERIAL SAFETY DATA SHEET.**

The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate.

THE BUYER OR USER ASSUMES ALL RISKS ASSOCIATED WITH THE USE, MISUSE OR DISPOSAL OF THIS PRODUCT. THE BUYER OR USER IS RESPONSIBLE TO COMPLY WITH ALL FEDERAL, STATE OR LOCAL REGULATIONS CONCERNING THE USE, MISUSE OR DISPOSAL OF THESE PRODUCTS.

SAFETY DATA SHEET

Section 1. Identification

Supplier

Drummond, A Lawson
Brand
Lawson Products, Inc.
8770 W. Bryn Mawr Ave,
Suite 900
Chicago, IL 60631
773-304-5050

Emergency telephone number

888-426-4851

Product name Code

Nu-Doh Epoxy Putty Original Formula

DN4330

Specific uses

Sealants and adhesives

Section 2. Hazards identification

OSHA/HCS status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

SKIN CORROSION/IRRITATION - Category 2

SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2B

SKIN SENSITIZATION - Category 1

GHS label elements

Hazard pictograms



Signal word

Warning!

Hazard statements

Causes skin and eye irritation.

May cause an allergic skin reaction.

Precautionary statements

Prevention

Wear protective gloves. Wear eye or face protection. Avoid breathing dust. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Response

IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage

Not applicable.

Disposal

Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified

None known.

Section 3. Composition/information on ingredients

Substance/mixture

Mixture

| Ingredient name | % by weight | CAS number |
|---|-------------|------------|
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin | 10 - 30 | 25068-38-6 |
| 2,4,6-tris(dimethylaminomethyl)phenol | 1 - 5 | 90-72-2 |
| crystalline silica non-respirable | 0.1 - 1 | 14808-60-7 |

Canada

| Name | CAS number | % |
|---|------------|---------|
| Talc , not containing asbestiform fibres | 14807-96-6 | 30 - 60 |
| glass, oxide, chemicals | 65997-17-3 | 10 - 30 |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin | 25068-38-6 | 10 - 30 |
| Nepheline syenite | 37244-96-5 | 10 - 30 |
| 2,4,6-tris(dimethylaminomethyl)phenol | 90-72-2 | 1 - 5 |
| crystalline silica non-respirable | 14808-60-7 | 0.1 - 1 |

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact

Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Eye contact

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Ingestion

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Inhalation

Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact

Causes skin irritation. May cause an allergic skin reaction.

Eye contact

Causes serious eye irritation.

Ingestion

Irritating to mouth, throat and stomach.

Section 4. First aid measures

Over-exposure signs/symptoms

| | |
|---------------------|--|
| Inhalation | No specific data. |
| Skin contact | Adverse symptoms may include the following: irritation redness |
| Eye contact | Adverse symptoms may include the following: pain or irritation watering redness |
| Ingestion | No specific data. |

Indication of immediate medical attention and special treatment needed, if necessary

| | |
|----------------------------|---|
| Notes to physician | In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |
| Specific treatments | No specific treatment. |

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

| | |
|---------------------------------------|---|
| Suitable extinguishing media | Use an extinguishing agent suitable for the surrounding fire. |
| Unsuitable extinguishing media | None known. |

| | |
|---|---------------------------------------|
| Specific hazards arising from the chemical | No specific fire or explosion hazard. |
|---|---------------------------------------|

National Fire Protection Association (U.S.A.)



| | |
|---|---|
| Hazardous thermal decomposition products | Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides halogenated compounds metal oxide/oxides |
|---|---|

| | |
|---|---|
| Special protective actions for fire-fighters | Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. |
| Special protective equipment for fire-fighters | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill

Move containers from spill area. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill

Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities

Do not store above the following temperature: 35°C (95°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Section 8. Exposure controls/personal protection

| Ingredient name | CAS # | Exposure limits |
|-----------------------------------|------------|--|
| crystalline silica non-respirable | 14808-60-7 | OSHA PEL Z3 (United States, 9/2005). Notes: 250/(%SiO₂+5) TWA: 250 MPPCF / (%SiO ₂ +5) 8 hours. Form: Respirable OSHA PEL Z3 (United States, 9/2005). Notes: 10/(SiO₂+2) TWA: 10 MG/M ³ / (%SiO ₂ +2) 8 hours. Form: Respirable ACGIH TLV (United States, 3/2012). TWA: 0.025 mg/m ³ 8 hours. Form: Respirable fraction NIOSH REL (United States, 1/2013). TWA: 0.05 mg/m ³ 10 hours. Form: respirable dust OSHA PEL Z3 (United States, 9/2005). Notes: 30/(%SiO₂+2) TWA: 30 MG/M ³ / (%SiO ₂ +2) 8 hours. Form: Total dust. |

Canada

| Occupational exposure limits | | TWA (8 hours) | | | STEL (15 mins) | | | Ceiling | | | |
|--|-----------------|---------------|-------------------|----------|----------------|-------------------|-------|---------|-------------------|-------|-----------|
| Ingredient | List name | ppm | mg/m ³ | Other | ppm | mg/m ³ | Other | ppm | mg/m ³ | Other | Notations |
| Talc , not containing asbestiform fibres | AB 4/2009 | - | 2 | - | - | - | - | - | - | - | [a] |
| | BC 4/2012 | - | 2 | - | - | - | - | - | - | - | [b] |
| | ON 1/2013 | - | 2 | 0.1 f/cc | - | - | - | - | - | - | [c] |
| | QC 12/2012 | - | 2 | - | - | - | - | - | - | - | [d] |
| glass, oxide, chemicals | US ACGIH 3/2012 | - | 3 | 2 f/cc | - | - | - | - | - | - | [e] |
| | US ACGIH 3/2012 | - | 5 | - | - | - | - | - | - | - | [f] |
| | US ACGIH 3/2012 | - | - | 1 f/cc | - | - | - | - | - | - | [g] |
| | AB 4/2009 | - | 5 | 1 f/cc | - | - | - | - | - | - | [h] |
| | BC 4/2012 | - | 5 | - | - | - | - | - | - | - | [i] |
| | ON 1/2013 | - | 5 | 1 f/cc | - | - | - | - | - | - | [j] |
| | QC 12/2012 | - | 10 | 1 f/cc | - | - | - | - | - | - | [k] |
| | US ACGIH 3/2012 | - | 0.025 | - | - | - | - | - | - | - | [l] |
| crystalline silica non-respirable | BC 4/2012 | - | 0.025 | - | - | - | - | - | - | - | [m] |
| | ON 1/2013 | - | 0.1 | - | - | - | - | - | - | - | [n] |
| | QC 12/2012 | - | 0.1 | - | - | - | - | - | - | - | [o] |
| | ON 1/2013 | - | 10 | - | - | - | - | - | - | - | [p] |
| Nepheline syenite | US ACGIH 3/2012 | - | 0.025 | - | - | - | - | - | - | - | [q] |
| | BC 4/2012 | - | 0.025 | - | - | - | - | - | - | - | [r] |
| crystalline silica non-respirable | ON 1/2013 | - | 0.1 | - | - | - | - | - | - | - | [s] |
| | QC 12/2012 | - | 0.1 | - | - | - | - | - | - | - | [t] |
| Nepheline syenite | ON 1/2013 | - | 10 | - | - | - | - | - | - | - | [u] |
| | QC 12/2012 | - | 10 | - | - | - | - | - | - | - | [v] |

Form: [a]Respirable particulate [b]Respirable [c]Respirable fraction: means that size fraction of the airborne particulate deposited in the gas-exchange region of the respiratory tract and collected during air sampling with a particle size-selective device that, (a) meets the ACGIH particle size-selective sampling criteria for airborne particulate matter; and (b) has the cut point of 4 µm at 50 per cent collection efficiency. [d]The value is for particulate matter containing no asbestos and < 1 per cent crystalline silica. [e]Respirable dust. [f]Inhalable fraction [g]Respirable fibers: length greater than 5 µm; aspect ratio equal to or greater than 3:1 as determined by the membrane filter method at 400-450X magnification (4-mm objective) phase contrast illumination. [h]Fibres [i]Fibres, total particulate [j]Inhalable [k]Fiber [l]Inhalable fraction: means that size fraction of the airborne particulate deposited anywhere in the respiratory tract and collected during air sampling with a particle size-selective device that, (a) meets the ACGIH particle size-selective sampling criteria for airborne particulate matter; and (b) has the cut point of 100 µm at 50 per cent collection efficiency. [m]Respirable fibres: length > 5µm; aspect ratio ≥3:1, as determined by the membrane filter method at 400-450 times magnification (4-mm objective), using phase-contrast illumination. [n]RESPIRABLE FIBRES (other than respirable asbestos fibres) : Objects, other than respirable asbestos fibres, longer than 5 µm, having a diameter of less than 3 µm and a ratio of length to diameter of more than 3 :1. [o]Total dust. [p]Respirable fraction [q]Total dust

Appropriate engineering controls

No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Section 8. Exposure controls/personal protection

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection

Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Skin protection Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Section 9. Physical and chemical properties

Physical state

Solid.

Color

White.-Beige.

Odor

Sulfurous. Pungent.

Odor threshold

Not available.

pH

Not available.

Melting point

Not available.

Boiling point

Not available.

Flash point

Closed cup: >93.3°C (>199.9°F) [Setaflash.] [Product does not sustain combustion.]

Evaporation rate

Not available.

Flammability (solid, gas)

Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge.

Lower and upper explosive (flammable) limits

Not available.

Vapor pressure

Not available.

Vapor density

Not available.

Relative density

1.95

Solubility

Not available.

Section 9. Physical and chemical properties

| | |
|----------------------------------|-----------------|
| Solubility in water | Not available. |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | >200°C (>392°F) |
| Viscosity | Not available. |

Section 10. Stability and reactivity

| | |
|---|--|
| Reactivity | No specific test data related to reactivity available for this product or its ingredients. |
| Chemical stability | The product is stable. |
| Possibility of hazardous reactions | Under normal conditions of storage and use, hazardous reactions will not occur. |
| Conditions to avoid | No specific data. |
| Incompatible materials | No specific data. |
| Hazardous decomposition products | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|-------------|---------|------------|----------|
| 2,4,6-tris (dimethylaminomethyl)phenol | LD50 Dermal | Rat | 1280 mg/kg | - |
| | LD50 Oral | Rat | 1200 mg/kg | - |

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|--|--------------------------|---------|-------|--------------------------|-------------|
| reaction product: bisphenol-A- (epichlorohydrin); epoxy resin | Eyes - Mild irritant | Rabbit | - | 100 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 500 microliters | - |
| | Skin - Severe irritant | Rabbit | - | 24 hours 2 milligrams | - |
| 2,4,6-tris (dimethylaminomethyl)phenol | Eyes - Severe irritant | Rabbit | - | 24 hours 50 Micrograms | - |
| | Skin - Mild irritant | Rat | - | 0.025 Mililiters | - |
| | Skin - Severe irritant | Rat | - | 0.25 Mililiters | - |
| | Skin - Severe irritant | Rabbit | - | 24 hours 2 milligrams | - |

Sensitization

No specific data.

Mutagenicity

No specific data.

Carcinogenicity

No specific data.

Classification

Section 11. Toxicological information

| Product/ingredient name | OSHA | IARC | NTP |
|-----------------------------------|------|------|---------------------------------|
| crystalline silica non-respirable | - | 1 | Known to be a human carcinogen. |

Reproductive toxicity

No specific data.

Teratogenicity

No specific data.

Specific target organ toxicity (single exposure)

No specific data.

Specific target organ toxicity (repeated exposure)

No specific data.

Aspiration hazard

No specific data.

Information on the likely routes of exposure

Not available.

Potential acute health effects

Eye contact

Causes serious eye irritation.

Inhalation

Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact

Causes skin irritation. May cause an allergic skin reaction.

Ingestion

Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact

Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation

No specific data.

Skin contact

Adverse symptoms may include the following:
irritation
redness

Ingestion

No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects

Not available.

Potential delayed effects

Not available.

Long term exposure

Potential immediate effects

Not available.

Potential delayed effects

Not available.

Potential chronic health effects

No specific data.

General

Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Section 11. Toxicological information

| | |
|------------------------------|---|
| Carcinogenicity | No known significant effects or critical hazards. |
| Mutagenicity | No known significant effects or critical hazards. |
| Teratogenicity | No known significant effects or critical hazards. |
| Developmental effects | No known significant effects or critical hazards. |
| Fertility effects | No known significant effects or critical hazards. |

Numerical measures of toxicity

Acute toxicity estimates

| Route | ATE value |
|--------|--------------|
| Oral | 2083.9 mg/kg |
| Dermal | 2222.9 mg/kg |

Section 12. Ecological information

Toxicity

No specific data.

Persistence and degradability

No specific data.

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|---|--------------------|-----|-----------|
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin | 2.64 to 3.78 | 3 | low |
| 2,4,6-tris (dimethylaminomethyl)phenol | 0.219 | 1 | low |

Mobility in soil

Soil/water partition coefficient (K_{oc}) Not available.

Other adverse effects No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

RCRA classification Not available.

Section 14. Transport information

| | DOT Classification | TDG Classification | Mexico Classification | IMDG | IATA |
|----------------------------|-----------------------|-----------------------|--------------------------|----------------|----------------|
| UN Number | Not regulated. | Not regulated. | Not regulated. | Not regulated. | Not regulated. |
| UN proper shipping name | - | - | - | - | - |
| Transport hazard class(es) | - | - | - | - | - |
| Packing group | - | - | - | - | - |
| Environmental hazards | No. | No. | No. | No. | No. |
| Additional information | - | - | - | - | - |

Special precautions for user

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States

U.S. Federal regulations

TSCA 8(a) PAIR: Siloxanes and Silicones, di-Me, reaction products with silica

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Water Act (CWA) 307: zinc sulphide

**Clean Air Act Section 112
(b) Hazardous Air
Pollutants (HAPs)**

Not listed

**Clean Air Act Section 602
Class I Substances**

Not listed

**Clean Air Act Section 602
Class II Substances**

Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ

Not applicable.

SARA 311/312

Classification

Immediate (acute) health hazard

Composition/information on ingredients

Section 15. Regulatory information

| Name | % | Fire hazard | Sudden release of pressure | Reactive | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|---|---------|-------------|----------------------------|----------|---------------------------------|---------------------------------|
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin | 10 - 30 | No. | No. | No. | Yes. | No. |
| 2,4,6-tris(dimethylaminomethyl)phenol | 1 - 5 | No. | No. | No. | Yes. | No. |
| crystalline silica non-respirable | 0.1 - 1 | No. | No. | No. | No. | Yes. |

SARA 313

| | Product name | CAS number | % |
|---------------------------------|---------------|------------|-------|
| Form R - Reporting requirements | zinc sulphide | 1314-98-3 | 1 - 5 |

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts

The following components are listed: SOAPSTONE; MINERAL WOOL FIBER

New York

None of the components are listed.

New Jersey

The following components are listed: SOAPSTONE; SILICA, QUARTZ; QUARTZ (SiO₂); ZINC compounds

Pennsylvania

The following components are listed: SOAPSTONE DUST; QUARTZ (SiO₂); ZINC COMPOUNDS

Minnesota Hazardous Substances

None of the components are listed.

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

| Ingredient name | Cancer | Reproductive | No significant risk level | Maximum acceptable dosage level |
|---|--------|--------------|---------------------------|---------------------------------|
| Talc, not containing asbestiform fibres | Yes. | No. | No. | No. |
| crystalline silica non-respirable | Yes. | No. | No. | No. |

Canada

WHMIS (Canada)

Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

Canadian lists

Canadian NPRI

The following components are listed: Zinc (and its compounds)

CEPA Toxic substances

None of the components are listed.

Canada inventory

All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

International regulations

International lists

Australia inventory (AICS): All components are listed or exempted.

China inventory (IECSC): All components are listed or exempted.

Japan inventory: Not determined.

Korea inventory: Not determined.

Malaysia Inventory (EHS Register): Not determined.

New Zealand Inventory of Chemicals (NZIoC): Not determined.

Philippines inventory (PICCS): Not determined.

Taiwan inventory (CSNN): Not determined.

Substances of very high concern

Section 15. Regulatory information

None of the components are listed.

Section 16. Other information

Key to abbreviations

ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References

Not available.

Indicates information that has changed from previously issued version.

Prepared By: Maureen Ruggeberg, Regulatory Affairs Specialist

Notice to reader

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Material Safety Data Sheet

Revision Date 25-Jun-2014

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code DN4590
Product name NU-DOH FOR PLASTIC
Recommended Use Repair Material

Supplier Drummond, A Lawson Brand
 Lawson Products, Inc.
 8770 W.Bryn Mawr Ave.- Suite 900
 Chicago, IL 60631
 1-866-529-7664
 (888) 426-4851

Emergency telephone number (888) 426-4851

2. HAZARDS IDENTIFICATION

Emergency Overview

Moderately irritating to the eyes. May cause skin irritation and/or dermatitis.

Aggravated Medical Conditions
 None Known

Principal Routes of Exposure
 Eyes. Skin.

Potential health effects

Eyes May cause the following effects:. Moderately irritating to the eyes.

Skin Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. Skin Irritation. Redness.

Inhalation Not likely to occur.

Ingestion Small amounts transferred to the mouth through use should not be harmful.

3. COMPOSITION / INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | Weight % |
|---|--------------|----------|
| Magnesium Silicate Hydrate | 14807-96-6 | 30-60 |
| Diglycidyl Ethers of Bisphenol A Resins | 67989-52-0 | 15-40 |
| Proprietary Mercaptan Polymer | Trade Secret | 10-30 |
| 2,4,6-Tri(dimethylaminomethyl)phenol | 90-72-2 | 1-5 |
| Borosilicate Glass | 65997-17-3 | 1-5 |
| Modified Silicone Dioxide | 67762-90-7 | 1-5 |
| Bisphenol A - Epichlorohydrin polymer | 25068-38-6 | 0.5-1.5 |

4. FIRST AID MEASURES

Eye contact Flush with plenty of water for at least 15 minutes. If eye irritation persists, consult a specialist.

Skin contact Wash off immediately with soap and plenty of water.

Ingestion No specific treatment is necessary since this material is not likely to be hazardous by ingestion.

Inhalation No specific treatment is necessary since this material is not likely to be hazardous by inhalation.

Notes to physician Wash skin with mild soap and warm water for 15 minutes.

5. FIRE FIGHTING MEASURES

Flash point °C > 93
Flash point °F > 200
Method Seta closed cup

Autoignition temperature °C No data available
Autoignition temperature °F No data available

Flammability Limits (% in Air)
Upper No data available
Lower No data available

Suitable extinguishing media

Foam. Alcohol foam. Carbon dioxide (CO2). Dry chemical. Water fog.

Special protective equipment for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

Special Fire-Fighting Procedures

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water fog should be used to cool closed containers.

Hazardous decomposition products

See Section 10.

Sensitivity to shock

No information available.

Sensitivity to static discharge

No information available.

6. ACCIDENTAL RELEASE MEASURES

Methods for cleaning up

Collect and contain for disposal. Dispose of absorbent in accordance with local, state and federal regulations.

Product code **DN4590**Product name **NU-DOH FOR PLASTIC****7. HANDLING AND STORAGE****Handling**

Wash hands with soap and water before eating, drinking, smoking, or using toilet facilities. Remove and wash contaminated clothing before re-use. Do not reuse containers.

Storage

Keep in a dry, cool and well-ventilated place. Store in temperatures below 90 degrees F.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| Chemical Name | OSHA PEL (TWA) | OSHA PEL (Ceiling) | ACGIH OEL (TWA) | ACGIH OEL (STEL) |
|---|----------------|--------------------|---------------------|------------------|
| Diglycidyl Ethers of Bisphenol A Resins | - | - | - | - |
| 2,4,6-Tri(dimethylaminomethyl)phenol | - | - | - | - |
| Bisphenol A - Epichlorohydrin polymer | - | - | - | - |
| Magnesium Silicate Hydrate | - | - | 2 mg/m ³ | - |
| Proprietary Mercaptan Polymer | - | - | - | - |
| Modified Silicone Dioxide | - | - | - | - |
| Borosilicate Glass | - | - | - | - |

Ventilation and Environmental Controls

Local exhaust: only if heated above 100 degrees F.

Hygiene measures

Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use.

Respiratory protection

None required if adequate ventilation is provided.

Hand Protection

Impervious gloves. Consult glove manufacturer to determine the proper type for a specific operation.

Eye protection

Safety glasses. Goggles.

Skin and body protection

None necessary under normal conditions

9. PHYSICAL AND CHEMICAL PROPERTIES**Form****Color****Odor****Odor Threshold****pH****Specific Gravity****Vapor pressure****Vapor density****Evaporation Rate****Water solubility****VOC Content****Partition Coefficient****(n-octanol/water)****Boiling point/range °C****Boiling point/range °F****Melting point/range °C****Melting point/range °F****Flash point °C****Flash point °F****Form**

Blue / White

Sulphurous

No information available

No data available

1.79331

No data available

No data available

No data available

Insoluble in water

< 0.1%

No data available

Not Applicable

Not Applicable

Not Applicable

Not Applicable

> 93

> 200

10. STABILITY AND REACTIVITY**Stability**

Stable.

Conditions to avoid

None known.

Incompatibility

None known.

Hazardous Decomposition Products

Carbon dioxide. Carbon monoxide. Aldehydes. Acid . Sulfur oxides. Nitrogen oxides (NOx).

Polymerization

Will not occur.

11. TOXICOLOGICAL INFORMATION**Component Information**

| Chemical Name | LD50 (oral,rat) | LD50 (dermal ,rat/rabbit) | LC50 (inhalation,rat) |
|---|-----------------|---------------------------|-----------------------|
| Diglycidyl Ethers of Bisphenol A Resins 67989-52-0 | - | - | - |
| 2,4,6-Tri(dimethylaminomethyl)phenol 90-72-2 | 1000 mg/kg | 1280 mg/kg | - |
| Bisphenol A - Epichlorohydrin polymer 25068-38-6 | - | - | - |
| Magnesium Silicate Hydrate 14807-96-6 | - | - | - |

Product code **DN4590**Product name **NU-DOH FOR PLASTIC**

| Chemical Name | LD50 (oral, rat) | LD50 (dermal ,rat/rab bit) | LC50 (inhalation, rat) |
|---|-------------------------|-------------------------------------|------------------------|
| Proprietary Mercaptan Polymer Trade Secret | - | - | - |
| Modified Silicone Dioxide 67762-90-7 | - | - | - |
| Borosilicate Glass 65997-17-3 | - | - | - |

Synergistic Products None known**Potential health effects****Sensitization** None known**Chronic toxicity** None known**Mutagenic effects** None known**Teratogenic effects** None known**Reproductive toxicity** None known**Target Organ Effects** See Section 2**Carcinogenic effects** See table below

| Chemical Name | ACGIH OEL - Carcinoge ns | IARC | NTP - Known Carcinoge ns | NTP - Suspected Human Carcinoge ns | OSHA RTK Carcinoge ns |
|--|-----------------------------------|------------|-----------------------------------|--|--------------------------------|
| Diglycidyl Ethers of Bisphenol A Resins | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| 2,4,6- Tri(dimethyla minomethyl)p henol | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Bisphenol A - Epichlorohydr in polymer | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Magnesium Silicate Hydrate | A4 | Not Listed | Not Listed | Not Listed | Not Listed |
| Proprietary Mercaptan Polymer | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Modified Silicone Dioxide | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Borosilicate Glass | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |

12. ECOLOGICAL INFORMATION**Ecotoxicity effects** Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants**13. DISPOSAL CONSIDERATIONS****Disposal Information**Landfill or incinerate in accordance with EPA and local regulations.
Product is not a hazardous waste.**14. TRANSPORTATION INFORMATION****DOT**

Not Regulated

TDG

Not Regulated

15. REGULATORY INFORMATION**US EPA SARA 313** This product contains no listed chemicals subject to reporting**State Regulations**

| Chemical Name | New Jersey - RTK | Pennsylvania - RTK | California Prop. 65 |
|--|---------------------|-----------------------|------------------------|
| Diglycidyl Ethers of Bisphenol A Resins | Not Listed | Not Listed | Not Listed |
| 2,4,6- Tri(dimethylaminomethyl)phe nol | Not Listed | Not Listed | Not Listed |
| Bisphenol A - Epichlorohydrin polymer | Not Listed | Not Listed | Not Listed |
| Magnesium Silicate Hydrate | Not Listed | Listed | Not Listed |
| Proprietary Mercaptan Polymer | Not Listed | Not Listed | Not Listed |
| Modified Silicone Dioxide | Not Listed | Not Listed | Not Listed |
| Borosilicate Glass | Not Listed | Not Listed | Not Listed |

International Inventories

| Chemical Name | EINECS | DSL | NDSL | TSCA |
|--|--------|-----|------|------|
| Diglycidyl Ethers of Bisphenol A Resins | - | X | - | X |
| 2,4,6- Tri(dimethylaminomethyl)phe nol | X | X | - | X |
| Bisphenol A - Epichlorohydrin polymer | - | X | - | X |
| Magnesium Silicate Hydrate | X | X | - | X |

Product code **DN4590**

Product name **NU-DOH FOR
PLASTIC**

| Chemical Name | EINECS | DSL | NDSL | TSCA |
|-------------------------------|--------|-----|------|------|
| Proprietary Mercaptan Polymer | - | - | - | - |
| Modified Silicone Dioxide | - | X | - | X |
| Borosilicate Glass | X | X | - | X |

CPR

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all of the information required by the Controlled Product Regulations

16. OTHER INFORMATION

NFPA

Health - 1

Flammability - 0

Reactivity - 0

Prepared By

V. Shargorodsky, Regulatory Affairs
Engineer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.



SAFETY DATA SHEET

1. Identification

Product identifier Oatey No. 5 Paste Flux

Other means of identification

SDS number 1610E

Synonyms Part Numbers: No 5- 30011, 30013, 30014, 30038, 30041, 48307, 48420, 48421, 48422, 48423, 53017, 53060, 53200, Hot Weather- 30062

Recommended use Joining Copper Pipes. Joining Copper Tubing.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company Name Oatey Co.

Address 4700 West 160th St.
Cleveland, OH 44135

Telephone 216-267-7100

E-mail info@oatey.com

Transport Emergency Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887)

Emergency First Aid 1-877-740-5015

Contact person MSDS Coordinator

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Skin corrosion/irritation Category 1B
Serious eye damage/eye irritation Category 1

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Causes severe skin burns and eye damage.

Precautionary statement

Prevention Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dusts or mists.

Response If swallowed: Rinse mouth. Do not induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center/doctor. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information Not applicable.

3. Composition/information on ingredients

Mixtures

| Chemical name | CAS number | % |
|---------------|------------|--------|
| Petrolatum | 8009-03-8 | 60-100 |

| | | |
|-------------------|------------|-------|
| Zinc chloride | 7646-85-7 | 10-30 |
| Water | 7732-18-5 | 3-7 |
| Ammonium chloride | 12125-02-9 | 1-5 |

4. First-aid measures

| | |
|---|--|
| Inhalation | If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist. |
| Skin contact | Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse. |
| Eye contact | Immediately flush eyes with plenty of water for at least 15 minutes. Continue rinsing. Call a physician or poison control center immediately. Remove contact lenses, if present and easy to do. |
| Ingestion | Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. |
| Most important symptoms/effects, acute and delayed | Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. |
| Indication of immediate medical attention and special treatment needed | Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed. |
| General information | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |

5. Fire-fighting measures

| | |
|--|---|
| Suitable extinguishing media | Water spray. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2). |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | During fire, gases hazardous to health may be formed. |
| Special protective equipment and precautions for firefighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| Fire fighting equipment/instructions | Use water spray to cool unopened containers. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. |
| General fire hazards | No unusual fire or explosion hazards noted. |

6. Accidental release measures

| | |
|--|---|
| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. |
| Methods and materials for containment and cleaning up | Stop the flow of material, if this is without risk. Use water spray to reduce vapors or divert vapor cloud drift. Dike far ahead of spill for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS. |
| Environmental precautions | Avoid discharge into drains, water courses or onto the ground. |

7. Handling and storage

| | |
|---|--|
| Precautions for safe handling | Do not get this material in contact with eyes. Do not get this material in contact with skin. Avoid prolonged exposure. Do not get this material on clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. |
| Conditions for safe storage, including any incompatibilities | Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). |

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| Components | Type | Value | Form |
|-------------------------------|------|---------|-------|
| Petrolatum (CAS 8009-03-8) | PEL | 5 mg/m3 | Mist. |
| Zinc chloride (CAS 7646-85-7) | PEL | 1 mg/m3 | Fume. |

US. ACGIH Threshold Limit Values

| Components | Type | Value | Form |
|------------------------------------|------|----------|---------------------|
| Ammonium chloride (CAS 12125-02-9) | STEL | 20 mg/m3 | Fume. |
| | TWA | 10 mg/m3 | Fume. |
| Petrolatum (CAS 8009-03-8) | TWA | 5 mg/m3 | Inhalable fraction. |
| Zinc chloride (CAS 7646-85-7) | STEL | 2 mg/m3 | Fume. |
| | TWA | 1 mg/m3 | Fume. |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value | Form |
|------------------------------------|------|----------|-------|
| Ammonium chloride (CAS 12125-02-9) | STEL | 20 mg/m3 | Fume. |
| | TWA | 10 mg/m3 | Fume. |
| Petrolatum (CAS 8009-03-8) | STEL | 10 mg/m3 | Mist. |
| | TWA | 5 mg/m3 | Mist. |
| Zinc chloride (CAS 7646-85-7) | STEL | 2 mg/m3 | Fume. |
| | TWA | 1 mg/m3 | Fume. |

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

Occupational Exposure Limits are not relevant to the current physical form of the product.

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection

Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state

Solid.

Form

Solid. Paste.

Color

Not available.

Odor

Not available.

Odor threshold

Not available.

pH

Not available.

| | |
|---|---------------------|
| Melting point/freezing point | Not available. |
| Initial boiling point and boiling range | 638 °F (336.67 °C) |
| Flash point | 540.0 °F (282.2 °C) |
| Evaporation rate | Not available. |
| Flammability (solid, gas) | Not available. |
| Upper/lower flammability or explosive limits | |
| Flammability limit - lower (%) | Not available. |
| Flammability limit - upper (%) | Not available. |
| Explosive limit - lower (%) | Not available. |
| Explosive limit - upper (%) | Not available. |
| Vapor pressure | Not available. |
| Vapor density | > 1 |
| Relative density | 1.1 |
| Solubility(ies) | |
| Solubility (water) | Insoluble |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| Viscosity | 20000 - 40000 cP |
| Other information | |
| VOC (Weight %) | 29 g/l 3% by weight |

10. Stability and reactivity

| | |
|---|---|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. |
| Conditions to avoid | Contact with incompatible materials. |
| Incompatible materials | Strong oxidizing agents. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information

Information on likely routes of exposure

| | |
|---------------------|--|
| Inhalation | Prolonged inhalation may be harmful. May cause irritation to the respiratory system. |
| Skin contact | Causes severe skin burns. |
| Eye contact | Causes serious eye damage. |
| Ingestion | Causes digestive tract burns. |

| | |
|---|---|
| Symptoms related to the physical, chemical and toxicological characteristics | Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. |
|---|---|

Information on toxicological effects

| | |
|--|---|
| Acute toxicity | Not available. |
| Skin corrosion/irritation | Causes severe skin burns and eye damage. |
| Serious eye damage/eye irritation | Causes serious eye damage. |
| Respiratory or skin sensitization | |
| Respiratory sensitization | Not available. |
| Skin sensitization | This product is not expected to cause skin sensitization. |

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity None known.

IARC Monographs. Overall Evaluation of Carcinogenicity

Petrolatum (CAS 8009-03-8)

3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not available.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Ammonium chloride (CAS 12125-02-9)

LISTED

Zinc chloride (CAS 7646-85-7)

LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)**Hazard categories**

Immediate Hazard - Yes

Delayed Hazard - No

Fire Hazard - No

Pressure Hazard - No

Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No**SARA 313 (TRI reporting)**

| Chemical name | CAS number | % by wt. |
|-------------------|------------|----------|
| Zinc chloride | 7646-85-7 | 10-30 |
| Ammonium chloride | 12125-02-9 | 1-5 |

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.**US state regulations****US. Massachusetts RTK - Substance List**

Ammonium chloride (CAS 12125-02-9)

Petrolatum (CAS 8009-03-8)

Zinc chloride (CAS 7646-85-7)

US. New Jersey Worker and Community Right-to-Know Act

Ammonium chloride (CAS 12125-02-9)

Petrolatum (CAS 8009-03-8)

Zinc chloride (CAS 7646-85-7)

US. Pennsylvania Worker and Community Right-to-Know Law

Ammonium chloride (CAS 12125-02-9)

Petrolatum (CAS 8009-03-8)

Zinc chloride (CAS 7646-85-7)

US. Rhode Island RTK

Ammonium chloride (CAS 12125-02-9)

Zinc chloride (CAS 7646-85-7)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|----------------------|--|------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | Yes |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | Yes |

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|---|------------------------|
| New Zealand | New Zealand Inventory | Yes |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 26-October-2014

Revision date 19-February-2015

Version # 03

HMIS® ratings
Health: 3
Flammability: 0
Physical hazard: 0

Disclaimer The information in the sheet was written based on the best knowledge and experience currently available. Oatey Co. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for use, handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.



SAFETY DATA SHEET

1. Identification

| | |
|--|---|
| Product identifier | PVC All Weather Clear Cement |
| Other means of identification | |
| Product code | 1105E |
| Synonyms | Part Numbers: 31132, 31133, 31135, 31136 |
| Recommended use | Joining PVC Pipes |
| Recommended restrictions | None known. |
| Manufacturer/Importer/Supplier/Distributor information | |
| Company Name | Oatey Co. |
| Address | 4700 West 160th St. Cleveland, OH 44135 |
| Telephone | 216-267-7100 |
| E-mail | info@oatey.com |
| Transport Emergency | Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887) |
| Emergency First Aid | 1-877-740-5015 |
| Contact person | MSDS Coordinator |

2. Hazard(s) identification

| | | |
|----------------------|---|---|
| Physical hazards | Flammable liquids | Category 2 |
| Health hazards | Acute toxicity, oral | Category 4 |
| | Skin corrosion/irritation | Category 2 |
| | Serious eye damage/eye irritation | Category 2A |
| | Specific target organ toxicity, single exposure | Category 3 respiratory tract irritation |
| | Specific target organ toxicity, single exposure | Category 3 narcotic effects |
| | Aspiration hazard | Category 1 |
| OSHA defined hazards | Not classified. | |

Label elements



| | |
|-------------------------|--|
| Signal word | Danger |
| Hazard statement | Highly flammable liquid and vapor. Harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness. |
| Precautionary statement | |
| Prevention | Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. |
| Response | If swallowed: Immediately call a poison center/doctor. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor if you feel unwell. Rinse mouth. Do NOT induce vomiting. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish. |

| | |
|--|--|
| Storage | Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up. |
| Disposal | Dispose of contents/container in accordance with local/regional/national/international regulations. |
| Hazard(s) not otherwise classified (HNOC) | Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. May form explosive peroxides. Contains a chemical classified by the US EPA as a suspected possible carcinogen. |

Supplemental information

Not applicable.

3. Composition/information on ingredients

Mixtures

| Chemical name | CAS number | % |
|--------------------------|-------------|-------|
| Furan, Tetrahydro- | 109-99-9 | 35-55 |
| Acetone | 67-64-1 | 10-25 |
| Polyvinyl chloride | 9002-86-2 | 12-20 |
| Cyclohexanone | 108-94-1 | 10-20 |
| Silica, amorphous, fumed | 112945-52-5 | 1-5 |

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

| | |
|---|--|
| Inhalation | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. |
| Skin contact | Take off immediately all contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. |
| Eye contact | Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. |
| Ingestion | Call a physician or poison control center immediately. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Aspiration may cause pulmonary edema and pneumonitis. |
| Most important symptoms/effects, acute and delayed | Irritation of nose and throat. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Skin irritation. May cause redness and pain. |
| Indication of immediate medical attention and special treatment needed | Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed. |
| General information | Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse. |

5. Fire-fighting measures

| | |
|--|--|
| Suitable extinguishing media | Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO2). |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed. |
| Special protective equipment and precautions for firefighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| Fire fighting equipment/instructions | In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. |
| General fire hazards | Highly flammable liquid and vapor. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age. |

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Use water spray to reduce vapors or divert vapor cloud drift. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.

Environmental precautions

7. Handling and storage

Precautions for safe handling

Vapors may form explosive mixtures with air. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

| Components | Type | Value |
|------------------------------------|------|-------|
| Polyvinyl chloride (CAS 9002-86-2) | STEL | 5 ppm |
| | TWA | 1 ppm |

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| Components | Type | Value | Form |
|------------------------------------|------|------------|----------------------|
| Acetone (CAS 67-64-1) | PEL | 2400 mg/m3 | |
| | | 1000 ppm | |
| Cyclohexanone (CAS 108-94-1) | PEL | 200 mg/m3 | |
| | | 50 ppm | |
| Furan, Tetrahydro- (CAS 109-99-9) | PEL | 590 mg/m3 | |
| | | 200 ppm | |
| Polyvinyl chloride (CAS 9002-86-2) | PEL | 5 mg/m3 | Respirable fraction. |
| | | 15 mg/m3 | Total dust. |

US. OSHA Table Z-3 (29 CFR 1910.1000)

| Components | Type | Value |
|---|------|-----------|
| Silica, amorphous, fumed (CAS 112945-52-5) | TWA | 0.8 mg/m3 |
| | | 20 mppcf |

US. ACGIH Threshold Limit Values

| Components | Type | Value | Form |
|------------------------------------|------|---------|----------------------|
| Acetone (CAS 67-64-1) | STEL | 750 ppm | |
| | TWA | 500 ppm | |
| Cyclohexanone (CAS 108-94-1) | STEL | 50 ppm | |
| | TWA | 20 ppm | |
| Furan, Tetrahydro- (CAS 109-99-9) | STEL | 100 ppm | |
| | TWA | 50 ppm | |
| Polyvinyl chloride (CAS 9002-86-2) | TWA | 1 mg/m3 | Respirable fraction. |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value |
|---|------|-----------|
| Acetone (CAS 67-64-1) | TWA | 590 mg/m3 |
| | | 250 ppm |
| Cyclohexanone (CAS 108-94-1) | TWA | 100 mg/m3 |
| | | 25 ppm |
| Furan, Tetrahydro- (CAS 109-99-9) | STEL | 735 mg/m3 |
| | | 250 ppm |
| | TWA | 590 mg/m3 |
| | | 200 ppm |
| Silica, amorphous, fumed (CAS 112945-52-5) | TWA | 6 mg/m3 |

Biological limit values**ACGIH Biological Exposure Indices**

| Components | Value | Determinant | Specimen | Sampling Time |
|-----------------------------------|---------|--------------------------------------|----------|---------------|
| Acetone (CAS 67-64-1) | 50 mg/l | Acetone | Urine | * |
| Cyclohexanone (CAS 108-94-1) | 80 mg/l | 1,2-Cyclohexanediol, with hydrolysis | Urine | * |
| | 8 mg/l | Cyclohexanol, with hydrolysis | Urine | * |
| Furan, Tetrahydro- (CAS 109-99-9) | 2 mg/l | Tetrahydrofuran | Urine | * |

* - For sampling details, please see the source document.

Exposure guidelines**US - California OELs: Skin designation**

Cyclohexanone (CAS 108-94-1)

Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Cyclohexanone (CAS 108-94-1)

Skin designation applies.

US - Tennessee OELs: Skin designation

Cyclohexanone (CAS 108-94-1)

Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Cyclohexanone (CAS 108-94-1)

Can be absorbed through the skin.

Furan, Tetrahydro- (CAS 109-99-9)

Can be absorbed through the skin.

US. NIOSH: Pocket Guide to Chemical Hazards

Cyclohexanone (CAS 108-94-1)

Can be absorbed through the skin.

Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection

Face shield is recommended. Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection

Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state

Liquid.

Form

Translucent liquid.

Color

Gray.

Odor

Solvent.

Odor threshold

Not available.

pH

Not available.

Melting point/freezing point

Not available.

Initial boiling point and boiling range

151 °F (66.11 °C)

Flash point

-4.0 °F (-20.0 °C)

Evaporation rate

5.5 - 8

Flammability (solid, gas)

Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)

1.8

Flammability limit - upper (%)

11.8

Explosive limit - lower (%)

Not available.

Explosive limit - upper (%)

Not available.

Vapor pressure

145 mm Hg @ 20 °C

Vapor density

2.5

Relative density

0.95 +/- 0.02

Solubility(ies)

Solubility (water)

Negligible

Partition coefficient (n-octanol/water)

Not available.

Auto-ignition temperature

Not available.

Decomposition temperature

Not available.

Viscosity

600 - 1500 cP

Other information

VOC (Weight %)

423 g/l SCAQMD 1168/M316A

10. Stability and reactivity

| | |
|---|--|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. |
| Conditions to avoid | Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials. |
| Incompatible materials | Acids. Strong oxidizing agents. Ammonia. Amines. Isocyanates. Caustics. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information

Information on likely routes of exposure

| | |
|---------------------|---|
| Inhalation | May be fatal if swallowed and enters airways. Headache. Nausea, vomiting. May cause irritation to the respiratory system. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation may be harmful. |
| Skin contact | Causes skin irritation. |
| Eye contact | Causes serious eye irritation. |
| Ingestion | May be fatal if swallowed and enters airways. Harmful if swallowed. Harmful if swallowed. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia. |

Symptoms related to the physical, chemical and toxicological characteristics Irritation of nose and throat. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways. Narcotic effects. May cause respiratory irritation.

| Components | Species | Test Results |
|------------------------------|---------|-------------------|
| Acetone (CAS 67-64-1) | | |
| Acute | | |
| <i>Dermal</i> | | |
| LD50 | Rabbit | 20 ml/kg |
| <i>Inhalation</i> | | |
| LC50 | Rat | 50 mg/l, 8 Hours |
| <i>Oral</i> | | |
| LD50 | Rat | 5800 mg/kg |
| Cyclohexanone (CAS 108-94-1) | | |
| Acute | | |
| <i>Dermal</i> | | |
| LD50 | Rabbit | 948 mg/kg |
| <i>Inhalation</i> | | |
| LC50 | Rat | 8000 ppm, 4 hours |
| <i>Oral</i> | | |
| LD50 | Rat | 1540 mg/kg |

* Estimates for product may be based on additional component data not shown.

| | |
|--|--|
| Skin corrosion/irritation | Causes skin irritation. |
| Serious eye damage/eye irritation | Causes serious eye irritation. |
| Respiratory or skin sensitization | |
| Respiratory sensitization | Not available. |
| Skin sensitization | This product is not expected to cause skin sensitization. |
| Germ cell mutagenicity | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |

Carcinogenicity

In 2012 USEPA Integrated Risk Information System (IRIS) reviewed a two species inhalation lifetime study on THF conducted by NTP (1998). Male rats developed renal tumors and female mice developed liver tumors while neither the female rats nor the male mice showed similar results. Because the carcinogenic mechanisms could not be identified clearly in either species for either tumor, the EPA determined that the male rat and female mouse findings are relevant to the assessment of carcinogenic potential in humans. Therefore, the IRIS review concludes that these data in aggregate indicate that there is "suggestive evidence of carcinogenic potential" following exposure to THF by all routes of exposure.

IARC Monographs. Overall Evaluation of Carcinogenicity

| | |
|--|---|
| Cyclohexanone (CAS 108-94-1) | 3 Not classifiable as to carcinogenicity to humans. |
| Polyvinyl chloride (CAS 9002-86-2) | 3 Not classifiable as to carcinogenicity to humans. |
| Silica, amorphous, fumed (CAS 112945-52-5) | 3 Not classifiable as to carcinogenicity to humans. |

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

| | |
|------------------------------------|--------|
| Polyvinyl chloride (CAS 9002-86-2) | Cancer |
|------------------------------------|--------|

| | |
|---|---|
| Reproductive toxicity | This product is not expected to cause reproductive or developmental effects. |
| Specific target organ toxicity - single exposure | Narcotic effects. May cause drowsiness and dizziness. Respiratory tract irritation. |
| Specific target organ toxicity - repeated exposure | Not classified. |
| Aspiration hazard | May be fatal if swallowed and enters airways. |
| Chronic effects | Prolonged inhalation may be harmful. |

12. Ecological information

| | |
|--------------------|--|
| Ecotoxicity | The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. |
|--------------------|--|

| Components | Species | Test Results |
|------------------------------|---------|---|
| Acetone (CAS 67-64-1) | | |
| Aquatic | | |
| Fish | LC50 | Fathead minnow (Pimephales promelas) > 100 mg/l, 96 hours |
| Cyclohexanone (CAS 108-94-1) | | |
| Aquatic | | |
| Fish | LC50 | Fathead minnow (Pimephales promelas) 481 - 578 mg/l, 96 hours |

* Estimates for product may be based on additional component data not shown.

| | |
|--------------------------------------|--|
| Persistence and degradability | No data is available on the degradability of this product. |
|--------------------------------------|--|

| | |
|----------------------------------|--------------------|
| Bioaccumulative potential | No data available. |
|----------------------------------|--------------------|

Partition coefficient n-octanol / water (log Kow)

| | |
|-----------------------------------|-------|
| Acetone (CAS 67-64-1) | -0.24 |
| Cyclohexanone (CAS 108-94-1) | 0.81 |
| Furan, Tetrahydro- (CAS 109-99-9) | 0.46 |

| | |
|-------------------------|--------------------|
| Mobility in soil | No data available. |
|-------------------------|--------------------|

| | |
|------------------------------|---|
| Other adverse effects | No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component. |
|------------------------------|---|

13. Disposal considerations

| | |
|--|--|
| Disposal instructions | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations. |
| Local disposal regulations | Dispose in accordance with all applicable regulations. |
| Hazardous waste code | The waste code should be assigned in discussion between the user, the producer and the waste disposal company. |
| Waste from residues / unused products | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). |
| Contaminated packaging | Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. |

14. Transport information

DOT

| | |
|------------------------------|---|
| UN number | UN1993 |
| UN proper shipping name | Flammable liquids, n.o.s. (Acetone RQ = 25934 LBS) |
| Transport hazard class(es) | |
| Class | 3 |
| Subsidiary risk | - |
| Label(s) | 3 |
| Packing group | II |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |
| Special provisions | IB2, T7, TP1, TP8, TP28 |
| Packaging exceptions | 150 |
| Packaging non bulk | 202 |
| Packaging bulk | 242 |

IATA

| | |
|------------------------------|---|
| UN number | UN1993 |
| UN proper shipping name | Flammable liquid, n.o.s. (Acetone) |
| Transport hazard class(es) | |
| Class | 3 |
| Subsidiary risk | - |
| Packing group | II |
| Environmental hazards | No. |
| ERG Code | 3H |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |

IMDG

| | |
|------------------------------|---|
| UN number | UN1993 |
| UN proper shipping name | FLAMMABLE LIQUID, N.O.S. (Acetone) |
| Transport hazard class(es) | |
| Class | 3 |
| Subsidiary risk | - |
| Packing group | II |
| Environmental hazards | |
| Marine pollutant | No. |
| EmS | F-E, S-E |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |

Transport in bulk according to
Annex II of MARPOL 73/78 and
the IBC Code

Not available.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

| | |
|------------------------------------|------------------------|
| Polyvinyl chloride (CAS 9002-86-2) | Cancer |
| | Central nervous system |
| | Liver |
| | Blood |
| | Flammability |

CERCLA Hazardous Substance List (40 CFR 302.4)

| | |
|-----------------------------------|--------|
| Acetone (CAS 67-64-1) | LISTED |
| Cyclohexanone (CAS 108-94-1) | LISTED |
| Furan, Tetrahydro- (CAS 109-99-9) | LISTED |

Superfund Amendments and Reauthorization Act of 1986 (SARA)

| | |
|--------------------------|------------------------|
| Hazard categories | Immediate Hazard - Yes |
| | Delayed Hazard - No |
| | Fire Hazard - Yes |
| | Pressure Hazard - No |
| | Reactivity Hazard - No |

SARA 302 Extremely hazardous substance

Not listed.

| | |
|--|----|
| SARA 311/312 Hazardous chemical | No |
|--|----|

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

| | |
|---------------------------------------|----------------|
| Safe Drinking Water Act (SDWA) | Not regulated. |
|---------------------------------------|----------------|

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

| | |
|-----------------------|------|
| Acetone (CAS 67-64-1) | 6532 |
|-----------------------|------|

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

| | |
|-----------------------|--------|
| Acetone (CAS 67-64-1) | 35 %WV |
|-----------------------|--------|

DEA Exempt Chemical Mixtures Code Number

| | |
|-----------------------|------|
| Acetone (CAS 67-64-1) | 6532 |
|-----------------------|------|

US state regulations**US. Massachusetts RTK - Substance List**

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Silica, amorphous, fumed (CAS 112945-52-5)

US. New Jersey Worker and Community Right-to-Know Act

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Polyvinyl chloride (CAS 9002-86-2)

US. Pennsylvania Worker and Community Right-to-Know Law

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Silica, amorphous, fumed (CAS 112945-52-5)

US. Rhode Island RTK

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|---|------------------------|
| Canada | Domestic Substances List (DSL) | Yes |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | No |

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 27-May-2015
Revision date -
Version # 01
HMIS® ratings Health: 2
Flammability: 3
Physical hazard: 0

NFPA ratings



Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. Oatey Co. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.



SAFETY DATA SHEET

1. Identification

Product identifier Oatey Silver Lead Free and Safe-Flo® Solder

Other means of identification

SDS number 1601E

Synonyms Part Numbers: 22027, 23000, 23001, 23002, 29030, 29024, 29025, 53061, 53180, 53062, 53188, 53064, 53195, 50683, 50684, 50691, 50962, 53013, 53186

Recommended use Joining Copper Pipes.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company Name Oatey Co.

Address 4700 West 160th St.
Cleveland, OH 44135

Telephone 216-267-7100

E-mail info@oatey.com

Transport Emergency Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887)

Emergency First Aid 1-877-740-5015

Contact person MSDS Coordinator

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

Environmental hazards Hazardous to the aquatic environment, acute Category 1 hazard

OSHA defined hazards Not classified.

Label elements



Signal word Warning

Hazard statement Very toxic to aquatic life.

Precautionary statement

Prevention Avoid release to the environment.

Response Collect spillage.

Storage Store away from incompatible materials.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise and muscular pain.

3. Composition/information on ingredients

Mixtures

| Chemical name | CAS number | % |
|---------------|------------|--------|
| Tin | 7440-31-5 | 60-100 |
| Bismuth | 7440-69-9 | 1-5 |
| Copper | 7440-50-8 | 1-5 |
| Silver | 7440-22-4 | 1-5 |

4. First-aid measures

| | |
|---|--|
| Inhalation | Move to fresh air. Call a physician if symptoms develop or persist. |
| Skin contact | Wash off with soap and water. Get medical attention if irritation develops and persists. |
| Eye contact | Rinse with water. Get medical attention if irritation develops and persists. |
| Ingestion | Rinse mouth. Get medical attention if symptoms occur. |
| Most important symptoms/effects, acute and delayed | Direct contact with eyes may cause temporary irritation. |
| Indication of immediate medical attention and special treatment needed | Provide general supportive measures and treat symptomatically. |
| General information | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |

5. Fire-fighting measures

| | |
|--|---|
| Suitable extinguishing media | Water fog. Foam. Dry chemical powder. Dry sand. Carbon dioxide (CO ₂). |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | During fire, gases hazardous to health may be formed. |
| Special protective equipment and precautions for firefighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| Fire fighting equipment/instructions | Use water spray to cool unopened containers. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. |
| General fire hazards | No unusual fire or explosion hazards noted. |

6. Accidental release measures

| | |
|--|---|
| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. |
| Methods and materials for containment and cleaning up | Stop the flow of material, if this is without risk. Collect spillage. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS. |
| Environmental precautions | Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground. |

7. Handling and storage

| | |
|---|---|
| Precautions for safe handling | Avoid prolonged exposure. Avoid breathing dust/fume/gas/mist/vapors/spray. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Avoid release to the environment. Do not empty into drains. |
| Conditions for safe storage, including any incompatibilities | Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). |

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| Components | Type | Value | Form |
|------------------------|------|--|-------------------------|
| Copper (CAS 7440-50-8) | PEL | 1 mg/m ³ 0.1 mg/m ³ | Dust and mist. Fume. |
| Silver (CAS 7440-22-4) | PEL | 0.01 mg/m ³ | |
| Tin (CAS 7440-31-5) | PEL | 2 mg/m ³ | |

US. ACGIH Threshold Limit Values

| Components | Type | Value | Form |
|------------------------|------|-----------|----------------|
| Silver (CAS 7440-22-4) | TWA | 0.1 mg/m3 | Dust and fume. |
| Tin (CAS 7440-31-5) | TWA | 2 mg/m3 | |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value | Form |
|------------------------|------|------------|----------------|
| Copper (CAS 7440-50-8) | TWA | 1 mg/m3 | Dust and mist. |
| Silver (CAS 7440-22-4) | TWA | 0.01 mg/m3 | Dust. |
| Tin (CAS 7440-31-5) | TWA | 2 mg/m3 | |

| | |
|--|---|
| Biological limit values | No biological exposure limits noted for the ingredient(s). |
| Appropriate engineering controls | Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. |
| Individual protection measures, such as personal protective equipment | |
| Eye/face protection | Wear safety glasses with side shields (or goggles). |
| Skin protection | |
| Hand protection | Wear protective gloves. |
| Other | Wear appropriate chemical resistant clothing. |
| Respiratory protection | In case of insufficient ventilation, wear suitable respiratory equipment. |
| Thermal hazards | Wear appropriate thermal protective clothing, when necessary. |
| General hygiene considerations | Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. |

9. Physical and chemical properties

| | |
|---|--------------------------------|
| Appearance | Solid wire. |
| Physical state | Solid. |
| Form | Solid. |
| Color | Silver. |
| Odor | Not available. |
| Odor threshold | Not available. |
| pH | Not available. |
| Melting point/freezing point | 415 - 455 °F (212.78 - 235 °C) |
| Initial boiling point and boiling range | Not available. |
| Flash point | Not available. |
| Evaporation rate | Not available. |
| Flammability (solid, gas) | Not available. |
| Upper/lower flammability or explosive limits | |
| Flammability limit - lower (%) | Not available. |
| Flammability limit - upper (%) | Not available. |
| Explosive limit - lower (%) | Not available. |
| Explosive limit - upper (%) | Not available. |
| Vapor pressure | Not available. |
| Vapor density | Not available. |
| Relative density | 9 - 11 |
| Solubility(ies) | |
| Solubility (water) | Not available. |
| Partition coefficient (n-octanol/water) | Not available. |

| | |
|----------------------------------|----------------|
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |

10. Stability and reactivity

| | |
|---|---|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. |
| Conditions to avoid | Contact with incompatible materials. |
| Incompatible materials | Acids. Chlorine. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information

Information on likely routes of exposure

| | |
|---------------------|--|
| Inhalation | Prolonged inhalation may be harmful. |
| Skin contact | No adverse effects due to skin contact are expected. |
| Eye contact | Direct contact with eyes may cause temporary irritation. |
| Ingestion | Expected to be a low ingestion hazard. |

| | |
|---|--|
| Symptoms related to the physical, chemical and toxicological characteristics | Direct contact with eyes may cause temporary irritation. |
|---|--|

Information on toxicological effects

| | |
|--|--|
| Acute toxicity | Not available. |
| Skin corrosion/irritation | Prolonged skin contact may cause temporary irritation. |
| Serious eye damage/eye irritation | Direct contact with eyes may cause temporary irritation. |

Respiratory or skin sensitization

| | |
|----------------------------------|---|
| Respiratory sensitization | Not available. |
| Skin sensitization | This product is not expected to cause skin sensitization. |

| | |
|-------------------------------|--|
| Germ cell mutagenicity | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
|-------------------------------|--|

| | |
|------------------------|---|
| Carcinogenicity | This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. |
|------------------------|---|

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

| | |
|---|--|
| Reproductive toxicity | This product is not expected to cause reproductive or developmental effects. |
| Specific target organ toxicity - single exposure | Not classified. |
| Specific target organ toxicity - repeated exposure | Not classified. |
| Aspiration hazard | Not available. |
| Chronic effects | Prolonged inhalation may be harmful. |

12. Ecological information

| | |
|--------------------------------------|---|
| Ecotoxicity | Very toxic to aquatic life. |
| Persistence and degradability | No data is available on the degradability of this product. |
| Bioaccumulative potential | No data available. |
| Mobility in soil | No data available. |
| Other adverse effects | No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component. |

13. Disposal considerations

| | |
|--|--|
| Disposal instructions | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations. |
| Local disposal regulations | Dispose in accordance with all applicable regulations. |
| Hazardous waste code | The waste code should be assigned in discussion between the user, the producer and the waste disposal company. |
| Waste from residues / unused products | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). |
| Contaminated packaging | Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. |

14. Transport information

| | |
|---|-----------------------------------|
| DOT | Not regulated as dangerous goods. |
| IATA | Not regulated as dangerous goods. |
| IMDG | Not regulated as dangerous goods. |
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | Not applicable. |

15. Regulatory information

| | | | |
|---|---|-------------------|-----------------|
| US federal regulations | This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List. | | |
| TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D) | Not regulated. | | |
| OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) | Not listed. | | |
| CERCLA Hazardous Substance List (40 CFR 302.4) | | | |
| | Copper (CAS 7440-50-8) | LISTED | |
| | Silver (CAS 7440-22-4) | LISTED | |
| Superfund Amendments and Reauthorization Act of 1986 (SARA) | | | |
| Hazard categories | Immediate Hazard - No Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No | | |
| SARA 302 Extremely hazardous substance | Not listed. | | |
| SARA 311/312 Hazardous chemical | No | | |
| SARA 313 (TRI reporting) | | | |
| | Chemical name | CAS number | % by wt. |
| | Copper | 7440-50-8 | 1-5 |
| | Silver | 7440-22-4 | 1-5 |
| Other federal regulations | | | |
| Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List | Not regulated. | | |
| Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130) | Not regulated. | | |

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Copper (CAS 7440-50-8)
Silver (CAS 7440-22-4)
Tin (CAS 7440-31-5)

US. New Jersey Worker and Community Right-to-Know Act

Copper (CAS 7440-50-8)
Silver (CAS 7440-22-4)
Tin (CAS 7440-31-5)

US. Pennsylvania Worker and Community Right-to-Know Law

Copper (CAS 7440-50-8)
Silver (CAS 7440-22-4)
Tin (CAS 7440-31-5)

US. Rhode Island RTK

Copper (CAS 7440-50-8)
Silver (CAS 7440-22-4)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|--|------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | Yes |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | Yes |
| New Zealand | New Zealand Inventory | Yes |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 30-July-2014
Revision date 10-December-2014
Version # 02
HMIS® ratings Health: 0
Flammability: 0
Physical hazard: 0

Disclaimer Oatey Co. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: OPEN & SHUT

Product Code: DA6152

SUPPLIER NAME: LAWSON PRODUCTS, INC.

ADDRESS : 8770 W. Bryn Mawr Ave., Suite 900
Chicago, IL 60631
773-304-5050

EMERGENCY PHONE : 888-426-4851

Product Use: Multi-purpose penetrant

2. HAZARDS IDENTIFICATION

CLASSIFICATION

| | |
|---------------------------|---------------|
| Gas under pressure | Dissolved gas |
| Skin Corrosion/Irritation | 3 |
| Eye Damage/Irritation | 2B |
| Carcinogenicity | 2 |
| Aspiration hazard | 1 |



SIGNAL WORD: **Danger**

Hazard Statements

Contains gas under pressure; may explode if heated
May be fatal if swallowed and enters airways
Causes mild skin irritation
Causes eye irritation
Suspected of causing cancer

Precautionary Statements

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wash hands thoroughly after handling
Use personal protective equipment as required
Do NOT induce vomiting
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
IF exposed or concerned: Get medical advice/attention
If skin irritation occurs: Get medical advice/attention
If eye irritation persists: Get medical advice/attention
Store locked up
Protect from sunlight. Store in a well ventilated place
Dispose of contents/container to comply with all local, state, and federal regulations

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS No. | Percent |
|-------------------|------------|---------|
| PERCHLOROETHYLENE | 127-18-4 | 78.90 |
| PETROLEUM OIL | 64742-52-5 | 15.10 |
| CARBON DIOXIDE | 124-38-9 | 2.00 |

4. FIRST AID MEASURES

INHALATION: Remove to fresh air. Administer oxygen if needed. Apply artificial respiration if breathing has stopped. Get medical attention.

EYE CONTACT: Wash immediately with large volumes of fresh water for at least 15 minutes. Get medical attention.

SKIN CONTACT: Wipe off with a towel. Wash with soap and water. Get medical attention if irritation persists.

INGESTION: Not a likely route of exposure.

Most important symptoms/effects, acute and delayed: Repeated exposure may cause skin dryness or cracking. May cause drowsiness or dizziness.

Indication of immediate medical attention and special treatment needed: None known.

5. FIRE FIGHTING MEASURES

Suitable and unsuitable extinguishing media: Foam, Alcohol foam, CO2, Dry chemical, Water fog. Water spray may be ineffective.

Specific hazards arising from the chemical: Closed containers may explode from internal pressure build-up when exposed to extreme heat and discharge contents. Liquid content of container will not support combustion. Overexposure to decomposition products may cause a health hazard. Symptoms may not be readily apparent. Obtain medical attention. Hazardous decomposition products include carbon dioxide, carbon monoxide, and other toxic fumes.

Special equipment and precautions for fire-fighters: Water may be used to cool containers to prevent pressure build-up and explosion when exposed to extreme heat. Wear goggles and use self-contained breathing apparatus. If water is used, fog nozzles are preferred.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Avoid breathing vapors. Ventilate area. Remove all sources of ignition.

Methods and materials for containment and cleaning up: Clean up with absorbent material and place in closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling: Do not puncture or incinerate (burn) cans. Do not stick pins, nails, or any other sharp objects into opening on top of can. Do not spray in eyes. Do not take internally. See product label for additional information.

Conditions for safe storage, including any incompatibilities: Store and use in cool, dry, well-ventilated areas. Do not store above 120 F.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

| Chemical Name / CAS No. | OSHA Exposure Limits | ACGIH Exposure Limits | Other Exposure Limits |
|-------------------------------|--|--|--|
| PERCHLOROETHYLENE 127-18-4 | Short term value: C 200; 300 ppm Long term value: 100 ppm | Short term value: 685 mg/m ³ , 100 ppm Long term value: 170 mg/m ³ ; 25 ppm | |
| PETROLEUM OIL 64742-52-5 | PEL: Mist 5 mg/m ³ , 8 hrs | TLV: Mist 5 mg/m ³ , 8 hrs | |
| CARBON DIOXIDE 124-38-9 | 5000 ppm TWA, 8 hours | 5000 ppm TWA; , 8 hours; 30000 ppm STEL, 15 minutes | 5000 ppm NIOSH TWA, 10 hours; 30000 ppm NIOSH STEL, 15 minutes |

Appropriate engineering controls: Ventilation should be sufficient to prevent inhalation of any vapors. General dilution and/or local exhaust ventilation in volume to keep PEL/TLV of most hazardous ingredient below acceptable limit and lel below stated limit.

Individual protection measures:

Respiratory protection: None under normal use. Avoid breathing vapors. In restricted areas, use approved chemical/mechanical filters designed to remove a combination of particles and vapor. In confined areas, use an approved air line respirator or hood. Self-contained breathing apparatus is required for vapor concentrations above PEL/TLV limits.

Protective gloves: None under normal use. Use solvent-resistant for prolonged or repeated contact.

Eye protection: None under normal use. However, use of safety glasses with splash guards or full face shield should be used if indicated.

Other protective clothing or equipment: None under normal use. However, use of solvent-resistant aprons or other clothing is recommended. Eye washes and safety showers in the workplace are recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| Appearance: Aerosol product Vapor Pressure: Not determined Vapor Density: Heavier than air Density: 1.387533165 Freezing point: Not determined Boiling point: Not determined Evaporation rate: Slower than ether Explosive Limits: Not applicable Autoignition temperature: Not determined Viscosity: Not determined | Odor: Chlorinated solvent Odor threshold: Not determined pH: Not applicable Melting point: Not determined Solubility: Not determined Flash point: Not determined Flammability: Level 1 Aerosol Partition coefficient (n-octanol/water): Not determined Decomposition temperature: Not determined |
|---|---|

10. STABILITY AND REACTIVITY

Reactivity: Not reactive under normal conditions of use.

Chemical stability: Stable under normal storage and handling conditions.

Possibility of hazardous reactions: None known.

Incompatible materials:

Acids, Bases, Strong oxidizing agents, Oxygen, Peroxides, Reactive metals, Aluminum

Hazardous decomposition products:

Hydrogen chloride, chlorine, phosgene, oxides of carbon

11. TOXICOLOGICAL INFORMATION

Long-term toxicological studies have not been conducted for this product.

12. ECOLOGICAL INFORMATION

Long-term ecological studies have not been conducted for this product.

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with local, state, and federal regulations. Before attempting clean up, refer to other sections of this document for hazard cautionary information.

14. TRANSPORT INFORMATION

By land: DOT Proper Shipping Name: None required per 49 CFR 173.306(i) for products that conform to the Limited Quantity provisions. Commodity shipping description: Lubricant, NOI

By water: DOT & IMDG Proper Shipping Name: UN1950, Aerosols, 2.2, LTD QTY

By air: DOT & IATA Proper Shipping Name: UN1950, Aerosols, non-flammable, 2.2, LTD QTY (packing instruction Y203 applies)

15. REGULATORY INFORMATION

All ingredients are either listed on the TSCA inventory or are exempt.

16. OTHER INFORMATION

Date revised: 2015-06-29

Revision 0

Date Printed: 2015-06-29

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. BECAUSE THE INFORMATION CONTAINED HEREIN MAY BE APPLIED UNDER CONDITIONS BEYOND OUR CONTROL, WE ASSUME NO RESPONSIBILITY FOR ITS USE.

Issuing date 20-Mar-2015

Revision Date 24-Mar-2015

Version 1.01

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name OUTLAST BLACK

**Recommended use of the chemical
and restrictions on use**

Product code DA6802

Product Type Extremely flammable aerosol
Synonyms None

Supplier's details

Recommended Use Coating.
Uses advised against No information available

Manufactured For:
Lawson Products, Inc
8770 W. Bryn Mawr Avenue - Suite 900
Chicago, IL 60631-3515
773-304-5050

Emergency telephone number
Chemical Emergency Phone 888-426-4851
Number

2. HAZARDS IDENTIFICATION

Classification

| | |
|--|----------------|
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 2A |
| Carcinogenicity | Category 2 |
| Reproductive Toxicity | Category 2 |
| Specific target organ toxicity (single exposure) | Category 3 |
| Specific target organ toxicity (repeated exposure) | Category 2 |
| Aspiration toxicity | Category 1 |
| Flammable aerosols | Category 1 |
| Gases under pressure | Compressed Gas |

GHS Label elements, including precautionary statements

Emergency Overview

DANGER

Hazard Statements

Causes skin irritation
 Causes serious eye irritation
 Suspected of causing cancer
 Suspected of damaging fertility or the unborn child
 May cause drowsiness or dizziness
 May cause damage to organs (central nervous system, eyes, kidney, liver, respiratory system, and skin) through prolonged or repeated exposure.
 May be fatal if swallowed and enters airways
 Extremely flammable aerosol
 Contains gas under pressure; may explode if heated



Appearance opaque

Physical state Aerosol

Odor Solvent

Precautionary Statements - Prevention

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Wash face, hands and any exposed skin thoroughly after handling
 Wear protective gloves/protective clothing/eye protection/face protection
 Do not breathe dust/fume/gas/mist/vapors/spray
 Use only outdoors or in a well-ventilated area
 Keep away from heat/sparks/open flames/hot surfaces. — No smoking
 Do not spray on an open flame or other ignition source
 Pressurized container: Do not pierce or burn, even after use

Precautionary Statements - Response

If exposed or concerned: Get medical advice/attention
 Specific treatment (see first aid on this label)
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 If eye irritation persists: Get medical advice/attention

IF ON SKIN: Wash with plenty of soap and water.
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do NOT induce vomiting

Precautionary Statements - Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None

Other information

- Toxic to aquatic life with long lasting effects

0.29532733% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | Weight %* |
|----------------------------|------------|-----------|
| CALCIUM CARBONATE | 1317-65-3 | 30-40 |
| PROPANE/ISOBUTANE/N-BUTANE | 68476-86-8 | 10-20 |
| TOLUENE | 108-88-3 | 10-20 |
| METHYL ACETATE | 79-20-9 | 10-20 |
| ACETONE | 67-64-1 | 1-10 |
| METHANOL | 67-56-1 | 0.1-1 |
| SOLVENT NAPHTHA | 64742-94-5 | 0.1-1 |
| XYLENE | 1330-20-7 | 0.1-1 |
| CARBON BLACK | 1333-86-4 | 0.1-1 |
| PETROLEUM DISTILLATES | 64742-89-8 | 0.1-1 |

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES**First aid measures for different exposure routes**

| | |
|---------------------|--|
| Eye contact | Rinse thoroughly with plenty of water for at least 15 minutes. Consult a physician if irritation persists. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist. |
| Skin contact | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician. |
| Inhalation | Move to fresh air. If breathing is difficult, give oxygen. Artificial respiration and/or oxygen may be necessary. If breathing has stopped, contact emergency medical services immediately. |

Ingestion Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.

Most important symptoms/effects, acute and delayed

Main Symptoms Causes skin and eye irritation. Irritating to respiratory system. May cause drowsiness or dizziness. May damage to fertility or the unborn child. May cause cancer. Harmful or fatal if swallowed and enters airways. Causes damage to organs through prolonged or repeated exposure.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Water spray. Foam. Dry powder. Dry chemical. Alcohol-resistant foam.

Unsuitable Extinguishing Media Keep away from heat and sources of ignition. Cool containers / tanks with water spray.

Specific hazards arising from the chemical

Extremely flammable. Risk of ignition.

Explosion Data

Sensitivity to Mechanical Impact none.

Sensitivity to Static Discharge none.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with eyes. Avoid breathing vapors or mists. Contents under pressure. Do not puncture or incinerate cans. Do not stick pin or any other sharp object into opening on top of can. Avoid skin contact. Use with adequate ventilation. Keep container away from heat, flames, and all other sources of ignition. Keep can away from all sources of electricity such as electric motors and batteries. Do not spray on hot surfaces.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Methods and materials for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Use only in an area containing flame proof equipment. Avoid breathing vapors or mists. Do not puncture or incinerate cans. Do not stick pin or any other sharp object into opening on top of can. Contents under pressure.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions Keep away from open flames, hot surfaces and sources of ignition. Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep away from direct sunlight. Store locked up.

Incompatible products None known based on information supplied.

Aerosol Level 2

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|--|---|---|--|
| CALCIUM CARBONATE 1317-65-3 | - | TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 15 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction | TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust |
| PROPANE/ISOBUTANE/N-BUTANE 68476-86-8 | 74-98-6: TWA: 1000 ppm 106-97-8: STEL: 1000 ppm 75-28-5: STEL: 1000 ppm | 74-98-6: TWA: 1000 ppm TWA: 1800 mg/m ³ (vacated) TWA: 1000 ppm (vacated) TWA: 1800 mg/m ³ 106-97-8: (vacated) TWA: 800 ppm (vacated) TWA: 1900 mg/m ³ | 74-98-6: IDLH: 2100 ppm TWA: 1000 ppm TWA: 1800 mg/m ³ 106-97-8: TWA: 800 ppm TWA: 1900 mg/m ³ 75-28-5: TWA: 800 ppm TWA: 1900 mg/m ³ |
| TOLUENE 108-88-3 | TWA: 20 ppm | TWA: 200 ppm (vacated) TWA: 100 ppm (vacated) TWA: 375 mg/m ³ (vacated) STEL: 150 ppm (vacated) STEL: 560 mg/m ³ Ceiling: 300 ppm | IDLH: 500 ppm TWA: 100 ppm TWA: 375 mg/m ³ STEL: 150 ppm STEL: 560 mg/m ³ |
| METHYL ACETATE 79-20-9 | STEL: 250 ppm TWA: 200 ppm | TWA: 200 ppm TWA: 610 mg/m ³ (vacated) TWA: 200 ppm (vacated) TWA: 610 mg/m ³ (vacated) STEL: 250 ppm (vacated) STEL: 760 mg/m ³ | IDLH: 3100 ppm TWA: 200 ppm TWA: 610 mg/m ³ STEL: 250 ppm STEL: 760 mg/m ³ |
| ACETONE 67-64-1 | STEL: 750 ppm TWA: 500 ppm | TWA: 1000 ppm TWA: 2400 mg/m ³ (vacated) TWA: 750 ppm (vacated) TWA: 1800 mg/m ³ (vacated) STEL: 2400 mg/m ³ The acetone STEL does not apply to the cellulose acetate fiber industry. It is in effect for all other sectors (vacated) STEL: 1000 ppm | IDLH: 2500 ppm TWA: 250 ppm TWA: 590 mg/m ³ |
| METHANOL 67-56-1 | STEL: 250 ppm TWA: 200 ppm Skin - potential significant contribution to overall exposure by the cutaneous route | TWA: 200 ppm TWA: 260 mg/m ³ (vacated) TWA: 200 ppm (vacated) TWA: 260 mg/m ³ (vacated) STEL: 250 ppm (vacated) STEL: 325 mg/m ³ (vacated) S* | IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m ³ STEL: 250 ppm STEL: 325 mg/m ³ |

| | | | |
|---------------------------|---|--|---|
| XYLENE 1330-20-7 | STEL: 150 ppm TWA: 100 ppm | TWA: 100 ppm TWA: 435 mg/m ³ (vacated) TWA: 100 ppm (vacated) TWA: 435 mg/m ³ (vacated) STEL: 150 ppm (vacated) STEL: 655 mg/m ³ | - |
| CARBON BLACK 1333-86-4 | TWA: 3 mg/m ³ inhalable fraction | TWA: 3.5 mg/m ³ (vacated) TWA: 3.5 mg/m ³ | IDLH: 1750 mg/m ³ TWA: 3.5 mg/m ³ TWA: 0.1 mg/m ³ Carbon black in presence of Polycyclic aromatic hydrocarbons PAH |

ACGIH: (American Conference of Governmental Industrial Hygienists)

OSHA: (Occupational Safety & Health Administration)

NIOSH IDLH: Immediately Dangerous to Life or Health

Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Exposure controls

Engineering Measures

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection

Safety glasses with side-shields.

Skin and body protection

Chemical resistant apron. Protective gloves.

Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures

Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Avoid contact with skin, eyes and clothing. Wash hands and face before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and chemical properties

Physical state

Aerosol

Appearance

opaque

Color

black

Odor

Solvent

Odor Threshold

No information available

Property

Values

Remarks • Methods

pH

0

Melting/freezing point

No information available

Boiling point/boiling range

No information available

Flash Point

-104.4 °C / -156 °F

Based on propellant

Evaporation rate

No information available

Flammability (solid, gas)

No information available

Flammability Limits in Air

upper flammability limit

No information available

lower flammability limit

No information available

Vapor pressure

No information available

Vapor density

No information available

Specific Gravity

1.002

| | |
|---|--------------------------|
| Water solubility | Practically insoluble |
| Partition coefficient: n-octanol/water | No information available |
| Autoignition temperature | No information available |
| Decomposition temperature | No information available |
| Viscosity | No information available |
| Explosive properties | No information available |

Other information

VOC Content(%) 37.52

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Conditions to Avoid

Extremes of temperature and direct sunlight.

Incompatible Materials

None known based on information supplied.

Hazardous Decomposition Products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure**Product Information**

| | |
|---------------------|--|
| Inhalation | May cause drowsiness and dizziness based on components. Avoid breathing vapors or mists. |
| Eye contact | Irritating to eyes. Avoid contact with eyes. |
| Skin contact | Irritating to skin. Prolonged skin contact may defat the skin and produce dermatitis. Avoid contact with skin. |
| Ingestion | May be harmful if swallowed. Aspiration into the lungs during swallowing may cause serious lung damage which may be fatal. |

Component Information

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|-------------------------------|----------------------|--------------------------|---------------------------------------|
| TOLUENE 108-88-3 | = 2600 mg/kg (Rat) | = 12000 mg/kg (Rabbit) | = 12.5 mg/L (Rat) 4 h |
| METHYL ACETATE 79-20-9 | > 5000 mg/kg (Rat) | > 5 g/kg (Rabbit) | = 16000 ppm (Rat) 4 h |
| ACETONE 67-64-1 | = 5800 mg/kg | 20,000 mg/kg (Rabbit) | = 50100 mg/m ³ (Rat) 8 h |
| METHANOL 67-56-1 | = 6200 mg/kg (Rat) | - | = 22500 ppm (Rat) 8 h |
| SOLVENT NAPHTHA 64742-94-5 | > 5000 mg/kg (Rat) | > 2 mL/kg (Rabbit) | > 590 mg/m ³ (Rat) 4 h |
| XYLENE 1330-20-7 | = 3500 mg/kg (Rat) | > 4350 mg/kg (Rabbit) | = 29.08 mg/L (Rat) 4 h |

| | | | |
|-------------------------------------|---|-------------------------|---|
| PETROLEUM DISTILLATES 64742-89-8 | - | = 3000 mg/kg (Rabbit) | - |
|-------------------------------------|---|-------------------------|---|

Information on toxicological effects**Symptoms**

Symptoms of overexposure may be headache, tiredness, nausea, and vomiting. Harmful in contact with skin. Causes irritation to eyes. Causes drowsiness and dizziness. Aspiration into the lungs during swallowing may cause serious lung damage which may be fatal.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Skin corrosion/irritation**

Irritating to skin.

Eye damage/irritation

Irritating to eyes.

Sensitization

None known.

Germ Cell Mutagenicity

None known.

Carcinogenicity

The table below indicates whether each agency has evaluated a listed ingredient as a carcinogen.

| Chemical Name | ACGIH | IARC | NTP | OSHA |
|---------------------------|-------|----------|-----|------|
| TOLUENE 108-88-3 | - | Group 3 | - | - |
| XYLENE 1330-20-7 | - | Group 3 | - | - |
| CARBON BLACK 1333-86-4 | A3 | Group 2B | - | - |

ACGIH: (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC: (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans

Group 3 - Not Classifiable as to Carcinogenicity in Humans

Reproductive toxicity

Product is or contains a chemical which is a known or suspected reproductive hazard.

Specific target organ systemic toxicity (single exposure)

May cause drowsiness and dizziness.

Specific target organ systemic toxicity (repeated exposure)

May cause damage to organs through prolonged or repeated exposure.

Chronic toxicity

May cause adverse liver effects.

Target Organ Effects

Central nervous system, Eyes, Kidney, Liver, Respiratory system, Skin.

Neurological effects

Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal.

Aspiration hazard

May be fatal if swallowed and enters airways.

Numerical measures of toxicity - Product Information**Unknown Acute Toxicity**

0.29532733% of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 8031 mg/kg

ATEmix (dermal) 7129 mg/kg

ATEmix (inhalation-dust/mist) 58.3 mg/l

12. ECOLOGICAL INFORMATION**Ecotoxicity**

| Chemical Name | Toxicity to algae | Toxicity to fish | Toxicity to microorganisms | Toxicity to daphnia and other aquatic invertebrates |
|---------------|-------------------|------------------|----------------------------|---|
|---------------|-------------------|------------------|----------------------------|---|

| | | | | |
|-------------------------------|---|---|---|---|
| TOLUENE 108-88-3 | 433 mg/L EC50 Pseudokirchneriella subcapitata 96h 12.5 mg/L EC50 Pseudokirchneriella subcapitata 72h static | 11.0 - 15.0 mg/L LC50 Lepomis macrochirus 96h static 14.1 - 17.16 mg/L LC50 Oncorhynchus mykiss 96h static 15.22 - 19.05 mg/L LC50 Pimephales promelas 96h flow-through 5.89 - 7.81 mg/L LC50 Oncorhynchus mykiss 96h flow-through 50.87 - 70.34 mg/L LC50 Poecilia reticulata 96h static 12.6 mg/L LC50 Pimephales promelas 96h static 28.2 mg/L LC50 Poecilia reticulata 96h semi-static 5.8 mg/L LC50 Oncorhynchus mykiss 96h semi-static 54 mg/L LC50 Oryzias latipes 96h static | - | 5.46 - 9.83 mg/L EC50 Daphnia magna 48h Static 11.5 mg/L EC50 Daphnia magna 48h |
| METHYL ACETATE 79-20-9 | 120 mg/L EC50 Desmodesmus subspicatus 72h | 250 - 350 mg/L LC50 Brachydanio rerio 96h static 295 - 348 mg/L LC50 Pimephales promelas 96h flow-through | - | 1026.7 mg/L EC50 Daphnia magna 48h |
| ACETONE 67-64-1 | - | 4.74 - 6.33 mL/L LC50 Oncorhynchus mykiss 96h 6210 - 8120 mg/L LC50 Pimephales promelas 96h static 8300 mg/L LC50 Lepomis macrochirus 96h | - | 10294 - 17704 mg/L EC50 Daphnia magna 48h Static 12600 - 12700 mg/L EC50 Daphnia magna 48h |
| METHANOL 67-56-1 | - | 13500 - 17600 mg/L LC50 Lepomis macrochirus 96h flow-through 18 - 20 mL/L LC50 Oncorhynchus mykiss 96h static 19500 - 20700 mg/L LC50 Oncorhynchus mykiss 96h flow-through 28200 mg/L LC50 Pimephales promelas 96h flow-through 100 mg/L LC50 Pimephales promelas 96h static | - | - |
| SOLVENT NAPHTHA 64742-94-5 | - | 1740 mg/L LC50 Lepomis macrochirus 96h static 19 mg/L LC50 Pimephales promelas 96h static 2.34 mg/L LC50 Oncorhynchus mykiss 96h 41 mg/L LC50 Pimephales promelas 96h 45 mg/L LC50 Pimephales promelas 96h flow-through | - | 0.95 mg/L EC50 Daphnia magna 48h |

| | | | | |
|-------------------------------------|--|---|---|--|
| XYLENE 1330-20-7 | - | 13.1 - 16.5 mg/L LC50 Lepomis macrochirus 96h flow-through 13.5 - 17.3 mg/L LC50 Oncorhynchus mykiss 96h 2.661 - 4.093 mg/L LC50 Oncorhynchus mykiss 96h static 23.53 - 29.97 mg/L LC50 Pimephales promelas 96h static 30.26 - 40.75 mg/L LC50 Poecilia reticulata 96h static 7.711 - 9.591 mg/L LC50 Lepomis macrochirus 96h static 13.4 mg/L LC50 Pimephales promelas 96h flow-through 19 mg/L LC50 Lepomis macrochirus 96h 780 mg/L LC50 Cyprinus carpio 96h semi-static 780 mg/L LC50 Cyprinus carpio 96h | - | 0.6 mg/L LC50 Gammarus lacustris 48h 3.82 mg/L EC50 water flea 48h |
| PETROLEUM DISTILLATES 64742-89-8 | 4700 mg/L EC50 Pseudokirchneriella subcapitata 72h | - | - | - |

Persistence and degradability

No information available.

Bioaccumulation

No information available.

| Chemical Name | log Pow |
|--|---------|
| PROPANE/ISOBUTANE/N-BUTANE 68476-86-8 | 2.8 |
| TOLUENE 108-88-3 | 2.65 |
| METHYL ACETATE 79-20-9 | 0.18 |
| ACETONE 67-64-1 | -0.24 |
| METHANOL 67-56-1 | -0.77 |
| SOLVENT NAPHTHA 64742-94-5 | 6.1 |
| XYLENE 1330-20-7 | 3.15 |

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS**Waste treatment****Waste Disposal Methods**

This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

Contaminated packaging

Do not re-use empty containers. Empty containers should be taken to an approved waste handling site for recycling or disposal. Pressurized container: Do not pierce or burn, even after use.

14. TRANSPORT INFORMATION

DOT Ground CONSUMER COMMODITY ORM-D
or
LIMITED QUANTITY

IATA UN1950, AEROSOLS, FLAMMABLE, 2.1, LTD. QTY.

IMDG UN1950, AEROSOLS, 2.1, LTD. QTY.

15. REGULATORY INFORMATION

International Inventories

| Chemical Name | TSCA | DSL/NDSL | EINECS/ELI NCS | ENCS | IECSC | KECL | PICCS | AICS |
|----------------------------|------|----------|-------------------|------------|-------|------|-------|------|
| CALCIUM CARBONATE | X | X | X | X | X | X | X | X |
| PROPANE/ISOBUTANE/N-BUTANE | X | X | X | Not listed | X | X | X | X |
| TOLUENE | X | X | X | X | X | X | X | X |
| METHYL ACETATE | X | X | X | X | X | X | X | X |
| ACETONE | X | X | X | X | X | X | X | X |
| METHANOL | X | X | X | X | X | X | X | X |
| SOLVENT NAPHTHA | X | X | X | X | X | X | X | X |
| XYLENE | X | X | X | X | X | X | X | X |
| CARBON BLACK | X | X | X | X | X | X | X | X |
| PETROLEUM DISTILLATES | X | X | X | Not listed | X | X | X | X |

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

CHINA - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

| Chemical Name | CAS-No | Weight %* | SARA 313 - Threshold Values % |
|--------------------|-----------|-----------|-------------------------------|
| TOLUENE - 108-88-3 | 108-88-3 | 10-20 | 1.0 |
| METHANOL - 67-56-1 | 67-56-1 | 0.1-1 | 1.0 |
| XYLENE - 1330-20-7 | 1330-20-7 | 0.1-1 | 1.0 |

SARA 311/312 Hazard Categories

| | |
|-----------------------------------|-----|
| Acute Health Hazard | Yes |
| Chronic Health Hazard | Yes |
| Fire Hazard | Yes |
| Sudden Release of Pressure Hazard | Yes |
| Reactive Hazard | no |

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

| Chemical Name | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|---------------------|-----------------------------|------------------------|---------------------------|----------------------------|
| TOLUENE 108-88-3 | 1000 lb | X | X | X |
| XYLENE 1330-20-7 | 100 lb | | | X |

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

| Chemical Name | Hazardous Substances RQs | Extremely Hazardous Substances RQs | RQ |
|---------------------|--------------------------|------------------------------------|--|
| TOLUENE 108-88-3 | 1000 lb 1 lb | | RQ 1000 lb final RQ RQ 454 kg final RQ RQ 1 lb final RQ RQ 0.454 kg final RQ |
| ACETONE 67-64-1 | 5000 lb | | RQ 5000 lb final RQ RQ 2270 kg final RQ |
| METHANOL 67-56-1 | 5000 lb | | RQ 5000 lb final RQ RQ 2270 kg final RQ |
| XYLENE 1330-20-7 | 100 lb | | RQ 100 lb final RQ RQ 45.4 kg final RQ |

U.S. State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals:

| Chemical Name | California Prop. 65 |
|--------------------------|--------------------------------------|
| TOLUENE - 108-88-3 | Developmental Female Reproductive |
| METHANOL - 67-56-1 | Carcinogen |
| CARBON BLACK - 1333-86-4 | Carcinogen |

U.S. State Right-to-Know Regulations

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|-------------------------------------|------------|---------------|--------------|
| CALCIUM CARBONATE 1317-65-3 | X | X | X |
| TOLUENE 108-88-3 | X | X | X |
| METHYL ACETATE 79-20-9 | X | X | X |
| ACETONE 67-64-1 | X | X | X |
| METHANOL 67-56-1 | X | X | X |
| XYLENE 1330-20-7 | X | X | X |
| CARBON BLACK 1333-86-4 | X | X | X |
| PETROLEUM DISTILLATES 64742-89-8 | | | X |

EPA Pesticide Registration Number Not applicable

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**16. OTHER INFORMATION**

| | | | | |
|-----------------------------------|-------------------------|---|--------------------------|--|
| NFPA | Health Hazard 2 | Flammability 4 | Instability 0 | Physical and chemical hazards - |
| HMIS | Health Hazard 2* | Flammability 4 | Physical Hazard 1 | Personal protection B |
| <i>Chronic Hazard Star Legend</i> | | <i>Chronic Health Hazard Repeated or prolonged exposure may cause central nervous system damage</i> | | |

| | |
|----------------------|--------------------|
| Prepared By | Regulatory Affairs |
| Issuing date | 20-Mar-2015 |
| Revision Date | 24-Mar-2015 |

Revision Note

No information available

Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet



SAFETY DATA SHEET

HMIS:

Health- 2 Flammability- 2 Reactivity- 0 Pers.
Protection- B

WHMIS: D 2 B

NFPA:

Health- 2 Flammability- 2 Reactivity- 0 Special Hazard-
N

Section 1: Product and Company Identification

Product: Para Deodorizing Blocks, all Synonyms:

NILODOR, INC.

10966 INDUSTRIAL PARKWAY NW
BOLIVAR, OHIO 44612, USA

Non-Emergency:

US 800-443-4321

International +01-330-874-1017

24 hr Emergency Spill Information:

Chem-Tel, Inc.

US, Canada: 800-255-3924. International:
+01-813-248-0585

Section 2: Hazards Identification

EMERGENCY OVERVIEW

Appearance/Odor: Cake-like solid. See section 9



WARNING

Flammability :

Not classified as flammable

Health Hazards Listed : See below

Ecological Hazards Listed : Moderately toxic to aquatic organisms

Potential Health Effects: See section 11 for more information.

Risk Phrases:

R22 - Harmful if swallowed

Safety Phrases:

S2 - Keep out of the reach of children

S37 - Wear suitable gloves

Hazard Phrases:

H303 - May be harmful if swallowed

Precautionary Phrases:

P202 - Do not handle until all safety precautions have been read and understood.

P264 - Wash thoroughly after handling.

Likely Routes of Exposure: Ingestion, Inhalation

Eye:

Direct exposure can irritate

Skin: Prolonged or repeated exposure can irritate

Ingestion: Harmful if swallowed

Inhalation: Can irritate respiratory tract

Medical Conditions Aggravated By Exposure:

Respiratory problems

Target Organs: Liver, kidney in high dosages

This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Potential Environmental Effects: (See section 12 for more information.)

Biodegradable

Section 3. Composition/Information on Ingredients

| Component | CAS# | % by Weight | WHMIS Controlled |
|--------------------------------|----------|-------------|---------------------|
| Trade Secret Fragrance Mixture | None | 0 - 2.0 | N |
| Trade secret dye mixture | None | 0 - 2.0 | N |
| Only known ingredients | | | |
| 1,4-Dichlorobenzene | 106-46-7 | 60-100 | Y |

Section 4. First Aid Measures

| | |
|---------------------|---|
| Eye Contact: | Flush eyes with copious amounts of clean water, holding lids open. If irritation persists, consult a physician. |
| Skin Contact: | Wash with soap and water. |
| Inhalation: | Remove to fresh air. |
| Ingestion: | If conscious, give water or milk to drink. |
| Note to Physicians: | Emesis not recommended. If removal from stomach is indicated, gastric lavage may be used. |

Section 5. Fire Fighting Measures

| | |
|---------------------------------|--|
| Suitable Extinguishing Media: | Carbon dioxide, foam, dry chemical. |
| Unsuitable Extinguishing Media: | None known. |
| Products of Combustion: | Chlorine, hydrogen chloride, phosgene, oxides of carbon and chlorine. |
| Protection of Firefighters: | If large quantities of product involved, use self-contained breathing apparatus. |

Section 6. Accidental Release Measures

| | |
|----------------------------|--|
| Personal Precautions: | Keep away from skin and eyes. Rubber or other protective gloves recommended for handling product. |
| Environmental Precautions: | Keep out of surface waters and sanitary sewers. |
| Methods for Containment: | Not normally needed; product is solid at ambient temperatures. |
| Methods for Clean-Up: | If any inner cellophane wrappings are torn, wear protective gloves. Gather or shovel up scattered units. |

Other Information:

Section 7. Handling and Storage

HANDLING

Do not open inner package until ready to install.

STORAGE

Keep out of the reach of children. Store in original container at ambient temperature, not more than 50°C/120°F.

| |
|--|
| Section 8. Exposure Controls/Personal Protection |
|--|

EXPOSURE GUIDELINES

| | | |
|--|------------------|----------------|
| COMPONENT: | TWA: | LD-50 |
| Trade Secret Fragrance Mixture | None established | Not determined |
| Trade secret dye mixture | None established | Not determined |
| Only known ingredients | | |
| 1,4-Dichlorobenzene | TLV 10 ppm | 3790 mg/kg |
| Engineering Controls: Not normally necessary when handling individual blocks | | |
| Eye/Face Protection: Not normally necessary when handling individual blocks | | |
| Skin Protection: Rubber or other protective gloves recommended if handling block outside inner package | | |
| Respiratory Protection: Not normally necessary. | | |
| General Hygiene Considerations: Keep away from food and beverages | | |

| |
|---|
| Section 9. Physical and Chemical Properties |
|---|

| | |
|---|---|
| Color: Pink - light red (Cherry) or white - pale yellow (Cherry or Lemon) | Odor: Cherry or lemon + characteristic \"mothball\" |
| Physical State: Cake-like solid. May be enclosed in white plastic cage. | Odor Treshhold: |
| pH: Not applicable | Freezing Point: Not applicable |
| Evaporation Rate: Not determined | Boiling Point: Not applicable |
| Flash Point: Not applicable | Flammability(solid,gas): Not considered a flammable solid |
| Upper Flammability Limit: Not determined | Lower Flammabilty Limit: |
| Vapor Pressure: | Specific Gravity: 1.25 |
| Vapor Density: 5.1 (air = 1) | Auto-ignition Temperature: Not determined |
| Volatile Organic Compound (VOC),%weight: | Solubility (water): Insoluble |
| > 98 %, all 1,4-Dichlorobenzene | Percent Volatile: > 98 % |

| |
|--------------------------------------|
| Section 10. Stability and Reactivity |
|--------------------------------------|

Stability: Stable

Conditions to Avoid: None known

Incompatable Materials: None known

Hazardous Decomposition Products: None known

Possibility of Hazardous Reactions: None known

| |
|------------------------------------|
| Section 11. Toxicology Information |
|------------------------------------|

ACCUTE EFFECTS

| | |
|------------------|--|
| Oral LD50: | 3790 mg/kg, rat |
| Dermal LD50: | 5000 mg/kg, rabbit |
| Inhalation: | 500 ppm, rat |
| Eye Irritation: | Direct contact with cake can irritate eyes |
| Skin Irritation: | Prolonged or repeated direct contact can irritate skin |
| Sensitization: | None known |

CHRONIC EFFECTS

Carcinogenicity:

NTP: B. Reasonably anticipated to be a carcinogen. IARC: 2B. Possible Carcinogen.

Mutagenicity: None known

Reproductive Effects: None known

Developmental Effects: None known

Section 12. Ecological Information

Ecotoxicity: None known

Persistence/Degradability: Low biodegradability

Bioaccumulation/Accumulation: Not determined

Mobility in Environment: Not determined

Section 13. Disposal Considerations

Disposal: Dispose according to all Federal, State or Provincial, and Local Regulations

Section 14. Transportation Information

US DOT (ground)

Proper Shipping Description: Consumer Commodity - ORM-D

CANADA TDG (ground)

Proper Shipping Description: Not a Dangerous Good

ICAO (air)

Proper Shipping Description: Not a Dangerous Good in sizes offered

IMDG (water)

Proper Shipping Description: Not a Dangerous Good in sizes offered

Section 15. Regulatory Information

Global Inventories

TSCA: United States Included

DSL: Canada Included

ECL: Korea Not-Known

PICCS: Philippines Not-Known

ENCS: Japan Not-Known

AICS: Australia Included

IECS: China Not-Known

EINECS: European Union Included

SARA 313 Information : Sizes offered do not contain reportable levels of any SARA 313 substances.

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

1,4-Dichlorobenzene is considered a carcinogen under Proposition 65

WHMIS: Canadian Workplace Hazardous Material Information System

D 2 B

Section 16. Other Information

Legends:

NFPA, HMIS:

0=Minimal Hazard, 1=Slight Hazard, 2=Moderate Hazard, 3=Severe Hazard, 4=Extreme Hazard

Prepared By: Technical Dept.

While we believe that the data contained herein are factual and the opinions expressed are those of qualified experts regarding the results of tests conducted, the data are not to be taken as warranty or representation for which we assume legal responsibility. The information is offered solely for your consideration, investigation and verification. Any use of these data and information must be determined by the user to be in accordance with federal, state and local laws.



SAFETY DATA SHEET

1. Product and Company Identification

| | |
|-----------------------------------|--|
| Product Name | PERFORM-ALL |
| Product Number | 3CK |
| Product Type | Mixture |
| Product Use | Carpet cleaner |
| Manufacturer | CFR, A Division of Tacony Corporation 3101 Wichita Court Fort Worth, TX 76140-1710 |
| Company Contact | 1-800-533-2557 or website www.cfrcorp.com |
| Emergency Telephone Number | 1-800-270-5201 |

2. Hazards Identification

GHS Classification in accordance with 29CFR 1910 OSHA HCS

Acute Toxicity, (Category 4) H302
Serious eye damage/eye irritation, (Category 2B) H319
Specific organ toxicity following single exposure, (Category 3) H335, H336
Acute Aquatic toxicity (Category 3) H402

GHS Label elements, including precautionary statements

Pictogram



Signal Word Warning

Hazard Statements

| | |
|------|------------------------------------|
| H302 | Harmful if swallowed |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |
| H336 | May cause drowsiness or dizziness. |
| H402 | Harmful to aquatic life |

Precautionary Statements

Prevention

| | |
|------|--|
| P264 | Wash and rinse hands and exposed skin after handling concentrated product. |
| P270 | Don not eat, drink, or smoke when using this product. |
| P280 | Wear eye protection/face protection. |
| P261 | Avoid breathing fumes, vapors, mists or spray from product. |
| P271 | Use only in a well ventilated area. |
| P273 | Avoid release to the environment. |

Response

| | |
|----------------|---|
| P301+P312 | IF SWALLOWED: call a POISON CENTER/doctor if feeling unwell. |
| P330 | Rinse mouth. |
| P305+P351+P338 | IF IN EYES, Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. |
| P337+P313 | If eye irritation persists, get medical attention. |
| P304+340 | IF INHALED: move person to fresh air and make comfortable for breathing. |
| P312 | Call a POISON CENTER/doctor if feeling unwell. |

**Storage/Disposal**

P403+P233

P405

P501

Store in a well ventilated place. Keep container tightly closed.

Store locked up.

Dispose of contents/container in accordance with local, regional and federal regulations

3. Composition/Information on Ingredients

The criteria for listing components in this section are: Ingredients that meet the criteria for carcinogenic, toxic to reproduction, or specific target organ toxicity and components otherwise considered hazardous according to OSHA which exceed the cut off limits for SDS specified by the criteria for mixtures are listed. Non hazardous components are not listed. This is not a composition disclosure. Exact percentages are considered proprietary and a trade secret.

| Hazardous Components | CAS# | Classification | % |
|---------------------------------|------------|------------------------------|--------|
| Sodium dodecylbenzenesulfonate | 25155-30-0 | H302, H315, H318, H335, H401 | 20-30% |
| Alcohols, C12-C15, ethoxylated | 68131-39-5 | H320, H402 | 10-20% |
| Diethylene glycol n butyl ether | 112-34-5 | H319 | 3-8% |
| Isopropanol | 67-63-0 | H225, H319, H336 | 1-3% |

4. First Aid Measures

Description of First Aid Procedures**In case of Eye Contact**

Flush with cool running water for 15 minutes. If irritation persists, get medical attention.

In case of Skin Contact

Flush with cool water, Wash with soap and water, If irritation persists, get medical Attention.

If Inhaled

If symptoms develop, move to fresh air. If symptoms persist, get medical attention

If IngestedRinse mouth with water. Drink one or two glasses of water. **Do not induce vomiting.** Obtain medical attention. Never give anything by mouth to an unconscious person.**Notes to Physician**

Symptoms may be delayed.

General advice

Seek medical attention if feeling unwell. Show the SDS to the physician in attendance.

5. Fire-fighting Measures

Flammable properties

Not flammable

Extinguishing media

Treat for surrounding material.

Protection of firefighters

Firefighters should wear protective clothing including self contained breathing apparatus

Hazardous combustion products

May include and not limited to oxides of carbon, nitrogen, and oxides of sulfur.

Unusual Fire, Explosion hazards

None known.

6. Accidental Release Measures

Personal precautions

Keep unnecessary personal away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled containers unless wearing protective Clothing. Stay upwind of spills or leaks.

Methods for containment

Stop leak if you can do so without risk. Prevent entry into waterways, sewers.

**Methods for cleaning up**

Before attempting clean up refer to hazard data given above. Small spills may be absorbed with non reactive absorbent and placed in suitable, covered, labeled containers. Prevent large spills from entering sewers or water ways. Dike spill. Absorb spill with non reactive absorbent and place in a suitable, covered, labeled container for disposal. Never return spill to original container for reuse.

Environmental Precautions

Avoid release to the environment.

7. Handling and Storage

Precautions for Safe Handling

Use good industrial hygiene practices when handling this material

Conditions for Safe Storage

Keep out of reach of children. Keep from freezing, store in a cool dry place away from incompatible materials.

8. Exposure Controls and Personal Protection

Exposure limits**Ingredients**

| | CAS-No | OSHA PEL | ACGIH TLV |
|---------------------------------|---------------|-------------------|-------------------|
| Sodium dodecylbenzenesulfonate | 25155-30-0 | No data available | No data available |
| Alcohols, C12-C15, ethoxylated | 68131-39-5 | No data available | No data available |
| Diethylene glycol n butyl ether | 112-34-5 | No data available | TWA: 10 ppm |
| Isopropanol | 67-63-0 | No data available | No data available |

Engineering controls

Use only under conditions of good ventilation or with respiratory protection. Provide access to eye wash, washing facilities or safety shower.

Personal protective equipment**Eye/Face protection**

Wear safety glasses with side shields if splash conditions exist.

Hand protection

Rubber or nitrile gloves.

Skin and body

As required by employer code.

Respiratory protection

Use a NIOSH approved respirator when exposure guidelines are exceeded.

General hygiene considerations

Handle in accordance with good industrial hygiene practices. Do not eat or drink when using product. Wash hands well before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

| | |
|---|------------------------------|
| Appearance/form | Clear liquid |
| Color | Light amber color |
| Odor | Slight solvent |
| Odor threshold | Not established |
| pH | 6.0-8.0 (Concentrate) |
| Melting point/freezing point | Not established |
| Initial Boiling point | > 212° F. (100° C.) |
| Flash point | > 200° F. (93° C.) Estimate |
| Evaporation rate | Not established |
| Flammability | Not flammable |
| Upper/lower flammability or Explosive limits | Not established |
| Vapor pressure | Not established |
| Vapor density | Not established |
| Specific gravity/density | 1.045-1.058 |
| Solubility in water | Dispersible |
| Partition coefficient: | Not established |
| Auto ignition temperature | Not established |
| Decomposition temperature | Not established |



Stability and Reactivity
VOC
% Volatile
Other safety Information

Stable and non reactive under normal use and storage conditions.
< 3%
Approx. 60%

10. Stability and Reactivity

| | |
|---|--|
| Reactivity | Not reactive under normal use and storage. |
| Chemical Stability | Stable under normal storage conditions. |
| Hazardous reactions | None known. |
| Conditions to avoid | Do not mix with other chemicals. |
| Incompatible materials | Strong oxidizers. |
| Hazardous decomposition products | May include but not limited to oxides of carbon, and oxides of sulfur. |
| Hazardous polymerization | Will not occur. |

11. Toxicological Information

| | |
|--|---|
| Ingredients | LC50 |
| Sodium dodecylbenzenesulfonate | No data available |
| Alcohols, C12-C15, ethoxylated | No data available |
| Diethylene glycol n butyl ether | No data available |
| Isopropanol | 16,000 ppm- rat 8 hours |
| Ingredients | LD50 |
| Sodium dodecylbenzenesulfonate | 438 mg/kg (Oral-rat), Dermal- no data available |
| Alcohols, C12-C15, ethoxylated | > 5,000 mg/kg (Oral-rat), > 2,000 mg/kg (Dermal-rat) |
| Diethylene glycol n butyl ether | 4,500 mg/kg (Oral-rat), 2,764 mg/kg (Dermal-rabbit) |
| Isopropanol | 5,045 mg/kg (Oral-rat), 12,800 mg/kg (Dermal-rabbit) |
| Effects of acute exposure | |
| Eye | Causes eye irritation |
| Skin | Not likely to cause irritation on single exposure. |
| Inhalation | May cause drowsiness or dizziness if vapors or mists are inhaled excessively. |
| Ingestion | May be harmful if swallowed. May cause stomach distress, nausea, or vomiting. |
| Sensitization | No data available |
| Chronic effects of short and long term exposure | Prolonged exposure to skin may cause drying, defatting and irritation. May cause allergic reaction in some individuals. |
| Carcinogenicity | Does not contain ingredients considered carcinogenic by NTP, IARC, or OSHA. |
| Mutagenicity | No data available. |
| Reproductive effects | No data available. |
| Teratogenicity | No data available. |

12. Ecological Information

| | |
|---------------------------------|--|
| Eco-toxicity | Components of this product have been identified as toxic with long lasting effects to the aquatic environment. |
| Environmental effects | No data available. |
| Aquatic toxicity | |
| Sodium dodecylbenzenesulfonate | LC50 Fish (rainbow trout): 3.2-5.6 mg/l 96 hours Mortality NOEC Daphnia (water flea): 4 mg/l 7days |
| Alcohols, C12-C15, ethoxylated | EC50 Daphnia magna: 0.14 mg/l 96 hours LC50 Fish fathead minnow (pimephales promelas): 1.4 mg/l 96 hour |
| Diethylene glycol n butyl ether | LC50 Fish: 1,300 mg/l 96 hours LC%0 Daphnia magna: > 100 mg/l 48 hour EC50 Algae: > 100 mg/l 96 hour |



Isopropanol

LC50 Fish (fathead minnow): 9,640 mg/l 96 hour

EC50 Water flea (Daphnia magna): 5,012 mg/l 24 hour

EC50 Algae: > 1,000 mg/l 24 hour

Persistence and Degradability

The C12-C15 ethoxylated alcohols are readily biodegradable. No data available on the other materials.

Bioaccumulation/accumulation

No data available.

Partition coefficient

No data available.

Mobility in environmental media

No data available.

Chemical fate information

No data available.

Other adverse effects

No data available.

13. Disposal Considerations

Disposal instructions

Dispose in accordance with local, state, and federal regulations

Wastes from residues/unused Product

Containerize. Rinse area with water. Keep out of storm sewer/waterways.

Contaminated packaging

Dispose in accordance with all applicable regulations.

14. Transport Information

Basic shipping requirements:

Not DOT regulated

Proper shipping name

Hazard class

UN number

Packing group

Special provisions

15. Regulatory Information

U.S federal regulations

This product has been classified in accordance with the Occupational Safety and Health Administration hazard criteria and the SDS contains all of the information required by OSHA HCS 2012.

TSCA

All ingredients are listed on the Toxic Substances Control Act or are exempt from listing.

CERCLA Super Fund 40CFR117.302Product contains a material with a Reportable Quantity (RQ): None

SARA Title III Section 311&312

Immediate (Acute) Health Hazard

Sodium dodecylbenzenesulfonate CAS#25155-30-0

Diethylene glycol n butyl ether CAS#112-34-5

2-Propanol CAS#67-63-0

SARA Title III Section 313

Ingredients subject to the reporting requirements of Section 313: None

2-Propanol CAS#67-63-0

Diethylene glycol n butyl ether CAS#112-34-5

California Proposition 65

This product does not contain intentional ingredients known to the State of California to cause cancer, birth defects or reproductive effects..

States Right to Know

Reportable Chemicals:

Sodium dodecylbenzenesulfonate CAS#25155-30-0

2-Propanol CAS# 67-63-0

**Inventory Status****Countries**

U.S.
Canada

Inventory Name

Chemical Inventory List
Domestic substances list

On Inventory (Yes/No)*

Yes
Yes

- A Yes indicates that all of the components of this product comply with the inventory requirements administered by the governing country(s) listed.

16. Other Information

HMIS RATING**HMIS LEGEND**

Severe 4
Serious 3
Moderate 2
Slight 1
Minimal

| | |
|---------------------|---|
| Health | 2 |
| Flammability | 0 |
| Reactivity | 0 |
| Personal Protection | B |

Disclaimer

To the best of our knowledge, the information included herein is accurate. However, neither the above named supplier nor any of its subsidiaries assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of the suitability of any material is the responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Issue date

May 5, 2015

Supersedes date

Previous issues.

Reason for update

Conform to GHS OSHA HCS 2012.

Expiration date

May 5, 2018

Safety Data Sheet

according to OSHA Hazard Communication
29 CFR Part 1910.1200

SDS – FL34G

Section 1. Identification

Product Information: FLY5, FLY55
Product Name: FASTLANE TRAFFIC PAINT YELLOW
Recommended Use: Liquid Paint
Application Method: Latex Surface Paint
Manufactured for: Pioneer Athletics
 4529 Industrial Parkway Cleveland, Ohio 44135 Phone: 800-877-1500
Emergency Telephone INFOTRAC: 800-535-5053
for Chemical emergency: Call 24 hrs. a day, 7 days a week

Section 2. Hazard(s) identification

EMERGENCY OVERVIEW: Skin and eye irritant.

GHS Classification

Repr. 1A, STOT SE 1

Symbol(s) of Product



Signal Word

Danger

GHS HAZARD STATEMENTS

| | | |
|------------------------------------|------|--|
| Reproductive Toxicity, category 1A | H360 | May damage fertility or the unborn child. |
| STOT, single exposure, category 1 | H370 | Causes damage to organs. Classified Category 1 Substances that produced significant toxicity in humans and evidence to produce significant toxicity with single exposure. Cell death, adverse change in biochemistry, hematology or urinalysis parameters, Central or peripheral nervous system and effects senses. multifocal or diffuse necrosis, fibrosis or granuloma formation in organs. |

GHS LABEL PRECAUTIONARY STATEMENTS

| | |
|-----------|--|
| P201 | Obtain special instructions before use. |
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P233 | Keep container tightly closed. |
| P260 | Do not breathe dust/fume/gas/mist/vapours/spray. |
| P264 | Wash thoroughly after handling. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P307+P311 | IF exposed: Call a POISON CENTER or doctor/physician. |

| | |
|-----------|---|
| P308+P313 | IF exposed or concerned: Get medical advice/attention. |
| P405 | Store locked up. |
| P501 | Dispose of contents/container in accordance with local rules and regulations. |

GHS SDS PRECAUTIONARY STATEMENTS

| | |
|------|--|
| P240 | Ground/bond container and receiving equipment. |
| P241 | Use explosion-proof electrical/ventilating/lighting/equipment. |
| P242 | Use only non-sparking tools. |
| P243 | Take precautionary measures against static discharge. |
| P270 | Do not eat, drink or smoke when using this product. |

Section 3. Composition/Information on ingredients

| <u>Chemical Name</u> | <u>CAS-No.</u> | <u>Wt.%</u> | <u>GHS Symbols</u> | <u>GHS Statements</u> |
|----------------------|----------------|-------------|--------------------|------------------------------|
| METHANOL | 67-56-1 | 1.0 – 2.5 | GHS02-GHS06GHS08 | H225-301-311-319-331-360-370 |

Section 4. First-aid measures



FIRST AID -INHALATION: Move to fresh air. Oxygen or artificial respiration if needed.

FIRST AID -SKIN CONTACT: Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.
Wash off with soap and water.

FIRST AID -EYE CONTACT: Flush eye(s) immediately with plenty of water. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

FIRST AID -INGESTION: Do not induce vomiting without medical advice.

Section 5. Fire-fighting measures

UNUSUAL FIRE AND EXPLOSION HAZARDS: Remove all sources of ignition.

SPECIAL FIREFIGHTING PROCEDURES: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

EXTINGUISHING MEDIA: Carbon Dioxide, Dry Chemical, Foam, Water Fog

Section 6. Accidental release measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Section 7. Handling and storage



HANDLING: Containers of this material may be hazardous when emptied. All metal parts of the mixing and processing equipment must be grounded. Do not pierce or burn, even after use. Do not spray on a naked flame or any incandescent material. Do not re-use empty containers. Keep away from food and drink. Keep away from open flames, hot surfaces and sources of ignition.

STORAGE: Harmful - Store away from foodstuffs. Keep containers tightly closed. Keep in a well-ventilated place. Keep locked-up.

Section 8. Exposure controls/personal protection

Ingredients with Occupational Exposure Limits

| <u>Chemical Name</u> | <u>ACGIH TLV-TWA</u> | <u>ACGIH-TLV STEL</u> | <u>OSHA PEL-TWA</u> | <u>OSHA PEL-CEILING</u> |
|----------------------|----------------------|-----------------------|---------------------|-------------------------|
| METHANOL | 200 | 250 | 200 | NA |

Further Advice: MEL = Maximum Exposure Limit OES = Occupational Exposure Standard SUP = Supplier's Recommendation
Sk = Skin Sensitizer N.E. = Not Established

Personal Protection



RESPIRATORY PROTECTION: In the case of respirable dust and/or fumes, use self-contained breathing apparatus.



SKIN PROTECTION: Impervious gloves.



EYE PROTECTION: Safety glasses with side-shields.



OTHER PROTECTIVE EQUIPMENT: Impervious clothing.



HYGIENIC PRACTICES: General industrial hygiene practice.

9. Physical and Chemical Properties

| | | | |
|-----------------------------|---------------------|--------------------------|-------|
| Boiling Range: | 65-482 | Vapor Density: | 1.11 |
| Odor: | Characteristic | Odor Threshold: | NA |
| Appearance: | Heavy Yellow Liquid | Evaporation Rate: | 5.20 |
| Solubility in Water: | NE | Specific Gravity: | 1.512 |
| Freeze Point: | NA | pH: | NA |
| Vapor Pressure: | 47.30 | Viscosity: | NA |
| Physical State: | Liquid | Flash Point, °F | >200 |

(See section 16 for abbreviation legend)

| <u>CHEMICAL NAME</u> | <u>VAPOR DENSITY</u> | <u>EVAPORATION RATE</u> | <u>BOILING POINT</u> | <u>VP mmHg</u> | <u>at DEG. F</u> |
|----------------------|----------------------|-------------------------|----------------------|----------------|------------------|
| METHANOL | 1.11 | 5.20 | 149 | 47.30 | 77 |

Section 10. Stability and reactivity

STABILITY: Stable under normal conditions.

CONDITIONS TO AVOID: Avoid contact with skin, eyes and clothing. Do not breathe vapours or spray mist.

INCOMPATIBILITY: Incompatible with strong acids and oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: No decomposition if stored and applied as directed.

Section 11. Toxicological information



Practical Experiences

EFFECT OF OVEREXPOSURE -INHALATION: Inhalation may cause intense irritation to the respiratory tract (nose, mouth, mucous membranes).

EFFECT OF OVEREXPOSURE -SKIN CONTACT: Direct skin contact may cause moderate to severe irritation and possibly dermatitis. Local ventilation of emission sources may be necessary to maintain ambient concentrations below recommended exposure limits.

EFFECT OF OVEREXPOSURE -EYE CONTACT: Mist and vapors may cause eye irritation.

EFFECT OF OVEREXPOSURE -INGESTION: Harmful: possible risk of irreversible effects if swallowed. May be fatal or cause blindness.

CARCINOGENICITY: No Information

Acute Toxicity Values

The acute effects of this product have not been tested. Data on individual components are tabulated below:

| <u>CAS-No.</u> | <u>Name according to EEC</u> | <u>Oral LD50</u> | <u>Dermal LD50</u> | <u>Vapor LC50</u> |
|-----------------------|------------------------------|------------------|--------------------|-------------------|
| 67-56-1 | METHANOL | N.I. | N.I. | N.I. |
| N.I. - No Information | | | | |

Section 12. Ecological information

ECOLOGICAL INFORMATION: Do not contaminate ponds, waterways or ditches with chemical or used container.

Section 13. Disposal considerations



Product

DISPOSAL METHOD: Contact waste disposal services. Dispose of in accordance with all local, state and federal regulations.

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Section 14. Transport information

SPECIAL TRANSPORT PRECAUTIONS: No Information

| | |
|----------------------------------|---------------|
| DOT Proper Shipping Name: | Paint, Latex |
| DOT Technical Name: | Paint |
| DOT Hazard Class: | Non-Hazardous |
| DOT UN/NA Number: | Not Regulated |

Section 15. Regulatory information

U.S. Federal Regulations:

CERCLA -SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire Hazard, Acute Health Hazard

SARA SECTION 312:

| <u>Chemical Name</u> | <u>CAS-No.</u> |
|----------------------|----------------|
|----------------------|----------------|

| | |
|----------|---------|
| METHANOL | 67-56-1 |
|----------|---------|

SARA SECTION 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

| <u>Chemical Name</u> | <u>CAS-No.</u> |
|----------------------|----------------|
|----------------------|----------------|

| | |
|----------|---------|
| METHANOL | 67-56-1 |
|----------|---------|

| | |
|-----------------|----------|
| ETHYLENE GLYCOL | 107-21-1 |
|-----------------|----------|

TOXIC SUBSTANCES CONTROL ACT:

All components of this material are listed on the US Toxic Substance Control Act (TSCA inventory).

U.S. State Regulations:

NEW JERSEY RIGHT-TO-KNOW:

The following materials are non-hazardous, but are among the top five components in this product.

| <u>Chemical Name</u> | <u>CAS-No.</u> |
|----------------------|----------------|
| CALCIUM CARBONATE | 1317-65-3 |
| WATER | 7732-18-5 |
| ACRYLIC POLYMER | Non-Hazardous |

PENNSYLVANIA RIGHT-TO-KNOW

The following non-hazardous ingredients are present in the product at greater than 3%.

| <u>Chemical Name</u> | <u>CAS-No.</u> |
|----------------------|----------------|
| CALCIUM CARBONATE | 1317-65-3 |
| WATER | 7732-18-5 |
| ACRYLIC POLYMER | Non-Hazardous |

CALIFORNIA PROPOSITION 65 CARCINOGENS

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

No Proposition 65 Carcinogens exist in this product.

CALIFORNIA PROPOSITION 65 REPRODUCTIVE TOXINS

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards.

| <u>Chemical Name</u> | <u>CAS-No.</u> |
|----------------------|----------------|
| METHANOL | 67-56-1 |

International Regulations: As follows –**CANADIAN WHMIS:**

All components of this material are listed on the Domestic Substance List.

WHMIS Class: No Information

Section 16. Other information, including date of preparation of the last revision

Revision Date: 7/28/2015

Supersedes Dates: New MSDS

Reason for revision: GHS

Datasheet produced by: Aexcel Regulatory Department

HMIS RATINGS:

| | | | |
|-----------|-----------------|---------------|------------------------|
| Health: 1 | Flammability: 0 | Reactivity: 0 | Personal Protection: X |
|-----------|-----------------|---------------|------------------------|

Volatile Organic Compounds, gr/ltr: 94

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

| | |
|------|---|
| H225 | Highly flammable liquid and vapour. |
| H301 | Toxic if swallowed. |
| H311 | Toxic in contact with skin. |
| H319 | Causes serious eye irritation. |
| H331 | Toxic if inhaled. |
| H360 | May damage fertility or the unborn child. |
| H370 | Causes damage to organs . Classified Category 1 Substances that produced significant toxicity in humans and evidence to produce significant toxicity with single exposure. Cell death, adverse change in biochemistry, hematology or urinalysis parameters, Central or peripheral nervous system and effects senses. multifocal or diffuse necrosis, fibrosis or granuloma formation in organs. |

Icons for GHS Pictograms shown in Section 3 describing each ingredient:

GHS02



GHS06



GHS08



Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined, N.I. - No Information

No Information



SAFETY DATA SHEET

1. Product and Company Identification

| | |
|-----------------------------------|--|
| Product Name | POP-OUT |
| Product Number | 3AH |
| Product Type | Mixture |
| Product Use | Spot remover for carpets & upholstery |
| Manufacturer | CFR, A Division of Tacony Corporation 3101 Wichita Court Fort Worth, TX 76140-1710 |
| Company Contact | 1-800-533-2557 or website www.cfrcorp.com |
| Emergency Telephone Number | 1-800-270-5201 |

2. Hazards Identification

GHS Classification in accordance with 29CFR 1910 OSHA HCS

Skin corrosion/irritation, (Category 2) H315
Serious eye damage/eye irritation, (Category 2B) H319
Acute Aquatic toxicity (Category 3) H402

GHS Label elements, including precautionary statements

Pictogram



Signal Word

Warning

Hazard Statements

| | |
|------|--------------------------------|
| H316 | Causes skin irritation. |
| H320 | Causes serious eye irritation. |
| H402 | Harmful to aquatic life |

Precautionary Statements

Prevention

| | |
|------|--|
| P264 | Wash and rinse hands and exposed skin after handling concentrated product. |
| P280 | Wear eye protection/face protection. |
| P273 | Avoid release to the environment. |

Response

| | |
|----------------|---|
| P302+P352+321 | IF ON SKIN, wash with soap and water. Rinse thoroughly with water. |
| P332+P313 | If skin irritation occurs, get medical attention. |
| P362+P364 | Take off contaminated clothing and wash it before reuse. |
| P305+P351+P338 | IF IN EYES, Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. |
| P337+P313 | If eye irritation persists, get medical attention. |

Storage/Disposal

| | |
|------|--|
| P501 | Dispose of contents/container in accordance with local, regional and federal regulations |
|------|--|



3. Composition/Information on Ingredients

The criteria for listing components in this section are: Ingredients that meet the criteria for carcinogenic, toxic to reproduction, or specific target organ toxicity and components otherwise considered hazardous according to OSHA which exceed the cut off limits for SDS specified by the criteria for mixtures are listed. Non hazardous components are not listed. This is not a composition disclosure. Exact percentages are considered proprietary and a trade secret.

| Hazardous Components | CAS# | Classification | % |
|------------------------------------|-------------|------------------|------|
| Sodium alkyl naphthalenesulfonate | Proprietary | H315, H318, H402 | 2-6% |
| Diethylene glycol mono butyl ether | 112-34-5 | H319 | 2-6% |
| Tetrapotassium pyrophosphate | 7320-34-5 | H315, H319 | 1-5% |
| Dipropylene glycol methyl ether | 34590-94-8 | H227 | 2-4% |
| Alkylbenzenesulfonate | Proprietary | H315, H318 | 1-2% |
| Sodium tripolyphosphate | 7758-29-4 | H315, H319 | 1-2% |

4. First Aid Measures

Description of First Aid Procedures

| | |
|--------------------------------|--|
| In case of Eye Contact | Flush with cool running water for 15 minutes. If irritation persists, get medical attention. |
| In case of Skin Contact | Flush with cool water, Wash with soap and water, If irritation persists, get medical Attention. |
| If Inhaled | If symptoms develop, move to fresh air. If symptoms persist, get medical attention |
| If Ingested | Rinse mouth with water. Drink one or two glasses of water. Do not induce vomiting. Obtain medical attention. Never give anything by mouth to an unconscious person. |
| .Notes to Physician | Symptoms may be delayed. |

| | |
|-----------------------|--|
| General advice | Seek medical attention if feeling unwell. Show the SDS to the physician in attendance. |
|-----------------------|--|

5. Fire-fighting Measures

| | |
|--|---|
| Flammable properties | Not flammable |
| Extinguishing media | Water spray, Dry chemical, Carbon dioxide. |
| Protection of firefighters | Firefighters should wear protective clothing including self contained breathing apparatus |
| Hazardous combustion products | May include and not limited to oxides of carbon, nitrogen, and oxides of sulfur. |
| Unusual Fire, Explosion hazards | None known. |

6. Accidental Release Measures

| | |
|----------------------------------|--|
| Personal precautions | Keep unnecessary personal away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled containers unless wearing protective Clothing. Stay upwind of spills or leaks. |
| Methods for containment | Stop leak if you can do so without risk. Prevent entry into waterways, sewers. |
| Methods for cleaning up | Before attempting clean up refer to hazard data given above. Small spills may be absorbed with non reactive absorbent and placed in suitable, covered, labeled containers. Prevent large spills from entering sewers or water ways. Dike spill. Absorb spill with non reactive absorbent and place in a suitable, covered, labeled container for disposal. Never return spill to original container for reuse. After removal, rinse area with water. |
| Environmental Precautions | Avoid release to the environment. |

7. Handling and Storage

Precautions for Safe Handling Conditions for Safe Storage

Use good industrial hygiene practices when handling this material
Keep out of reach of children. Keep from freezing, store in a cool dry place away from incompatible materials.

8. Exposure Controls and Personal Protection

Exposure limits

Ingredients

| | CAS-No | OSHA PEL | ACGIH TLV |
|------------------------------------|-------------|---------------|-------------------------------|
| Sodium alkylphthalenesulfonate | Proprietary | Not available | Not available |
| Diethylene glycol mono butyl ether | 112-34-5 | Not available | TWA: 10 ppm |
| Tetrapotassium pyrophosphate | 7320-34-5 | Not available | TWA: 5mg/ ³ dust |
| Dipropylene glycol methyl ether | 34590-94-8 | Not available | TWA: 100ppm |
| Alkylbenzenesulfonate | Proprietary | Not available | Not available |
| Sodium tripolyphosphate | 7758-29-4 | Not available | TWA: 10mg/m ³ dust |

Engineering controls

Effective exhaust ventilation is recommended.
Eye wash and safety shower should be near by.

Personal protective equipment

Eye/Face protection

Wear safety glasses with side shields if splash conditions exist.

Hand protection

Rubber or nitrile gloves.

Skin and body

As required by employer code.

Respiratory protection

Use a NIOSH approved respirator when exposure guidelines are exceeded.

General hygiene considerations

Handle in accordance with good industrial hygiene practices. Do not eat or drink when using product. Wash hands well before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

| | |
|--|--|
| Appearance/form | Clear liquid |
| Color | Light tan to colorless |
| Odor | Fresh air |
| Odor threshold | Not established |
| pH | 9.6-10.0 (Concentrate) |
| Melting point/freezing point | Not established |
| Initial Boiling point | > 212° F. (100° C.) |
| Flash point | > 200° F. (93° C.) EPA 1010 closed cup |
| Evaporation rate | Not established |
| Flammability | Not flammable |
| Upper/lower flammability or Explosive limits | Not established |
| Vapor pressure | Not established |
| Vapor density | Not established |
| Specific gravity/density | 1.07-1.08 |
| Solubility in water | Complete |
| Partition coefficient: | Not established |
| Auto ignition temperature | Not established |
| Decomposition temperature | Not established |
| Stability and Reactivity | Stable and non reactive under normal use and storage conditions. |
| VOC | < 3% |
| % Volatile | Approx 84% |

Other safety Information

10. Stability and Reactivity

| | |
|---|--|
| Reactivity | Not reactive under normal use and storage. |
| Chemical Stability | Stable under normal storage conditions. |
| Hazardous reactions | None known. |
| Conditions to avoid | Do not mix with other chemicals. |
| Incompatible materials | Acids, strong oxidizers. |
| Hazardous decomposition products | May include but not limited to oxides of carbon, nitrogen, phosphorous and oxides of sulfur. |
| Hazardous polymerization | Will not occur. |

11. Toxicological Information

| | |
|--|---|
| Ingredients | LC50 |
| Sodium alkylnaphthalenesulfonate | No data available |
| Diethylene glycol mono butyl ether | No data available |
| Tetrapotassium pyrophosphate | No data available |
| Dipropylene glycol methyl ether | No data available |
| Alkylbenzenesulfonate | No data available |
| Sodium tripolyphosphate | No data available |
| Ingredients | LD50 |
| Sodium alkylnaphthalenesulfonate | > 5,000 mg/kg (Oral-rat) |
| Diethylene glycol mono butyl ether | 4,500 mg/kg (Oral-rat), 2,764 mg/kg (Dermal-rabbit) |
| Tetrapotassium pyrophosphate | > 1,000 mg/kg (Oral-rabbit), > 4,640 mg/kg (Dermal-rabbit) |
| Dipropylene glycol methyl ether | 5,152 mg/kg (Oral-rat) |
| Alkylbenzenesulfonate | 300-2,000 mg/kg (Oral-rat) |
| Sodium tripolyphosphate | 2,730 mg/kg (Oral-rat), 500 mg/kg (Dermal-rabbit). |
| Effects of acute exposure | |
| Eye | Causes serious eye irritation |
| Skin | Causes skin irritation. Dipropylene glycol methyl ether, ACGIH skin notations. Potential for dermal absorption. |
| Inhalation | Not likely to cause irritation to respiratory tract.. |
| Ingestion | May be harmful if swallowed. May cause stomach distress, nausea, or vomiting. |
| Sensitization | No data available |
| Chronic effects of short and long term exposure | Prolonged exposure to skin may cause drying, defatting and irritation. May cause allergic reaction in some individuals. |
| Carcinogenicity | Does not contain ingredients considered carcinogenic by NTP, IARC, or OSHA. |
| Mutagenicity | No data available. |
| Reproductive effects | No data available. |
| Teratogenicity | No data available. |

12. Ecological Information

| | |
|------------------------------------|--|
| Eco-toxicity | Components of this product have been identified as toxic to the aquatic environment. |
| Environmental effects | No data available. |
| Aquatic toxicity | |
| Sodium alkylnaphthalenesulfonate | EC50 Algae: > 100mg/l 72 hours |
| Diethylene glycol mono butyl ether | LC50 Fish: 1,300 mg/l 96 hours |
| | EC50 Daphnia: > 100 mg/l 48 hours |
| | EC50 Algae: > 100 mg/l 96 hours |



Tetrapotassium pyrophosphate
Dipropylene glycol methyl ether

No data available
LC50 Fish (pimephales promelas): > 10000 mg/l 96 hours
EC50 Daphnia magna: 1919 mg/l 48 hours
No data available

Sodium tripolyphosphate

| | |
|--|--------------------|
| Persistence and Degradability | No data available |
| Bioaccumulation/accumulation | No data available. |
| Partition coefficient | No data available. |
| Mobility in environmental media | No data available. |
| Chemical fate information | No data available. |
| Other adverse effects | No data available. |

13. Disposal Considerations

| | |
|--|---|
| Disposal instructions | Dispose in accordance with local, state, and federal regulations |
| Wastes from residues/unused Product | Containerize. Rinse area with water. Keep out of storm sewer/waterways. |
| Contaminated packaging | Dispose in accordance with all applicable regulations. |

14. Transport Information

| | |
|-------------------------------------|-------------------|
| Basic shipping requirements: | Not DOT regulated |
| Proper shipping name | |
| Hazard class | |
| UN number | |
| Packing group | |
| Special provisions | |

15. Regulatory Information

| | |
|---|--|
| U.S federal regulations | This product has been classified in accordance with the Occupational Safety and Health Administration hazard criteria and the SDS contains all of the information required by OSHA HCS 2012. |
| TSCA | All ingredients are listed on the Toxic Substances Control Act or are exempt from listing. |
| CERCLA Super Fund 40CFR117.302 | Product contains a material with a Reportable Quantity (RQ): None |
| SARA Title III Section 311&312 | Immediate (Acute) Health Hazard Sodium alkylnaphthalenesulfonate (Proprietary). Diethylene glycol mono butyl ether CAS#112-34-5. Tetrapotassium pyrophosphate CAS#7320-34-5. |
| SARA Title III Section 313 | Ingredients subject to the reporting requirements of Section 313: Diethylene glycol mono butyl ether CAS#112-34-5. |
| California Proposition 65 | This product may contain 1 ingredients known to the State of California to cause cancer, birth defects or reproductive effects: Naphthalene CAS#91-20-3 in trace amounts. |
| States Right to Know | Reportable Chemicals: Dipropylene glycol mono methyl ether CAS#34590-94-8. |



Inventory Status
Countries

Inventory Name

On Inventory (Yes/No)*

U.S.

Chemical Inventory List

Yes

Canada

Domestic substances list

Yes

- A Yes indicates that all of the components of this product comply with the inventory requirements administered by the governing country(s) listed.

16. Other Information

HMIS RATING

HMIS LEGEND

Severe 4
Serious 3
Moderate 2
Slight 1
Minimal

| | |
|---------------------|---|
| Health | 2 |
| Flammability | 0 |
| Reactivity | 0 |
| Personal Protection | B |

Disclaimer

To the best of our knowledge, the information included herein is accurate. However, neither the above named supplier nor any of its subsidiaries assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of the suitability of any material is the responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Issue date

May 7, 2015

Supersedes date

Previous issues.

Reason for update

Conform to GHS OSHA HCS 2012.

Expiration date

May 7, 2018

Carbon dioxide, refrigerated liquid

Safety Data Sheet P-4573

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 01/01/1997 Revision date: 10/13/2016 Supersedes: 12/18/2014

SECTION: 1. Product and company identification

1.1. Product identifier

Product form : Substance
Name : Carbon dioxide, refrigerated liquid
CAS No : 124-38-9
Formula : CO₂
Other means of identification : Liquiflow Liquid Carbon Dioxide, Medipure Liquid Carbon Dioxide

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Industrial use
Medical applications
Food applications

1.3. Details of the supplier of the safety data sheet

Praxair, Inc.
10 Riverview Drive
Danbury, CT 06810-6268 - USA
T 1-800-772-9247 (1-800-PRAXAIR) - F 1-716-879-2146
www.praxair.com

1.4. Emergency telephone number

Emergency number : Onsite Emergency: 1-800-645-4633

CHEMTREC, 24hr/day 7days/week
— Within USA: 1-800-424-9300, Outside USA: 001-703-527-3887
(collect calls accepted, Contract 17729)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

GHS-US classification

Refrigerated liquefied gas H281

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS04

Signal word (GHS-US) :

WARNING

Hazard statements (GHS-US) :

H281 - CONTAINS REFRIGERATED GAS; MAY CAUSE CRYOGENIC BURNS OR INJURY
OSHA-H01 - MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION
CGA-HG03 - MAY INCREASE RESPIRATION AND HEART RATE

Precautionary statements (GHS-US) :

P202 - Do not handle until all safety precautions have been read and understood
P271+P403 - Use and store only outdoors or in a well-ventilated place
P282 - Wear cold insulating gloves/face shield/eye protection
CGA-PG05 - Use a back flow preventive device in the piping
CGA-PG24 - DO NOT change or force fit connections
CGA-PG06 - Close valve after each use and when empty
CGA-PG23 - Always keep container in upright position

2.3. Other hazards

Other hazards not contributing to the : Asphyxiant in high concentrations

Carbon dioxide, refrigerated liquid

Safety Data Sheet P-4573

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 01/01/1997 Revision date: 10/13/2016 Supersedes: 12/18/2014

classification

Contact with liquid may cause cold burns/frostbite.

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/Information on ingredients

3.1. Substance

| Name | Product identifier | % |
|---|--------------------|-----|
| Carbon dioxide, refrigerated liquid (Main constituent) | (CAS No) 124-38-9 | 100 |

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.
- First-aid measures after skin contact : The liquid may cause frostbite. For exposure to liquid, immediately warm frostbite area with warm water not to exceed 105°F (41°C). Water temperature should be tolerable to normal skin. Maintain skin warming for at least 15 minutes or until normal coloring and sensation have returned to the affected area. In case of massive exposure, remove clothing while showering with warm water. Seek medical evaluation and treatment as soon as possible.
- First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Contact an ophthalmologist immediately.. Get immediate medical attention.
- First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

5.2. Special hazards arising from the substance or mixture

- Reactivity : No reactivity hazard other than the effects described in sub-sections below.

5.3. Advice for firefighters

- Firefighting instructions : DANGER! Extremely cold liquid and gas under pressure. Take care not to direct spray onto vents on top of container. Do not discharge sprays directly into liquid; cryogenic liquid can freeze water rapidly
- Evacuate all personnel from the danger area. Use self-contained breathing apparatus (SCBA) and protective clothing. Immediately cool containers with water from maximum distance. Stop flow of gas if safe to do so, while continuing cooling water spray. Remove ignition sources if safe to do so. Remove containers from area of fire if safe to do so. On-site fire brigades must comply with OSHA 29 CFR 1910.156 and applicable standards under 29 CFR 1910 Subpart L—Fire Protection.
- Protection during firefighting : Compressed gas: asphyxiant. Suffocation hazard by lack of oxygen.
- Special protective equipment for fire fighters : Use self-contained breathing apparatus. Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.
- Specific methods : Stop flow of product if safe to do so. Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas containers to rupture. Cool endangered containers with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems. Use water spray or fog to knock down fire fumes if possible. If leaking do not spray water onto container. Water surrounding area (from protected position) to contain fire. Exposure to fire may cause containers to rupture/explode.

Carbon dioxide, refrigerated liquid

Safety Data Sheet P-4573

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 01/01/1997 Revision date: 10/13/2016 Supersedes: 12/18/2014

Other information : Cryogenic liquid causes severe frostbite, a burn-like injury. Heat of fire can build pressure in a closed container and cause it to rupture. Venting vapors may obscure visibility. Air will condense on surfaces such as vaporizers or piping exposed to liquid or cold gas. Nitrogen, which has a lower boiling point than oxygen, evaporates first, leaving an oxygen-enriched condensate.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Evacuate area. Ensure adequate air ventilation. Wear self-contained breathing apparatus when entering area unless atmosphere is proven to be safe. Stop leak if safe to do so.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Try to stop release.

6.3. Methods and material for containment and cleaning up

No additional information available

6.4. Reference to other sections

See also sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Never insert an object (e.g. wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. For other precautions in using this product, see section 16.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a cool, well-ventilated place. Store and use with adequate ventilation. Store only where temperature will not exceed 125°F (52°C). Firmly secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods

OTHER PRECAUTIONS FOR HANDLING, STORAGE, AND USE: When handling product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; store and use with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit.

7.3. Specific end use(s)

None.

Carbon dioxide, refrigerated liquid

Safety Data Sheet P-4573

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 01/01/1997 Revision date: 10/13/2016 Supersedes: 12/18/2014

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| Carbon dioxide, refrigerated liquid (124-38-9) | | |
|--|------------------------|------------|
| ACGIH | ACGIH TLV-TWA (ppm) | 5000 ppm |
| ACGIH | ACGIH TLV-STEL (ppm) | 30000 ppm |
| USA OSHA | OSHA PEL (TWA) (mg/m³) | 9000 mg/m³ |
| USA OSHA | OSHA PEL (TWA) (ppm) | 5000 ppm |
| USA IDLH | US IDLH (ppm) | 40000 ppm |

8.2. Exposure controls

- Appropriate engineering controls : Oxygen detectors should be used when asphyxiating gases may be released. Ensure exposure is below occupational exposure limits (where available).
- Hand protection : Wear working gloves when handling gas containers.
- Eye protection : Wear goggles and a face shield when transfilling or breaking transfer connections. Wear safety glasses when handling cylinders; vapor-proof goggles and a face shield during cylinder changeout or whenever contact with product is possible. Select eye protection in accordance with OSHA 29 CFR 1910.133.
- Skin and body protection : Wear metatarsal shoes and work gloves for cylinder handling, and protective clothing where needed. Wear appropriate chemical gloves during cylinder changeout or wherever contact with product is possible. Select per OSHA 29 CFR 1910.132, 1910.136, and 1910.138. Select per OSHA 29 CFR 1910.132, 1910.136, and 1910.138.
- Respiratory protection : When workplace conditions warrant respirator use, follow a respiratory protection program that meets OSHA 29 CFR 1910.134, ANSI Z88.2, or MSHA 30 CFR 72.710 (where applicable). Use an air-supplied or air-purifying cartridge if the action level is exceeded. Ensure that the respirator has the appropriate protection factor for the exposure level. If cartridge type respirators are used, the cartridge must be appropriate for the chemical exposure. For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus (SCBA).
- Thermal hazard protection : Wear cold insulating gloves. Wear cold insulating gloves when transfilling or breaking transfer connections.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Gas
- Appearance : Colorless gas.
- Molecular mass : 44 g/mol
- Color : Colorless.
- Odor : No odor warning properties.
- Odor threshold : No data available
- pH : 3.7 (carbonic acid)
- Relative evaporation rate (butyl acetate=1) : No data available
- Relative evaporation rate (ether=1) : Not applicable.
- Melting point : -78.5 °C
- Freezing point : No data available
- Boiling point : -78.4 °C
- Flash point : No data available
- Critical temperature : 31 °C
- Auto-ignition temperature : Not applicable.
- Decomposition temperature : No data available
- Flammability (solid, gas) : No data available
- Vapor pressure : 5730 kPa
- Critical pressure : 7375 kPa
- Relative vapor density at 20 °C : No data available

Carbon dioxide, refrigerated liquid

Safety Data Sheet P-4573

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 01/01/1997 Revision date: 10/13/2016 Supersedes: 12/18/2014

| | |
|----------------------|--|
| Relative density | : 0.82 |
| Density | : 762 kg/m ³ |
| Relative gas density | : 1.52 |
| Solubility | : Water: 2000 mg/l Completely soluble. |
| Log Pow | : 0.83 |
| Log Kow | : Not applicable. |
| Viscosity, kinematic | : Not applicable. |
| Viscosity, dynamic | : Not applicable. |
| Explosive properties | : Not applicable. |
| Oxidizing properties | : None. |
| Explosion limits | : No data available |

9.2. Other information

| | |
|------------------------|--|
| Sublimation point | : -78.5 °C |
| Gas group | : Refrigerated liquefied gas |
| Additional information | : Gas/vapor heavier than air. May accumulate in confined spaces, particularly at or below ground level |

SECTION 10: Stability and reactivity

10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Alkali metals, Alkaline earth metals, Acetylide forming metals, Chromium, Titanium > 1022°F (550°C), Uranium (U) > 1382°F (750°C), Magnesium > 1427°F (775°C).

10.6. Hazardous decomposition products

Electrical discharges and high temperatures decompose carbon dioxide into carbon monoxide and oxygen. The welding process may generate hazardous fumes and gases. If using carbon dioxide for welding and cutting, see Praxair SDS P-4574, Gaseous Carbon Dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

| | |
|----------------|------------------|
| Acute toxicity | : Not classified |
|----------------|------------------|

Carbon dioxide, refrigerated liquid (f)124-38-9

| | |
|------------------------|--|
| Additional information | Low concentrations of CO ₂ cause increased respiration and headache |
|------------------------|--|

| | |
|--|-------------------------|
| Skin corrosion/irritation | : Not classified |
| | pH: 3.7 (carbonic acid) |
| Serious eye damage/irritation | : Not classified |
| | pH: 3.7 (carbonic acid) |
| Respiratory or skin sensitization | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Not classified |
| Reproductive toxicity | : Not classified |
| Specific target organ toxicity (single exposure) | : Not classified |

Carbon dioxide, refrigerated liquid

Safety Data Sheet P-4573

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Date of issue: 01/01/1997 Revision date: 10/13/2016 Supersedes: 12/18/2014

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : No ecological damage caused by this product.

12.2. Persistence and degradability

Carbon dioxide, refrigerated liquid (124-38-9)

| | |
|-------------------------------|--|
| Persistence and degradability | No ecological damage caused by this product. |
|-------------------------------|--|

12.3. Bioaccumulative potential

Carbon dioxide, refrigerated liquid (124-38-9)

| | |
|---------------------------|--|
| BCF fish 1 | No bioaccumulation |
| Log Pow | 0.83 |
| Log Kow | Not applicable. |
| Bioaccumulative potential | No ecological damage caused by this product. |

12.4. Mobility in soil

Carbon dioxide, refrigerated liquid (124-38-9)

| | |
|------------------|--|
| Mobility in soil | No data available. |
| Ecology - soil | No ecological damage caused by this product. |

12.5. Other adverse effects

Other adverse effects : Can cause frost damage to vegetation.
 Effect on ozone layer : None
 Global warming potential [CO2=1] : 1
 Effect on the global warming : When discharged in large quantities may contribute to the greenhouse effect

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Do not attempt to dispose of residual or unused quantities. Return container to supplier.

SECTION 14: Transport information

In accordance with DOT
 Transport document description : UN2187 Carbon dioxide, refrigerated liquid, 2.2
 UN-No.(DOT) : UN2187
 Proper Shipping Name (DOT) : Carbon dioxide, refrigerated liquid
 Class (DOT) : 2.2 - Class 2.2 - Non-flammable compressed gas 49 CFR 173.115
 Hazard labels (DOT) : 2.2 - Non-flammable gas



Carbon dioxide, refrigerated liquid

Safety Data Sheet P-4573

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 01/01/1997 Revision date: 10/13/2016 Supersedes: 12/18/2014

DOT Special Provisions (49 CFR 172.102) : T75 - When portable tank instruction T75 is referenced in Column (7) of the 172.101 Table, the applicable refrigerated liquefied gases are authorized to be transported in portable tanks in accordance with the requirements of 178.277 of this subchapter
TP5 - For a portable tank used for the transport of flammable refrigerated liquefied gases or refrigerated liquefied oxygen, the maximum rate at which the portable tank may be filled must not exceed the liquid flow capacity of the primary pressure relief system rated at a pressure not exceeding 120 percent of the portable tank's design pressure. For portable tanks used for the transport of refrigerated liquefied helium and refrigerated liquefied atmospheric gas (except oxygen), the maximum rate at which the tank is filled must not exceed the liquid flow capacity of the pressure relief device rated at 130 percent of the portable tank's design pressure. Except for a portable tank containing refrigerated liquefied helium, a portable tank shall have an outage of at least two percent below the inlet of the pressure relief device or pressure control valve, under conditions of incipient opening, with the portable tank in a level attitude. No outage is required for helium

Additional information

Emergency Response Guide (ERG) Number : 120 (UN1013)
Other information : No supplementary information available.
Special transport precautions : Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers:
- Ensure there is adequate ventilation. - Ensure that containers are firmly secured. - Ensure cylinder valve is closed and not leaking. - Ensure valve outlet cap nut or plug (where provided) is correctly fitted. - Ensure valve protection device (where provided) is correctly fitted.

Transport by sea

UN-No. (IMDG) : 2187
Proper Shipping Name (IMDG) : CARBON DIOXIDE, REFRIGERATED LIQUID
Class (IMDG) : 2 - Gases
MFAG-No : 120

Air transport

UN-No. (IATA) : 2187
Proper Shipping Name (IATA) : Carbon dioxide, refrigerated liquid
Class (IATA) : 2
Civil Aeronautics Law : Gases under pressure/Gases nonflammable nontoxic under pressure

SECTION 15: Regulatory information

15.1. US Federal regulations

Carbon dioxide, refrigerated liquid (124-38-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

| | |
|-------------------------------------|--|
| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard Sudden release of pressure hazard |
|-------------------------------------|--|

All components of this product are listed on the Toxic Substances Control Act (TSCA) inventory.

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

CANADA

Carbon dioxide, refrigerated liquid (124-38-9)

Listed on the Canadian DSL (Domestic Substances List)

Carbon dioxide, refrigerated liquid

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EU-Regulations

Carbon dioxide, refrigerated liquid (124-38-9)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

15.2.2. National regulations

Carbon dioxide, refrigerated liquid (124-38-9)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Canadian IDL (Ingredient Disclosure List)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)

15.3. US State regulations

Carbon dioxide, refrigerated liquid(124-38-9)

| | |
|---|---|
| U.S. - California - Proposition 65 - Carcinogens List | No |
| U.S. - California - Proposition 65 - Developmental Toxicity | No |
| U.S. - California - Proposition 65 - Reproductive Toxicity - Female | No |
| U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No |
| State or local regulations | U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List |

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

Other information

: When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Before using any plastics, confirm their compatibility with this product

Praxair asks users of this product to study this SDS and become aware of the product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this SDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information

The opinions expressed herein are those of qualified experts within Praxair, Inc. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use are not within the control of Praxair, Inc, it is the user's obligation to determine the conditions of safe use of the product

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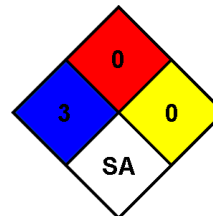
Carbon dioxide, refrigerated liquid

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| | |
|----------------------|---|
| NFPA health hazard | : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given. |
| NFPA fire hazard | : 0 - Materials that will not burn. |
| NFPA reactivity | : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water. |
| NFPA specific hazard | : SA - This denotes gases which are simple asphyxiants. |



HMIS III Rating

| | |
|--------------|---|
| Health | : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given |
| Flammability | : 0 Minimal Hazard |
| Physical | : 2 Moderate Hazard |

SDS US (GHS HazCom 2012) - Praxair

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Issuing date 24-Mar-2015

Revision Date 24-Mar-2015

Version 1.01

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name PRIZM

**Recommended use of the chemical
and restrictions on use**

Product code DA6881

Product Type Extremely flammable aerosol
Synonyms None

Supplier's details

Recommended Use Penetrating lubricant with PTFE.
Uses advised against No information available

Manufactured For:
Drummond, A Lawson Brand
Lawson Products, Inc.
8770 W. Bryn Mawr Avenue-Suite 900
Chicago, IL 60631-3515
773-304-5050

Emergency telephone number
Company Emergency Phone 888-426-4851
Number

2. HAZARDS IDENTIFICATION

Classification

| | |
|--|----------------|
| Skin corrosion/irritation | Category 2 |
| Specific target organ toxicity (single exposure) | Category 3 |
| Aspiration toxicity | Category 1 |
| Flammable aerosols | Category 1 |
| Gases under pressure | Compressed Gas |

GHS Label elements, including precautionary statements

Emergency Overview

DANGER

Hazard Statements

Causes skin irritation
May cause respiratory irritation. May cause drowsiness or dizziness
May be fatal if swallowed and enters airways
Extremely flammable aerosol
Contains gas under pressure; may explode if heated



Appearance Hazy

Physical state Aerosol

Odor Light Vanilla Scent

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Do not spray on an open flame or other ignition source
Pressurized container: Do not pierce or burn, even after use

Precautionary Statements - Response

Specific treatment (see first aid on this label)
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do NOT induce vomiting

Precautionary Statements - Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None

Other information

2.66E-06% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | Weight %* |
|--------------------------------|------------|-----------|
| PROPANE/ISOBUTANE/N-BUTANE | 68476-86-8 | 30-40 |
| NAPHTHENIC OIL, SEVERLY HYDROT | 64742-52-5 | 20-30 |
| HEPTANE | 64742-49-0 | 10-20 |
| POLYMERIC VISCOSITY MODIFIER | MIXTURE | 10-20 |
| PETROLATUM | 8009-03-8 | 1-10 |
| HYDROTREATED HEAVY NAPHTHENIC | 64742-48-9 | 0.1-1 |

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES**First aid measures for different exposure routes**

| | |
|---------------------|---|
| Eye contact | Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. Call a physician if irritation persists. |
| Skin contact | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician. |
| Inhalation | Move to fresh air. If breathing is difficult, give oxygen. Artificial respiration and/or oxygen may be necessary. If breathing has stopped, contact emergency medical services immediately. |
| Ingestion | Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately. |

Most important symptoms/effects, acute and delayed**Main Symptoms** Causes skin irritation. May cause respiratory irritation. Harmful if swallowed.**Indication of immediate medical attention and special treatment needed, if necessary****Notes to physician** Treat symptomatically.**5. FIRE-FIGHTING MEASURES****Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media Decomposition by contact with water may generate vapors which can be ignited by heat or open flame.**Specific hazards arising from the chemical**

No information available.

Explosion Data**Sensitivity to Mechanical Impact** none.**Sensitivity to Static Discharge** Yes.**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures**Personal precautions**

Avoid contact with eyes. Avoid breathing vapors or mists. Contents under pressure. Do not puncture or incinerate cans. Do not stick pin or any other sharp object into opening on top of can. Avoid skin contact. Use with adequate ventilation. Keep container away from heat, flames, and all other sources of ignition. Keep can away from all sources of electricity such as electric motors and batteries. Do not spray on hot surfaces.

Environmental precautions**Environmental precautions**

No special environmental precautions required. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Methods and materials for containment and cleaning up**Methods for Containment**

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling**Advice on safe handling**

Avoid contact with eyes. Avoid breathing vapors or mists. Contents under pressure. Do not puncture or incinerate cans. Do not stick pin or any other sharp object into opening on top of can.

Conditions for safe storage, including any incompatibilities**Technical measures/Storage conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible products

None known based on information supplied.

Aerosol Level

3

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters**Exposure Guidelines**

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|--|---|---|--|
| PROPANE/ISOBUTANE/N-BUTANE 68476-86-8 | 74-98-6: TWA: 1000 ppm 106-97-8: STEL: 1000 ppm 75-28-5: STEL: 1000 ppm | 74-98-6: TWA: 1000 ppm TWA: 1800 mg/m ³ (vacated) TWA: 1000 ppm (vacated) TWA: 1800 mg/m ³ 106-97-8: (vacated) TWA: 800 ppm ppm (vacated) TWA: 1900 mg/m ³ | 74-98-6: IDLH: 2100 ppm TWA: 1000 ppm TWA: 1800 mg/m ³ 106-97-8: TWA: 800 ppm TWA: 1900 mg/m ³ 75-28-5: TWA: 800 ppm TWA: 1900 mg/m ³ |

| | | | |
|-----------------------|-------------------------------|--------------|---|
| HEPTANE 64742-49-0 | TLV: 400 ppm STEL: 500 ppm | TWA: 500 ppm | - |
|-----------------------|-------------------------------|--------------|---|

ACGIH: (American Conference of Governmental Industrial Hygienists)

OSHA: (Occupational Safety & Health Administration)

Exposure controls**Engineering Measures**

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment**Eye/Face Protection**

Safety glasses with side-shields.

Skin and body protection

Chemical resistant apron. Protective gloves.

Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES**Physical and chemical properties****Physical state**

Aerosol

Appearance

Hazy

Color

amber

Odor

Light Vanilla Scent

Odor Threshold

No information available

Property**Values****Remarks • Methods****pH**

No information available

not applicable

Melting/freezing point

No information available

Boiling point/boiling range

No information available

Flash Point

-97 °C / -142 °F

Based on propellant

Evaporation rate

No information available

Flammability (solid, gas)

No information available

Flammability Limits in Air**upper flammability limit**

No information available

lower flammability limit

No information available

Vapor pressure

No information available

Vapor density

No information available

Specific Gravity

0.750

Water solubility

Practically insoluble

Partition coefficient: n-octanol/water

No information available

Autoignition temperature

No information available

Not applicable

Decomposition temperature

No information available

Viscosity

No information available

Explosive properties

No information available

Other information**VOC Content(%)**

49.84

10. STABILITY AND REACTIVITY**Reactivity**

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Conditions to Avoid

Extremes of temperature and direct sunlight.

Incompatible Materials

None known based on information supplied.

Hazardous Decomposition Products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure**Product Information**

| | |
|---------------------|--|
| Inhalation | Vapors may irritate throat and respiratory system. May cause drowsiness and dizziness based on components. May cause irritation of respiratory tract. Avoid breathing vapors or mists. |
| Eye contact | May cause slight irritation. Avoid contact with eyes. |
| Skin contact | Irritating to skin. Repeated exposure may cause skin dryness or cracking. Prolonged skin contact may defat the skin and produce dermatitis. Avoid contact with skin. |
| Ingestion | Harmful if swallowed. Aspiration into the lungs during swallowing may cause serious lung damage which may be fatal. |

Component Information

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|--|----------------------|-------------------------|-------------------------|
| HEPTANE 64742-49-0 | > 5000 mg/kg (Rat) | > 3160 mg/kg (Rabbit) | = 73680 ppm (Rat) 4 h |
| PETROLATUM 8009-03-8 | - | = 3600 mg/kg (Rabbit) | - |
| HYDROTREATED HEAVY NAPHTHENIC 64742-48-9 | > 5000 mg/kg (Rat) | > 3160 mg/kg (Rabbit) | - |

Information on toxicological effects

Symptoms Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization None known.
Germ Cell Mutagenicity None known.
Carcinogenicity The table below indicates whether each agency has evaluated a listed ingredient as a carcinogen.

ACGIH: (American Conference of Governmental Industrial Hygienists)
 A2 - Suspected Human Carcinogen
 IARC: (International Agency for Research on Cancer)
 Group 1 - Carcinogenic to Humans
 OSHA: (Occupational Safety & Health Administration)
 X - Present

Reproductive toxicity This product does not contain any known or suspected reproductive hazards.
Specific target organ systemic toxicity (single exposure) May cause respiratory irritation. May cause drowsiness and dizziness.

| | |
|--|---|
| Specific target organ systemic toxicity (repeated exposure) | No information available. |
| Neurological effects | Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal. |
| Aspiration hazard | May be fatal if swallowed and enters airways. |

Numerical measures of toxicity - Product Information

| | |
|---|--|
| Unknown Acute Toxicity | 2.66E-06% of the mixture consists of ingredient(s) of unknown toxicity |
| The following values are calculated based on chapter 3.1 of the GHS document . | |
| ATEmix (oral) | 3196 mg/kg |
| ATEmix (dermal) | 5688 mg/kg |
| ATEmix (inhalation-vapor) | 127 mg/l |

12. ECOLOGICAL INFORMATION**Ecotoxicity**

| Chemical Name | Toxicity to algae | Toxicity to fish | Toxicity to microorganisms | Toxicity to daphnia and other aquatic invertebrates |
|---|-------------------|---|----------------------------|---|
| PROPANE/ISOBUTANE/N-BUTANE 68476-86-8 | - | - | - | - |
| NAPHTHENIC OIL, SEVERLY HYDROT 64742-52-5 | - | 5000 mg/L LC50 Oncorhynchus mykiss 96h | - | 1000 mg/L EC50 Daphnia magna 48h |
| HYDROTREATED HEAVY NAPHTHENIC 64742-48-9 | - | 2200 mg/L LC50 Pimephales promelas 96h | - | - |

Persistence and degradability

No information available.

Bioaccumulation

No information available.

| Chemical Name | log Pow |
|--|---------|
| PROPANE/ISOBUTANE/N-BUTANE 68476-86-8 | 2.8 |

| | |
|------------------------------|--------------------------|
| Other adverse effects | No information available |
|------------------------------|--------------------------|

13. DISPOSAL CONSIDERATIONS**Waste treatment**

| | |
|-------------------------------|--|
| Waste Disposal Methods | Dispose of contents/container in accordance with local regulation. This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261). |
|-------------------------------|--|

| | |
|-------------------------------|---------------------------------|
| Contaminated packaging | Do not re-use empty containers. |
|-------------------------------|---------------------------------|

14. TRANSPORT INFORMATION

| | |
|-------------------|--|
| DOT Ground | CONSUMER COMMODITY ORM-D or LIMITED QUANTITY |
|-------------------|--|

IATA UN1950, AEROSOLS, FLAMMABLE, 2.1, LTD. QTY.

IMDG UN1950, AEROSOLS, 2.1, LTD. QTY.

15. REGULATORY INFORMATION

International Inventories

| Chemical Name | TSCA | DSL/NDSL | EINECS/ELI NCS | ENCS | IECSC | KECL | PICCS | AICS |
|--------------------------------|------|----------|-------------------|------------|-------|------|-------|------|
| PROPANE/ISOBUTANE/N-BUTANE | X | X | X | Not listed | X | X | X | X |
| NAPHTHENIC OIL, SEVERLY HYDROT | X | X | X | X | X | X | X | X |
| HEPTANE | X | X | X | X | X | X | X | X |
| PETROLATUM | X | X | X | X | X | X | X | X |
| HYDROTREATED HEAVY NAPHTHENIC | X | X | X | X | X | X | X | X |

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

CHINA - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

| | |
|-----------------------------------|-----|
| Acute Health Hazard | Yes |
| Chronic Health Hazard | Yes |
| Fire Hazard | Yes |
| Sudden Release of Pressure Hazard | Yes |
| Reactive Hazard | no |

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

California Proposition 65

This product does not contain any known Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any chemicals subject to state reporting regulations that are not already listed elsewhere in this document.

EPA Pesticide Registration Number Not applicable

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**16. OTHER INFORMATION**

| | | | | |
|--------------------|------------------------|-----------------------|--------------------------|--|
| <u>NFPA</u> | Health Hazard 2 | Flammability 4 | Instability 0 | Physical and chemical hazards - |
| <u>HMIS</u> | Health Hazard 2 | Flammability 4 | Physical Hazard 1 | Personal protection B |

Prepared By Regulatory Affairs
Issuing date 24-Mar-2015
Revision Date 24-Mar-2015

Revision Note
No information available

Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet



PROPANE

Safety Data Sheet

1. IDENTIFICATION

Product identifier

Product Name PROPANE

Other means of identification

Safety data sheet number LIND-P105
UN/ID no. UN1978
Synonyms Dimethylmethane
Trade name Propane Care40 R290

Recommended use of the chemical and restrictions on use

Recommended Use Industrial and professional use.
Uses advised against Consumer use

Details of the supplier of the safety data sheet

Linde Gas North America LLC - Linde Merchant Production Inc. - Linde LLC
200 Somerset Corporate Blvd, Suite 7000
Bridgewater, NJ 08807
Phone: 908-464-8100
www.lindeus.com

Linde Gas Puerto Rico, Inc.
Road 869, Km 1.8
Barrio Palmas, Catano, PR 00962
Phone: 787-641-7445
www.pr.lindegas.com

Linde Canada Limited
5860 Chedworth Way
Mississauga, Ontario L5R 0A2
Phone: 905-501-2500/905-501-1700
www.lindecana.com

* May include subsidiaries or affiliate companies/divisions.

For additional product information contact your local customer service.

Emergency telephone number

Company Phone Number +1 800-232-4726 (Linde National Operations Center, US)
+1 905-501-0802 (Canada)
CHEMTREC: 1-800-424-9300 (North America) +1-703-527-3887 (International)

2. HAZARDS IDENTIFICATIONClassification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

| | |
|----------------------|---------------|
| Flammable gases | Category 1 |
| Gases under pressure | Liquefied gas |
| Simple asphyxiants | Yes |

Label elements

Signal word

Danger

Hazard Statements

Extremely flammable gas

Contains gas under pressure; may explode if heated

May displace oxygen and cause rapid suffocation

May form explosive mixtures with air

May cause frostbite

Precautionary Statements - Prevention

Do not handle until all safety precautions have been read and understood

Keep away from heat, sparks, open flames, hot surfaces. — No smoking

Use and store only outdoors or in a well ventilated place

Use a backflow preventive device in piping

Do not open valve until connected to equipment prepared for use

Close valve after each use and when empty

Never put cylinders into unventilated areas of passenger vehicles

Precautionary Statements - Response

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical attention/advice.

IF ON SKIN: Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention.

Leaking gas fire: do not extinguish, unless leak can be stopped safely

Eliminate all ignition sources if safe to do so

Precautionary Statements - Storage

Protect from sunlight when ambient temperature exceeds 52°C/125°F

Hazards not otherwise classified (HNOC)

Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS No. | Volume % | Chemical Formula |
|---------------|---------|----------|-------------------------------|
| Propane | 74-98-6 | >99 | C ₃ H ₈ |

4. FIRST AID MEASURES

Description of first aid measures

| | |
|------------------------------------|--|
| General advice | Show this safety data sheet to the doctor in attendance. |
| Inhalation | Remove to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately. |
| Skin contact | For dermal contact or suspected frostbite, remove contaminated clothing and flush affected areas with lukewarm water. DO NOT USE HOT WATER. A physician should see the patient promptly if contact with the product has resulted in blistering of the dermal surface or in deep tissue freezing. |
| Eye contact | If frostbite is suspected, flush eyes with cool water for 15 minutes and obtain immediate medical attention. |
| Ingestion | Not an expected route of exposure. |
| Self-protection of the first aider | RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS. Remove all sources of ignition. |

Most important symptoms and effects, both acute and delayed

| | |
|----------|---|
| Symptoms | High concentrations may cause asphyxia from lack of oxygen or act as a narcotic causing central nervous system depression. May cause nausea, dizziness, headaches, shortness of breath, lethargy, narcosis, unconsciousness and possibly cardiac arrhythmias. Contact with liquid may cause cold burns/frostbite. |
|----------|---|

Indication of any immediate medical attention and special treatment needed

| | |
|--------------------|--|
| Note to physicians | A patient adversely affected by exposure to this product should not be given adrenaline (epinephrine) or similar heart stimulant since these would increase the risk of cardiac arrhythmias. |
|--------------------|--|

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Dry chemical or CO₂. Water spray (fog). DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED.

Specific extinguishing methods

If possible, stop the flow of gas. Do not extinguish the fire until supply is shut off as otherwise an explosive-ignition may occur. If the fire is extinguished and the flow of gas continues, use increased ventilation to prevent build-up of explosive atmosphere. Ventilation fans must be explosion proof. Use non-sparking tools to close container valves.

Use water spray to cool surrounding containers. Be cautious of a Boiling Liquid Evaporating Vapor Explosion, BLEVE, if flame is impinging on surrounding containers. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible withdraw from area and let fire burn. Damaged cylinders should be handled only by specialists.

Specific hazards arising from the chemical

Extremely flammable gas. May form explosive mixtures with air. Will be easily ignited by heat, sparks or flames. Vapors may travel to source of ignition and flash back. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Cylinders may rupture under extreme heat.

Hazardous combustion products Carbon monoxide. Carbon dioxide (CO₂).

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, NIOSH (approved or equivalent) and full protective gear. As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Consider the risk of potentially explosive atmospheres. Monitor oxygen level. All equipment used when handling the product must be grounded. Use non-sparking tools and equipment. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.

Other Information Gas/vapor is heavier than air. Prevent from entering sewers, basements and workpits, or any place where accumulation may be dangerous.

Environmental precautions

Environmental precautions Prevent spreading of vapors through sewers, ventilation systems and confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop the flow of gas or remove cylinder to outdoor location if this can be done without risk. If leak is in container or container valve, contact the appropriate emergency telephone number in Section 1 or call your closest Linde location.

Methods for cleaning up Do not direct water at spill or source of leak. Return cylinder to Linde or an authorized distributor.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground and bond all lines and equipment associated with product system. All equipment should be non-sparking and explosion proof. Separate flammable gas cylinders from oxygen and other oxidizers by a minimum distance of 20 ft. or by a 5 ft. high barrier with a minimum fire resistance rating of a half an hour. "NO SMOKING" signs should be posted in storage and use areas.

Protect cylinders from physical damage; do not drag, roll, slide or drop. When moving cylinders, even for short distance, use a cart designed to transport cylinders. Never attempt to lift a cylinder by its valve protection cap. Never insert an object (e.g. wrench, screwdriver, pry bar, etc.) into valve cap openings. Doing so may damage valve, causing leak to occur. Use an adjustable strap wrench to remove over-tight or rusted caps. Use only with adequate ventilation. Use a backflow preventive device in piping. Use only with equipment rated for cylinder pressure. Close valve after each use and when empty. If user experiences any difficulty operating cylinder valve discontinue use and contact supplier. Ensure the complete gas system has been checked for leaks before use.

Never put cylinders into trunks of cars or unventilated areas of passenger vehicles. Never attempt to refill a compressed gas cylinder without the owner's written consent. Never strike an arc on a compressed gas cylinder or make a cylinder a part of an electrical circuit.

Only experienced and properly instructed persons should handle gases under pressure. Always store and handle compressed gas cylinders in accordance with Compressed Gas Association, pamphlet CGA-P1, Safe Handling of Compressed Gases in Containers.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store in cool, dry, well-ventilated area of non-combustible construction away from heavily trafficked areas and emergency exits. Keep at temperatures below 52°C / 125°F. Cylinders should be stored upright with valve protection cap in place and firmly secured to prevent falling. Full and empty cylinders should be segregated. Use a "first in-first out" inventory system to prevent full cylinders from being stored for excessive periods of time. Stored containers should be periodically checked for general condition and leakage. Outside or detached storage is preferred.

Incompatible materials Oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parametersExposure Guidelines

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|--------------------|--|--|--|
| Propane 74-98-6 | : See Appendix F: Minimal Oxygen Content | TWA: 1000 ppm TWA: 1800 mg/m ³ | IDLH: 2100 ppm TWA: 1000 ppm TWA: 1800 mg/m ³ |

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH: Immediately Dangerous to Life or Health.

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Local exhaust ventilation to prevent accumulation of high concentrations and maintain air-oxygen levels at or above 19.5%. Explosion proof ventilation systems. Oxygen detectors should be used when asphyxiating gases may be released. Consider installation of leak detection systems in areas of use and storage. Systems under pressure should be regularly checked for leakages. Showers. Eyewash stations.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). If splashes are likely to occur, wear: Goggles. Face-shield.

Skin and body protection Work gloves and safety shoes are recommended when handling cylinders. Wear cold insulating gloves when handling liquid. Wear fire/flame resistant/retardant clothing. Take precautionary measures against static discharge.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Do not get in eyes, on skin, or on clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | |
|----------------|--|
| Physical state | Compressed gas |
| Appearance | Colorless. |
| Odor | An odorant may be added to the gas to aid in detection of leaks. |

| | |
|---------------------------|--------------------------|
| Odor threshold | No information available |
| pH | No data available |
| Melting point | No data available |
| Evaporation rate | Not applicable |
| Fire Hazard | Yes |
| Flammability Limit in Air | |
| Lower flammability limit: | 2.2% |
| Upper flammability limit: | 9.5% |
| Flash point | -104 °C / -156 °F |
| Autoignition temperature | 450 °C / 842 °F |
| Decomposition temperature | No data available |
| Water solubility | Negligible |
| Partition coefficient | 2.3 |
| Kinematic viscosity | Not applicable |

| Chemical Name | Molecular weight | Boiling point | Vapor Pressure | Vapor density (air =1) | Gas Density kg/m ³ @20°C | Critical Temperature |
|---------------|------------------|---------------|------------------|------------------------|-------------------------------------|----------------------|
| Propane | 44.09 | -42.04 °C | 8.39 bar @ 20 °C | 1.55 | 1.858 | 96.67 °C |

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions

Chemical stability

Stable under normal conditions.

Explosion data

| | |
|----------------------------------|-------|
| Sensitivity to Mechanical Impact | None. |
| Sensitivity to Static Discharge | Yes. |

Possibility of Hazardous Reactions

May form explosive mixtures with air.

Conditions to avoid

Heat, flames and sparks.

Incompatible materials

Oxidizing agents.

Hazardous Decomposition Products

Carbon monoxide. Carbon dioxide (CO₂).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation

High concentrations of aliphatic hydrocarbon gases may cause CNS depression. Recent information suggest that C1-C4 aliphatic (alkane) hydrocarbon gases can cause potentially fatal cardiac arrhythmias. Cardiac sensitization to adrenalin in dogs has been noted following inhalation. In dogs, the heart is more sensitive to epinephrine induced ventricular fibrillations following exposure to 15-90% propane for 10 minutes. Ventricular fibrillations have been reported in humans following inhalation of n-butane.

| | |
|--------------|---|
| Skin contact | Contact with liquid may cause cold burns/frostbite. |
| Eye contact | Contact with liquid may cause cold burns/frostbite. |
| Ingestion | Not an expected route of exposure. |

Information on toxicological effects

| | |
|----------|--|
| Symptoms | High concentrations may cause asphyxia from lack of oxygen or act as a narcotic causing central nervous system depression. Symptoms of overexposure are dizziness, headache, tiredness, nausea, unconsciousness, cessation of breathing. |
|----------|--|

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|--------------------------|---|
| Irritation | Not classified. |
| Sensitization | Not classified. |
| Germ cell mutagenicity | Not classified. |
| Carcinogenicity | This product does not contain any carcinogens or potential carcinogens listed by OSHA, IARC or NTP. |
| Reproductive toxicity | Not classified. |
| STOT - single exposure | Not classified. |
| STOT - repeated exposure | Not classified. |
| Chronic toxicity | None known. |
| Target Organ Effects | Central nervous system (CNS). |
| Aspiration hazard | Not applicable. |

Numerical measures of toxicity

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 | Inhalation LC50 (CGA P-20) |
|--------------------|-----------|-------------|------------------------|-------------------------------|
| Propane 74-98-6 | - | - | = 658 mg/L (Rat) 4 h | - |

Product Information

| | |
|-----------------|---------------------------|
| Oral LD50 | No information available. |
| Dermal LD50 | No information available. |
| Inhalation LC50 | No information available |
| Inhalation LC50 | |

12. ECOLOGICAL INFORMATIONEcotoxicity

No known acute aquatic toxicity.

Persistence and degradability

No information available.

Bioaccumulation

Will not bioconcentrate.

| Chemical Name | Partition coefficient |
|--------------------|-----------------------|
| Propane 74-98-6 | 2.3 |

13. DISPOSAL CONSIDERATIONSWaste treatment methods

| | |
|--------------------|---|
| Disposal of wastes | Do not attempt to dispose of residual waste or unused quantities. Return in the shipping container PROPERLY LABELED WITH ANY VALVE OUTLET PLUGS OR CAPS SECURED AND VALVE PROTECTION CAP IN PLACE to Linde for proper disposal. |
|--------------------|---|

14. TRANSPORT INFORMATION

Note: In US and Canada, Petroleum gases, liquefied (UN1075), or Liquefied petroleum gas (UN1075) is also acceptable. Identification number used must be consistent on package markings, shipping papers and emergency response information.

DOT

| | |
|---------------------------------|----------------------|
| UN/ID no. | UN1978 |
| Proper shipping name | Propane |
| Hazard Class | 2.1 |
| Special Provisions | 19, T50 |
| Description | UN1978, Propane, 2.1 |
| Emergency Response Guide Number | 115 |

TDG

| | |
|----------------------|----------------------|
| UN/ID no. | UN1978 |
| Proper shipping name | Propane |
| Hazard Class | 2.1 |
| Description | UN1978, Propane, 2.1 |

MEX

| | |
|----------------------|----------------------|
| UN/ID no. | UN1978 |
| Proper shipping name | Propane |
| Hazard Class | 2.1 |
| Description | UN1978, Propane, 2.1 |

IATA

| | |
|----------------------|----------------------|
| UN/ID no. | UN1978 |
| Proper shipping name | Propane |
| Hazard Class | 2.1 |
| ERG Code | 10L |
| Special Provisions | A1 |
| Description | UN1978, Propane, 2.1 |

IMDG

| | |
|----------------------|----------|
| UN/ID no. | UN1978 |
| Proper shipping name | Propane |
| Hazard Class | 2.1 |
| EmS-No. | F-D, S-U |

ADR

| | |
|-------------------------|-----------------------------|
| UN/ID no. | UN1978 |
| Proper shipping name | Propane |
| Hazard Class | 2.1 |
| Classification code | 2F |
| Tunnel restriction code | (B/D) |
| Special Provisions | 652, 657, 660 |
| Description | UN1978, Propane, 2.1, (B/D) |

15. REGULATORY INFORMATION

International Inventories

| | |
|---------------|----------|
| TSCA | Complies |
| DSL/NDSL | Complies |
| EINECS/ELINCS | Complies |

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

| | |
|-----------------------------------|-----|
| Acute Health Hazard | Yes |
| Chronic Health Hazard | No |
| Fire Hazard | Yes |
| Sudden release of pressure hazard | Yes |
| Reactive Hazard | No |

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Risk and Process Safety Management Programs

This material, as supplied, contains one or more regulated substances with specified thresholds under 40 CFR Part 68 or regulated as a highly hazardous chemical pursuant to the 29 CFR Part 1910.110 with specified thresholds:

| Chemical Name | U.S. - CAA (Clean Air Act) - Accidental Release Prevention - Toxic Substances | U.S. - CAA (Clean Air Act) - Accidental Release Prevention - Flammable Substances | U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals |
|---------------|---|---|--|
| Propane | | 10000 lb | |

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|--------------------|------------|---------------|--------------|
| Propane 74-98-6 | X | X | X |

16. OTHER INFORMATION

| | | | | |
|-------------|------------------|----------------|---------------|------------------------------------|
| <u>NFPA</u> | Health hazards 2 | Flammability 4 | Instability 0 | Physical and Chemical Properties - |
|-------------|------------------|----------------|---------------|------------------------------------|

Note: Ratings were assigned in accordance with Compressed Gas Association (CGA) guidelines as published in CGA Pamphlet P-19-2009, CGA Recommended Hazard Ratings for Compressed Gases, 3rd Edition.

| | |
|---------------|-------------------------|
| Issue Date | 23-Feb-2015 |
| Revision Date | 02-Nov-2016 |
| Revision Note | SDS sections updated; 9 |

General Disclaimer

For terms and conditions, including limitation of liability, please refer to the purchase agreement in effect between Linde LLC, Linde Merchant Production, Inc. or Linde Gas North America LLC (or any of their affiliates and subsidiaries) and the purchaser.

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).

End of Safety Data Sheet



Propane

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations
Revision Date: 08/15/2015 Date of Issue: 08/15/2015

Version: 1.0

SECTION 1 IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Propane

1.2. Intended Use of the Product

Use of the substance/mixture: Fuel

1.3. Name, Address, and Telephone of the Responsible Party

Company

Crestwood Midstream Partners LP

801 Cherry St.

Suite 3400

Fort Worth, TX 76102

817-339-5400

www.crestwoodlp.com

1.4. Emergency Telephone Number

Emergency Number : 800-424-9300 Chemtrec - Company Code: C459

SECTION 2 HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Simple Asphyxiant

Flam. Gas 1 H220

Liquefied gas H280

Full text of H-phrases: see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



Signal Word (GHS-US)

: Danger

Hazard Statements (GHS-US)

: H220 - Extremely flammable gas.
H280 - Contains gas under pressure; may explode if heated.
- May displace oxygen and cause rapid suffocation.

Precautionary Statements (GHS-US)

: P210 - Keep away from extremely high or low temperatures, ignition sources, and incompatible materials. - No smoking.
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 - Eliminate all ignition sources if safe to do so.
P403 - Store in a well-ventilated place.
P410+P403 - Protect from sunlight. Store in a well-ventilated place.

2.3. Other Hazards

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. Contact with gas escaping the container can cause frostbite.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

| Name | Product Identifier | % | Classification (GHS-US) |
|---------|--------------------|------|---|
| Propane | (CAS No) 74-98-6 | > 85 | Simple Asphyxiant Flam. Gas 1, H220 Liquefied gas, H280 |

Propane

Safety Data Sheet

According to Federal Register / Vol. 77, No. 59 / Monday, March 26, 2012 / Rules and Regulations

| | | | |
|-----------|-------------------|-------|--|
| Propane | (CAS No) 115-07-1 | < 10 | Simple Asphyxiant Flam. Gas 1, H220 Liquefied gas, H280 |
| Isobutane | (CAS No) 75-28-5 | < 5 | Simple Asphyxiant Flam. Gas 1, H220 Liquefied gas, H280 |
| Pentane | (CAS No) 109-66-0 | < 0.5 | Flam. Liq. 1, H224 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411 |

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). If frostbite or freezing occurs, immediately flush with plenty of lukewarm water to GENTLY warm the affected area. Do not use hot water. Do not rub affected area. Get immediate medical attention.

First-aid Measures After Inhalation: Obtain medical attention if breathing difficulty persists. First, take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate respiratory protective equipment, use the buddy system), then remove the exposed person to fresh air. Keep at rest in a position comfortable for breathing.

First-aid Measures After Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists. Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention.

First-aid Measures After Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2. Most Important symptoms and effects, both acute and delayed

Symptoms/Injuries: May cause frostbite on contact with the liquid. Asphyxia by lack of oxygen: risk of death.

Symptoms/Injuries After Inhalation: In elevated concentrations may cause asphyxiation, central nervous system effects, and increased breathing rate. Symptoms of asphyxiation include headache, dizziness, rapid breathing, increased pulse, mood changes, tremors, cyanosis, muscular weakness, narcosis, numbness of the extremities, unconsciousness and death.

Symptoms/Injuries After Skin Contact: Contact with gas/liquid escaping the container can cause frostbite and freeze burns.

Symptoms/Injuries After Eye Contact: Contact with gas/liquid escaping the container can cause frostbite, freeze burns, and permanent eye damage.

Symptoms/Injuries After Ingestion: Not considered a potential route of exposure, but contact with gas/liquid escaping the container can cause freeze burns and frostbite.

Chronic Symptoms: None expected under normal conditions of use.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Do not extinguish burning gas if flow cannot be shut off immediately. Extinguish secondary FIRES with appropriate materials.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Extremely flammable gas.

Explosion Hazard: May form flammable/explosive vapor-air mixture. Container may explode in heat of fire.

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so. Fight fire remotely due to the risk of explosion.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Other Information: Use water spray to disperse vapors. Do not allow run-off from fire fighting to enter drains or water courses.

Propane

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Eliminate every possible source of ignition. Do not breathe gas.

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Evacuate unnecessary personnel, isolate, and ventilate area. Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Stop leak, if possible without risk. As an immediate precautionary measure, isolate spill or leak area in all directions.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill. Stop the source of the release, if safe to do so. Consider the use of water spray to disperse vapors. Isolate the area until gas has dispersed. Ventilate and gas test area before entering.

6.4. Reference to Other Sections

See Heading 8. Exposure controls and personal protection. See Section 13, Disposal Considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Handle empty containers with care because residual vapors are flammable. Ruptured cylinders may rocket. Do not pressurize, cut, or weld containers. Asphyxiating gas at high concentrations.

Precautions for Safe Handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid prolonged contact with eyes, skin and clothing. Do not breathe gas. Employ good maintenance practices to prevent leaks. Use good process control measures to prevent releases.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, including Any Incompatibilities

Technical Measures: Comply with applicable regulations. Proper grounding procedures to avoid static electricity should be followed.

Storage Conditions: Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Keep in fireproof place. Cylinders should be stored upright with valve protection cap in place and firmly secured to prevent falling.

Incompatible Products: Strong acids, strong bases, strong oxidizers.

Special Rules on Packaging: Ethyl mercaptan might, under certain conditions (when oxygen, water, iron oxide or other oxidizers are present in containers and piping) react with oxidizers which diminish or eliminate entirely its distinct smell, thereby reducing or eliminating the ability of a person to detect a leak. The passage of odorized propane through soil because of an underground leak will also diminish or eliminate entirely the smell of odorized propane. If you suspect a leak, use a combustible gas indicator or similar device to check for gas leaks.

7.3. Specific End Use(s)

Fuel

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), or OSHA (PEL).

| Propane (74-98-6) | | |
|--------------------|--------------------------------------|------------------------|
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 1800 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (ppm) | 1000 ppm |
| USA IDLH | US IDLH (ppm) | 2100 ppm (10% LEL) |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 1800 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (ppm) | 1000 ppm |
| Propane (115-07-1) | | |
| USA ACGIH | ACGIH TWA (ppm) | 500 ppm |

09/18/2013

EN (English US)

8/1

Propane

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| USA ACGIH | ACGIH chemical category | Not Classifiable as a Human Carcinogen |
|---------------------|--|--|
| Isobutane (75-28-5) | | |
| USA ACGIH | ACGIH STEL (ppm) | 1000 ppm |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 1900 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (ppm) | 800 ppm |
| Pentane (109-66-0) | | |
| USA ACGIH | ACGIH TWA (ppm) | 1000 ppm |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 350 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (ppm) | 120 ppm |
| USA NIOSH | NIOSH REL (ceiling) (mg/m ³) | 1800 mg/m ³ |
| USA NIOSH | NIOSH REL (ceiling) (ppm) | 610 ppm |
| USA IDLH | US IDLH (ppm) | 1500 ppm (10% LEL) |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 2950 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (ppm) | 1000 ppm |

8.2. Exposure Controls

Appropriate Engineering Controls

: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. Gas detectors should be used when flammable gases or vapors may be released. Use explosion-proof equipment. Oxygen detectors should be used when asphyxiating gases may be released.

Personal Protective Equipment

: Gloves. Protective clothing. Protective goggles. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing

Hand Protection

Eye Protection

Skin and Body Protection

Respiratory Protection

: Wear fire/flamm resistant/retardant clothing.

: Wear protective gloves.

: Chemical safety goggles.

: Wear suitable protective clothing.

: Use a NIOSH-approved self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

Thermal Hazard Protection

: Wear thermally resistant protective clothing.

Other Information

: When using, do not eat, drink or smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

| | |
|---------------------------|---|
| Physical State | : Gas |
| Appearance | : Colorless |
| Odor | : Odorless, unless odorant added then odor of Ethyl Mercaptan |
| Odor Threshold | : No data available |
| pH | : No data available |
| Evaporation Rate | : Gas at normal ambient conditions |
| Melting Point | : No data available |
| Freezing Point | : -305 °F |
| Boiling Point | : -45 °F @ 14.7 psia |
| Flash Point | : -156 °F (TCC) |
| Auto-ignition Temperature | : 842 °F |
| Decomposition Temperature | : No data available |
| Flammability (solid, gas) | : Extremely flammable gas |
| Lower Flammable Limit | : 2.3% |
| Upper Flammable Limit | : 9.5% |
| Vapor Pressure | : 188 psia @ 100 °F |

Propane

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| | |
|--|---|
| Relative Vapor Density at 20 °C | : 2 (Air=1) |
| Relative Density | : 0.504 @ 60 °F |
| Solubility | : Water: <0.1% |
| Partition Coefficient: N-Octanol/Water | : No data available |
| Viscosity | : No data available |
| Molecular Weight | : 44.0 |
| Explosive Properties | : Contains gas under pressure; may explode if heated. |

9.2. Other Information

Gas Group : Liquefied gas

SECTION 10. STABILITY AND REACTIVITY

- 10.1. Reactivity: Hazardous reactions will not occur under normal conditions.
- 10.2. Chemical Stability: Contains gas under pressure; may explode if heated.
- 10.3. Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid: Direct sunlight, extremely high or low temperatures, open flames, sources of ignition and incompatible materials.
- 10.5. Incompatible Materials: Strong acids, strong bases, strong oxidizers.
- 10.6. Hazardous Decomposition Products: Normal combustion produces carbon dioxide; incomplete combustion can produce carbon monoxide.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity: Not classified

| | |
|---------------------|-------------------------------|
| Propane (74-98-6) | |
| LC50 Inhalation Rat | 658 mg/l/4h |
| Propene (115-07-1) | |
| LC50 Inhalation Rat | 658 mg/l/4h |
| Isobutane (75-28-5) | |
| LC50 Inhalation Rat | 658 mg/l/4h |
| LC50 Inhalation Rat | 11000 ppm |
| Pentane (109-66-0) | |
| LD50 Dermal Rabbit | 3000 mg/kg |
| LC50 Inhalation Rat | 364 g/m³ (Exposure time: 4 h) |

Skin Corrosion/Irritation: Not classified

Serious Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Not classified

| | |
|--------------------|---|
| Propene (115-07-1) | |
| IARC group | 3 |

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: In elevated concentrations may cause asphyxiation, central nervous system effects, and increased breathing rate. Symptoms of asphyxiation include headache, dizziness, rapid breathing, increased pulse, mood changes, tremors, cyanosis, muscular weakness, narcosis, numbness of the extremities, unconsciousness and death.

Symptoms/Injuries After Skin Contact: Contact with gas/liquid escaping the container can cause frostbite and freeze burns.

Symptoms/Injuries After Eye Contact: Contact with gas/liquid escaping the container can cause frostbite, freeze burns, and permanent eye damage.

Symptoms/Injuries After Ingestion: Not considered a potential route of exposure, but contact with gas/liquid escaping the container can cause freeze burns and frostbite.

Chronic Symptoms: None expected under normal conditions of use.

Propane

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

| | |
|--------------------|---|
| Pentane (109-66-0) | |
| LC50 Fish 1 | 9.87 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss) |
| EC50 Daphnia 1 | 9.74 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| LC 50 Fish 2 | 11.59 mg/l (Exposure time: 96 h - Species: Pimephales promelas) |

12.2. Persistence and Degradability

| | |
|-------------------------------|---|
| Propane | |
| Persistence and Degradability | May cause long-term adverse effects in the environment. |

12.3. Bioaccumulative Potential

| | |
|---------------------------|------------------|
| Propane | |
| Bioaccumulative Potential | Not established. |
| Propane (74-98-5) | |
| Log Pow | 2.3 |
| Propane (115-07-1) | |
| Log Pow | <= 2.8 |
| Isobutane (75-28-5) | |
| BCF fish 1 | 1.57 - 1.97 |
| Log Pow | 2.88 (at 20 °C) |
| Pentane (109-66-0) | |
| Log Pow | 3.39 |

12.4. Mobility in Soil No additional information available

12.5. Other Adverse Effects

Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, and international regulations.

Additional Information: Container may remain hazardous when empty. Continue to observe all precautions. Handle empty containers with care because residual vapors are flammable. Empty gas cylinders should be returned to the vendor for recycling or refilling. Do not puncture or incinerate container.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT

Proper Shipping Name(s) : PROPANE
PETROLEUM GASES, LIQUEFIED
Hazard Class : 2.1
Identification Number : UN1978
UN1075
Label Codes : 2.1
ERG Number : 115

14.2. In Accordance with IMDG

Proper Shipping Name(s) : PROPANE
PETROLEUM GASES, LIQUEFIED
Hazard Class : 2
Division : 2.1
Identification Number : UN1978
UN1075
Label Codes : 2.1
EmS-No. (Fire) : F-D
EmS-No. (Spillage) : S-U

14.3. In Accordance with IATA

Proper Shipping Name(s) : PROPANE
PETROLEUM GASES, LIQUEFIED

Propane

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Identification Number : UN1978
UN1075
Hazard Class : 2
Label Codes : 2.1
Division : 2.1
ERG Code (IATA) : 10L



SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

Propane

SARA Section 311/312 Hazard Classes

Fire hazard
Sudden release of pressure hazard
Immediate (acute) health hazard

Propane (74-98-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Propane (115-07-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Listed on United States SARA Section 313

SARA Section 313 - Emission Reporting

1.0 %

Isobutane (75-28-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Pentane (109-66-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

EPA TSCA Regulatory Flag

T - T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

15.2 US State Regulations

Propane (74-98-6)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

Propane (115-07-1)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

U.S. - Pennsylvania - RTK (Right to Know) List

Isobutane (75-28-5)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

Pentane (109-66-0)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date

: 09/15/2015

Other Information

: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

| | |
|-------------------|--|
| Aquatic Acute 2 | Hazardous to the aquatic environment - Acute Hazard Category 2 |
| Aquatic Chronic 2 | Hazardous to the aquatic environment - Chronic Hazard Category 2 |
| Asp. Tox. 1 | Aspiration hazard Category 1 |
| Flam. Gas 1 | Flammable gases Category 1 |
| Flam. Liq. 1 | Flammable liquids Category 1 |

Propane

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| | |
|---------------|---|
| Liquefied gas | Gases under pressure Liquefied gas |
| STOT SE 3 | Specific target organ toxicity (single exposure) Category 3 |
| H220 | Extremely flammable gas |
| H224 | Extremely flammable liquid and vapor |
| H280 | Contains gas under pressure; may explode if heated |
| H304 | May be fatal if swallowed and enters airways |
| H336 | May cause drowsiness or dizziness |
| H401 | Toxic to aquatic life |
| H411 | Toxic to aquatic life with long lasting effects |

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)



SAFETY DATA SHEET

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **PUKE-UP™ (Granular Absorbent)**
PRODUCT USE: Granular Absorbent
PRODUCT NUMBER: S-420
COMPANY: K & K Chemical
PHYSICAL ADDRESS: 1303 Industrial Drive, Royse City, Texas, 75189
MAILING ADDRESS: PO Box 1059, Royse City, Texas, 75189
COMPANY PHONE: 800-958-6921
WEB ADDRESS: KandKChemical.com
EMERGENCY PHONE: INFOTRAC (24/7) 1-800-535-5053 (USA)

SECTION 2. HAZARD(S) IDENTIFICATION

This product does not meet the hazardous criteria set forth by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). The product contains no substances which, at their given concentration, are considered hazardous to human health.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

| CHEMICAL NAME | SYNONYMS | CAS # | WT % |
|----------------|----------|-------|------|
| (None Present) | | | |

SECTION 4. FIRST AID MEASURES

Eyes: If eye contact occurs, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

SECTION 5. FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: Appropriate for surrounding media.

SPECIFIC HAZARDS: None

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: None

CONTAINMENT AND CLEAN-UP: Sweep up and dispose of in landfill.

SECTION 7. HANDLING AND STORAGE

Store in original container.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

APPROPRIATE ENGINEERING CONTROLS: None required

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Red granules

ODOR: Cherry

pH: N/A

SPECIFIC GRAVITY: N/A

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY: Not reactive

CHEMICAL STABILITY: Stable

HAZARDOUS REACTIONS: None known

CONDITIONS TO AVOID: None known

INCOMPATIBLE MATERIALS: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: None known

SECTION 11. TOXICOLOGICAL INFORMATION

ROUTE(S) OF ENTRY: Not hazardous

LISTED CARCINOGEN: No

MEDICAL CONDITION AGGRAVATED: None known

SECTION 12. ECOLOGICAL INFORMATION

No information available

SECTION 13. DISPOSAL CONSIDERATIONS

Dispose of in landfill. Recycle container or dispose of in landfill.

SECTION 14. TRANSPORTATION INFORMATION

D.O.T. PROPER SHIPPING NAME: Not hazardous by DOT

SECTION 15. REGULATORY INFORMATION

None known

SECTION 16. OTHER INFORMATION

REVISION DATE: Mar. 20, 2016

HMIS: Health = 0, Fire = 0, Reactivity = 0, Personal Protection = A

The information contained in this SDS was obtained from current and reliable sources. However, the data are provided without any warranty, expressed or implied, regarding its correctness or accuracy, since the conditions of handling, storage and disposal of this product are beyond the control of this Company. The Company is not responsible for loss, injury and expense arising out of the product's improper use. No warranty, expressed or implied, shall be established by any statement herein. Various government agencies may have specific regulations regarding the transportation, handling, storage, use or disposal of this product which may not be covered by this SDS. The user is responsible for full compliance.



**Arch
Chemicals,
Inc.**

SAFETY DATA SHEET

FOR ANY EMERGENCY, 24 HOURS / 7 DAYS, CALL:

FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC®:

FOR ALL SDS QUESTIONS & REQUESTS, CALL:

1-800-654-6911 (OUTSIDE
USA: 1-423-780-2970)

1-800-424-9300 (OUTSIDE
USA: 1-703-527-3887)

1-800-511-MSDS (OUTSIDE
USA: 1-423-780-2347)

PRODUCT NAME: Pulsar Plus Calcium Hypochlorite Briquettes

EPA Registration Number: 1258-1179

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Arch Chemicals, Inc.
1200 Bluegrass Lakes Parkway
Alpharetta, GA 30004

REVISION DATE: 06/02/2015

SUPERCEDES: 05/26/2015

MSDS Number: 000000022378

SYNONYMS: None

CHEMICAL FAMILY: Hypochlorite

DESCRIPTION / USE: Sanitizer and Oxidizer Water treatment
chemical

FORMULA: Not Applicable/Mixture

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Oxidizing solids : Category 2

Acute toxicity (Oral) : Category 4

Skin corrosion : Category 1B

Serious eye damage : Category 1

Acute toxicity (Inhalation) : Category 3

Specific target organ toxicity -
single exposure : Category 3

GHS Label element

Hazard pictograms :



Signal word : Danger

Pulsar Plus Calcium Hypochlorite Briquettes

REVISION DATE : 06/02/2015

Page 1 of 13



- Hazard statements : H272 May intensify fire; oxidiser.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
- Precautionary statements : **Prevention:**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220 Keep/Store away from clothing/ combustible materials.
P221 Take any precaution to avoid mixing with combustibles.
P260 Do not breathe vapours.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- Response:**
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/ physician.
P363 Wash contaminated clothing before reuse.
P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.
- Storage:**
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
- Disposal:**
P501 Dispose of contents/container in accordance with local regulation.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS OR CHEMICAL NAME
CALCIUM HYPOCHLORITE

CAS #
7778-54-3

% RANGE
60 - 80



| | | |
|---|------------|-----------|
| SODIUM CHLORIDE | 7647-14-5 | 10 - 20 |
| CALCIUM CHLORATE | 10137-74-3 | 0 - 5 |
| CALCIUM CHLORIDE | 10043-52-4 | 0 - 5 |
| CALCIUM HYDROXIDE | 1305-62-0 | 0 - 4 |
| CALCIUM CARBONATE | 471-34-1 | 0 - 4 |
| 1,2,4-BUTANETRICARBOXYLIC ACID, 2-PHOSPHONO-, SODIUM SALT | 40372-66-5 | 0.2 - 0.8 |
| Water | 7732-18-5 | 4.0 - 8.5 |

SECTION 4. FIRST AID MEASURES

| | |
|---------------------|--|
| General Advice: | Call a poison control center or doctor for treatment advice. For 24-hour emergency medical assistance, call Arch Chemical Emergency Action Network at 1-800-654-6911. Have the product container or label with you when calling a poison control center or doctor, or going for treatment. |
| Inhalation: | IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice. |
| Skin Contact: | IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. |
| Eye Contact: | IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice. |
| Ingestion: | IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person. |
| Notes to Physician: | Probable mucosal damage may contraindicate the use of gastric lavage. |

SECTION 5. FIREFIGHTING MEASURES



Flammability Summary (OSHA):

This product is chemically reactive with many substances. Any contamination of the product with other substances by spill or otherwise may result in a chemical reaction and fire., This product is a strong oxidizer which is capable of intensifying a fire once started., Product is not known to be flammable, combustible or pyrophoric.

Flammable Properties

Flash Point:

Not applicable

Autoignition Temperature:

Not applicable

Extinguishing Media:

Water only. Do not use dry extinguishers containing ammonium compounds.

Fire Fighting Instructions:

Use water to cool containers exposed to fire. See Section 6 for protective equipment for fire fighting.

Upper Flammable / Explosive Limit,
% in air:

Not applicable

Lower Flammable / Explosive Limit,
% in air:

Not applicable

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Protection for Emergency
Situations:

Response to a large quantity spill (100 pounds or greater) or when dusting or decomposition gas exposure could occur requires the use of a positive pressure full face supplied air respirator or self contained breathing apparatus (SCBA), chemical resistant gloves, coveralls and boots. In case of fire, this personal protective equipment should be used in addition to normal fire fighter equipment.

Spill Mitigation Procedures

Air Release:

Vapors may be suppressed by the use of water fog. All water utilized to assist in fume suppression, decontamination or fire suppression may be contaminated and must be contained before disposal and/or treatment.

Water Release:

This product is heavier than water. This material is soluble in water. Monitor all exit water for available chlorine and pH. Advise local authorities of any contaminated water release.

Land Release:

Contact 1-800-654-6911 immediately. DANGER: All spills of this product should be treated as contaminated. Contaminated product may initiate a chemical reaction that may spontaneously ignite any combustible material present, resulting in a fire of great intensity. In case of a spill, separate all spilled product from packaging, debris and other material. Using a clean broom or shovel, place all spilled product into plastic bags, and place those bags into a clean, dry disposal container, properly marked and labeled. Disposal containers made of plastic or metal are recommended. Do not seal disposal containers tightly. Immediately remove all product in disposal containers to an isolated area outdoors. Place all damaged packaging material in a disposal container of water to assure decontamination (i.e. removal of all product) before disposal. Place all undamaged packaging in a clean, dry container properly marked and labeled. Call for disposal procedures.



Additional Spill Information :

Hazardous concentrations in air may be found in local spill area and immediately downwind. Remove all sources of ignition. Stop source of spill as soon as possible and notify appropriate personnel. Dispose of spill residues per guidelines under Section 13, Disposal Consideration. This material may be neutralized for disposal; you are requested to contact Arch Chemicals at 1-800-654-6911 before beginning any such procedure. FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC: 1-800-424-9300 REPORTABLE QUANTITY: 10 lbs. (as calcium hypochlorite) per 40 CFR 302.4.

SECTION 7. HANDLING AND STORAGE

Handling:

Avoid inhalation of dust and fumes. Do not take internally. Avoid contact with skin, eyes and clothing. Upon contact with skin or eyes, wash off with water. Remove contaminated clothing and wash before reuse.

Storage:

Keep product tightly sealed in original containers. Store product in a cool, dry, well-ventilated area. Store away from combustible or flammable products. Keep product packaging clean and free of all contamination, including, e.g. other pool treatment products, acids, organic materials, nitrogen-containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidizers, all corrosive liquids, flammable or combustible materials, etc.

Shelf Life Limitations:

Do not store product where the average daily temperature exceeds 95° F. Storage above this temperature may result in rapid decomposition, evolution of chlorine gas and heat sufficient to ignite combustible products. Shelf life (that is, the period of time before the product goes below stated label strength) is determined by storage time and temperatures. Store in a cool, dry and well ventilated area. Prolonged storage at elevated temperatures will significantly shorten the shelf life. Storage in a climate controlled storage area or building is recommended in those areas where extremes of high temperature occur.

Incompatible Materials for Storage:

Do not allow product to come in contact with other materials, including e.g. other pool treatment products, acids, organic materials, nitrogen-containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidizers, all corrosive liquids, flammable or combustible materials, etc. A chemical reaction with such substances can cause a fire of great intensity.

Do Not Store At temperatures Above:

Average daily temperature of 35° C / 95° F. Storage above this temperature may result in rapid decomposition, evolution of chlorine gas and heat sufficient to ignite combustible products.



SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation: Local exhaust ventilation or other engineering controls are normally required when handling or using this product to keep airborne exposures below the TLV, PEL or other recommended exposure limit.

Protective Equipment for Routine Use of Product

Respiratory Protection : Wear a NIOSH approved respirator if levels above the exposure limits are possible.

Respirator Type : A NIOSH approved full-face air purifying respirator equipped with combination chlorine/P100 cartridges. Air purifying respirators should not be used in oxygen deficient or IDLH atmospheres or if exposure concentrations exceed ten (10) times the published limit.

Skin Protection : Wear impervious gloves to avoid skin contact. A full impervious suit is recommended if exposure is possible to a large portion of the body. A safety shower should be provided in the immediate work area.

Eye Protection: Use chemical goggles. Emergency eyewash should be provided in the immediate work area.

Protective Clothing Type: Neoprene, Nitrile, Natural rubber (This includes: gloves, boots, apron, protective suit)

Components with workplace control parameters

| Components (CAS-No.) | Value | Control parameters | Basis (Update) |
|----------------------------------|-------|--------------------|------------------|
| CALCIUM HYPOCHLORITE (7778-54-3) | TWA | 1 mg/m3 | ARCH OEL* |
| CALCIUM HYPOCHLORITE (7778-54-3) | Conc | 37 - 48 mg/m3 | NIOSH/GUIDE IDLH |
| CALCIUM HYDROXIDE (1305-62-0) | TWA | 5 mg/m3 | ACGIH (02 2014) |

ARCH OEL: Arch Recommended Occupational Exposure Guideline.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: solid

Form: Tablet

Color: white

Odor: Chlorine-like

Molecular Weight: 143.00 g/mol

pH : 10.4 - 10.8 (1% solution in neutral, distilled water) (@ 25 Deg. C)

Boiling Point: Not applicable

Freezing Point: Not applicable

Density: 1.9g/cc

Vapor Pressure: (@ 25 Deg. C) Not applicable



| | |
|--|--|
| Vapor Density: | Not applicable |
| Viscosity: | Not applicable |
| Fat Solubility: | No data |
| Solubility in Water: | 18 % (@ 25 Deg. C) Product also contains calcium hydroxide and calcium carbonate which will leave a residue. |
| Partition coefficient n-octanol/water: | Not applicable |
| Evaporation Rate: | Not applicable |
| Oxidizing: | Oxidizer |
| Volatiles, % by vol.: | Not applicable |
| VOC Content | Not applicable |
| HAP Content | Not applicable |

SECTION 10. STABILITY AND REACTIVITY

| | |
|-----------------------------------|---|
| Stability and Reactivity Summary: | Product is not sensitive to mechanical shock or impact. Product is not sensitive to electrical static discharge. Product will not undergo hazardous polymerization. Product is an NFPA Class 3 oxidizer which can cause a severe increase in fire intensity. Not pyrophoric. Not an organic peroxide. If subjected to excessive temperatures, the product may undergo rapid decomposition, evolution of chlorine gas, and heat sufficient to ignite combustible substances. If product is exposed to small amounts of water, it can react violently to produce heat and toxic gases and spatter. Use copious amounts of water for fires involving this product. |
| Conditions to Avoid: | Do not store next to heat source, in direct sunlight, or elevated storage temperature. Do not store where the daily average temperature exceeds 95 °F. Prevent ingress of humidity and moisture into container or package. Always close the lid. |
| Chemical Incompatibility: | This product is chemically reactive with many substances, including, e.g., other pool treatment products, acids, organics, nitrogen-containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidizers, corrosive, flammable or combustible materials. Do not allow product to contact any foreign matter, including other water treatment products. Contamination or improper use may cause a fire of great intensity, explosion or the release of toxic gases. If product is exposed to small amounts of water, it can react violently to produce heat and toxic gases and spatter. |
| Hazardous Decomposition Products: | Chlorine |
| Decomposition Temperature: | 170 - 180 °C - , 338 - 356 °F- |

SECTION 11. TOXICOLOGICAL INFORMATION

Component Animal Toxicology

Oral LD50 value:

| | | | |
|--------------|---------------------------------|-----------|-----|
| CALCIUM | LD50 (65% calcium hypochlorite) | 850 mg/kg | Rat |
| HYPOCHLORITE | | | |



| | | | |
|-------------------|------|---------------|-----|
| SODIUM CHLORIDE | LD50 | = 3,000 mg/kg | Rat |
| CALCIUM CHLORIDE | LD50 | = 1,000 mg/kg | Rat |
| CALCIUM HYDROXIDE | LD50 | = 7,340 mg/kg | Rat |

Component Animal Toxicology

Dermal LD50 value:

| | | | |
|-------------------------|---------------------------------|----------------|--------|
| CALCIUM HYPOCHLORITE | LD50 (65% calcium hypochlorite) | > 2,000 mg/kg | Rabbit |
| SODIUM CHLORIDE | LD50 | > 10,000 mg/kg | Rabbit |
| CALCIUM CHLORIDE | LD50 | = 2,630 mg/kg | Rat |
| CALCIUM HYDROXIDE | No data | | |

Component Animal Toxicology

Inhalation LC50 value:

| | | | |
|-------------------------|---|---|-------------|
| CALCIUM HYPOCHLORITE | Inhalation LC50 1 h (65% calcium hypochlorite), (Nose Only) | = | 2.04 mg/l |
| | Rat | | |
| | Inhalation LC50 4 h (65% calcium hypochlorite), (Nose Only) | = | 0.51 mg/l |
| | Rat | | |
| SODIUM CHLORIDE | Inhalation LC50 1 h | > | 42 mg/l Rat |
| CALCIUM CHLORIDE | No data | | |
| CALCIUM HYDROXIDE | No data | | |

Product Animal Toxicity

Oral LD50 value: LD50 Approximately 800 mg/kg Rat

Dermal LD50 value: LD50 > 2,000 mg/kg Rabbit

Inhalation LC50 value: Inhalation LC50 1.00 h (Nose Only) > 2.04 mg/l Rat Inhalation LC50 4 h (Nose Only) > 0.51 mg/l Rat Inhalation LC50 1 h (Nose Only) > 2.04 mg/l Rat Inhalation LC50 4 h (Nose Only) > 0.51 mg/l Rat

Skin Irritation: DRY MATERIAL CAUSES MODERATE SKIN IRRITATION., WET MATERIAL CAUSES SKIN BURNS.

Eye Irritation: Corrosive to eyes.

Skin Sensitization: This material is not known or reported to be a skin or respiratory sensitizer.

Acute Toxicity: This product is corrosive to all tissues contacted and upon inhalation, may cause irritation to mucous membranes and respiratory tract. The dry material is irritating to the skin. However when wet, it will produce burns to the skin.

Subchronic / Chronic Toxicity: There are no known or reported effects from repeated exposure except those secondary to burns.

Reproductive and Developmental Toxicity: Calcium hypochlorite has been tested for teratogenicity in laboratory animals. Results of this study have shown that calcium hypochlorite is not a teratogen.



CALCIUM CHLORIDE

Not known or reported to cause reproductive or developmental toxicity.

Mutagenicity:

Calcium hypochlorite has been tested in the Dominant lethal assay in male mice, and it did not induce a dominant lethal response. Calcium hypochlorite has been reported to produce mutagenic activity in two in vitro assays. It has, however, been shown to lack the capability to produce mutations in animals based on results from the micronucleus assay. In vitro assays frequently are inappropriate to judge the mutagenic potential of bactericidal chemicals due to a high degree of cellular toxicity. The concentration which produces mutations in these in vitro assays is significantly greater than the concentrations used for disinfection. Based on high cellular toxicity in in vitro assays and the lack of mutagenicity in animals, the risk of genetic damage to humans is judged not significant.

CALCIUM CHLORIDE

This product was determined to be non-mutagenic in the Ames assay. It was also shown to be non-clastogenic in the chromosomal aberration test.

Carcinogenicity:

This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA. One hundred mice were exposed dermally 3 times a week for 18 months to a solution of calcium hypochlorite. Histopathological examination failed to show an increased incidence of tumors. IARC (International Agency for Research on Cancer) reviewed studies conducted with several hypochlorite salts. IARC has classified hypochlorite salts as having inadequate evidence for carcinogenicity to humans and animals. IARC therefore considers hypochlorite salts to be not classifiable as to their carcinogenicity to humans (Group 3 Substance).

CALCIUM CHLORIDE

This chemical is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP, or EPA.

SECTION 12. ECOLOGICAL INFORMATION

Overview: Highly toxic to fish and other aquatic organisms.

Ecological Toxicity Values for: CALCIUM HYPOCHLORITE

| | | |
|----------------------------------|---|---|
| Bluegill | - | (nominal, static). 96 h LC50 0.088 mg/l |
| Rainbow trout (Salmo gairdneri), | - | (nominal, static). 96 h LC50 0.16 mg/l |
| Daphnia magna, | - | (nominal, static). 48 h LC50 0.11 mg/l |
| Bobwhite quail | - | Dietary LC50 > 5,000 ppm |
| Mallard ducklings | - | Dietary LC50 > 5,000 ppm |
| Bobwhite quail | - | Oral LD50 3,474 mg/kg |

Ecological Toxicity Values for: CALCIUM CHLORIDE

| | | |
|---------------|---|--|
| Bluegill | - | (nominal, static). 96 h LC50 = 10,650 mg/l |
| Mosquito fish | - | (nominal, static). 96 h LC50 = 13,400 mg/l |

Pulsar Plus Calcium Hypochlorite Briquettes

REVISION DATE : 06/02/2015

Page 9 of 13



- Pimephales promelas (fathead minnow) - (nominal, static). 96 h LC50 = 4,630 mg/l
- Daphnia magna, - (nominal, static). 48 h LC50= 2,770 mg/l
- Ceriodaphnia dubia - (nominal, static). 48 h LC50= 1,830 mg/l
- Nitzschia linearis (diatom) - (nominal, static). 5 day LC50 = 3,130 mg/l

SECTION 13. DISPOSAL CONSIDERATIONS

CARE MUST BE TAKEN TO PREVENT ENVIRONMENTAL CONTAMINATION FROM THE USE OF THE MATERIAL. THE USER OF THE MATERIAL HAS THE RESPONSIBILITY TO DISPOSE OF UNUSED MATERIAL, RESIDUES AND CONTAINERS IN COMPLIANCE WITH ALL RELEVANT LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS REGARDING TREATMENT, STORAGE AND DISPOSAL FOR HAZARDOUS AND NONHAZARDOUS WASTES.

Waste Disposal Summary : If this product becomes a waste, it meets the criteria of a hazardous waste as defined under 40 CFR 261 and would have the following EPA hazardous waste number: D001. If this product becomes a waste, it will be a hazardous waste which is subject to the Land Disposal restrictions under 40 CFR 268 and must be managed accordingly. As a hazardous solid waste, it must be disposed of in accordance with local, state and federal regulations.

Disposal Methods : As a hazardous solid waste it should be disposed of in accordance with local, state and federal regulations.

Potential US EPA Waste Codes : D001

SECTION 14. TRANSPORT INFORMATION

DOT

UN number : 1748
Description of the goods : Calcium hypochlorite mixtures dry
Class : 5.1
Packing group : III
Labels : 5.1
Emergency Response : 140
Guidebook Number

TDG

UN number : 1748
Description of the goods : CALCIUM HYPOCHLORITE MIXTURE, DRY
Class : 5.1
Packing group : II



Labels : 5.1

IATA

UN number : 1748
Description of the goods : Calcium hypochlorite mixture, dry
Class : 5.1
Packing group : III
Labels : 5.1
Packing instruction (cargo aircraft) : 563
Packing instruction (passenger aircraft) : 559
Packing instruction (passenger aircraft) : Y546

IMDG-CODE

UN number : 1748
Description of the goods : CALCIUM HYPOCHLORITE MIXTURE, DRY
Class : 5.1
Packing group : III
Labels : 5.1
EmS Number 1 : F-H
EmS Number 2 : S-Q

Marine pollutant : yes

SECTION 15. REGULATORY INFORMATION

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals.

Signal word : DANGER!
Hazard statements : Causes substantial but temporary eye injury.
Corrosive. Causes skin burns.
Corrosive. Causes irreversible eye damage.
This pesticide is toxic to fish.

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

| Components | CAS-No. | Component RQ (lbs) | Calculated product RQ (lbs) |
|----------------------|-----------|--------------------|-----------------------------|
| Calcium hypochlorite | 7778-54-3 | 10 | 13 |

SARA 302



No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

Massachusetts Right To Know

| | |
|----------------------|------------|
| Calcium hypochlorite | 7778-54-3 |
| Calcium chlorate | 10137-74-3 |
| Calcium carbonate | 471-34-1 |
| Calcium dihydroxide | 1305-62-0 |

Pennsylvania Right To Know

| | |
|----------------------|------------|
| Calcium hypochlorite | 7778-54-3 |
| Sodium chloride | 7647-14-5 |
| Calcium chlorate | 10137-74-3 |
| Calcium chloride | 10043-52-4 |
| Calcium carbonate | 471-34-1 |
| Calcium dihydroxide | 1305-62-0 |

New Jersey Right To Know

| | |
|----------------------|------------|
| Calcium hypochlorite | 7778-54-3 |
| Sodium chloride | 7647-14-5 |
| Calcium chlorate | 10137-74-3 |
| Calcium chloride | 10043-52-4 |
| Calcium carbonate | 471-34-1 |
| Calcium dihydroxide | 1305-62-0 |

California Prop 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

TSCA : This is an EPA registered pesticide.

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

SECTIONS REVISED: 1, 14
Major References : Available upon request.



**Arch
Chemicals,
Inc.**

SAFETY DATA SHEET

THIS MATERIAL SAFETY DATA SHEET (MSDS) HAS BEEN PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200. THE INFORMATION IN THIS MSDS SHOULD BE PROVIDED TO ALL WHO WILL USE, HANDLE, STORE, TRANSPORT, OR OTHERWISE BE EXPOSED TO THIS PRODUCT. THIS INFORMATION HAS BEEN PREPARED FOR THE GUIDANCE OF PLANT ENGINEERING, OPERATIONS AND MANAGEMENT AND FOR PERSONS WORKING WITH OR HANDLING THIS PRODUCT. ARCH CHEMICALS BELIEVES THIS INFORMATION TO BE RELIABLE AND UP TO DATE AS OF THE DATE OF PUBLICATION BUT, MAKES NO WARRANTY THAT IT IS. ADDITIONALLY, IF THIS MSDS IS MORE THAN THREE YEARS OLD, YOU SHOULD CONTACT ARCH CHEMICALS MSDS CONTROL AT THE PHONE NUMBER ON THE FRONT PAGE TO MAKE CERTAIN THAT THIS DOCUMENT IS CURRENT. .



**Arch
Chemicals,
Inc.**

SAFETY DATA SHEET

FOR ANY EMERGENCY, 24 HOURS / 7 DAYS, CALL:

FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC®:

FOR ALL SDS QUESTIONS & REQUESTS, CALL:

1-800-654-6911 (OUTSIDE
USA: 1-423-780-2970)

1-800-424-9300 (OUTSIDE
USA: 1-703-527-3887)

1-800-511-MSDS (OUTSIDE
USA: 1-423-780-2347)

PRODUCT NAME: Pulsar Power Shock Granular

EPA Registration Number: 1258-1173

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

**Arch Chemicals, Inc.
1200 Bluegrass Lakes Parkway
Alpharetta, GA 30004**

REVISION DATE: 02/11/2016
SUPERCEDES: 05/26/2015

MSDS Number: 000000022339
SYNONYMS: none
CHEMICAL FAMILY: Hypochlorite
DESCRIPTION / USE: Sanitizer and Oxidizer
FORMULA: Not Applicable/Mixture

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Oxidizing solids : Category 2
Acute toxicity (Oral) : Category 4
Acute toxicity (Inhalation) : Category 2
Skin corrosion : Category 1B
Serious eye damage : Category 1
Specific target organ toxicity - single exposure : Category 3 (Respiratory system)

GHS label elements

Hazard pictograms :



Signal word : **Danger**



- Hazard statements : H272 May intensify fire; oxidizer.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H330 Fatal if inhaled.
H335 May cause respiratory irritation.
- Precautionary statements : **Prevention:**
P210 Keep away from heat.
P220 Keep/Store away from clothing/ combustible materials.
P221 Take any precaution to avoid mixing with combustibles.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P284 Wear respiratory protection.
Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P312 Call a POISON CENTER/doctor if you feel unwell.
P363 Wash contaminated clothing before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.



SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

| <u>CAS OR CHEMICAL NAME</u> | <u>CAS #</u> | <u>% RANGE</u> |
|-----------------------------|--------------|----------------|
| CALCIUM HYPOCHLORITE | 7778-54-3 | 65 - 90 |
| SODIUM CHLORIDE | 7647-14-5 | 0 - 3 |
| CALCIUM CHLORATE | 10137-74-3 | 0 - 5 |
| CALCIUM CHLORIDE | 10043-52-4 | 0 - 5 |
| CALCIUM HYDROXIDE | 1305-62-0 | 0 - 5 |
| CALCIUM CARBONATE | 471-34-1 | 0 - 4 |
| Water | 7732-18-5 | 9 - 16 |

SECTION 4. FIRST AID MEASURES

| | |
|---------------------|--|
| General Advice: | Call a poison control center or doctor for treatment advice. For 24-hour emergency medical assistance, call Arch Chemical Emergency Action Network at 1-800-654-6911. Have the product container or label with you when calling a poison control center or doctor, or going for treatment. |
| Inhalation: | IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice. |
| Skin Contact: | IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. |
| Eye Contact: | IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice. |
| Ingestion: | IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person. |
| Notes to Physician: | Probable mucosal damage may contraindicate the use of gastric lavage. |



SECTION 5. FIREFIGHTING MEASURES

Flammability Summary (OSHA): This product is chemically reactive with many substances. Any contamination of the product with other substances by spill or otherwise may result in a chemical reaction and fire., This product is a strong oxidizer which is capable of intensifying a fire once started., Product is not known to be flammable, combustible or pyrophoric.

Flammable Properties

| | |
|--|---|
| Flash Point: | Not applicable |
| Autoignition Temperature: | Not applicable |
| Extinguishing Media: | Water only. Do not use dry extinguishers containing ammonium compounds. |
| Fire Fighting Instructions: | Use water to cool containers exposed to fire. See Section 6 for protective equipment for fire fighting. |
| Upper Flammable / Explosive Limit, % in air: | Not applicable |
| Lower Flammable / Explosive Limit, % in air: | Not applicable |

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Protection for Emergency Situations: Response to a large quantity spill (100 pounds or greater) or when dusting or decomposition gas exposure could occur requires the use of a positive pressure full face supplied air respirator or self contained breathing apparatus (SCBA), chemical resistant gloves, coveralls and boots. In case of fire, this personal protective equipment should be used in addition to normal fire fighter equipment.

Spill Mitigation Procedures

| | |
|----------------|---|
| Air Release: | Vapors may be suppressed by the use of water fog. All water utilized to assist in fume suppression, decontamination or fire suppression may be contaminated and must be contained before disposal and/or treatment. |
| Water Release: | This product is heavier than water. This material is soluble in water. Monitor all exit water for available chlorine and pH. Advise local authorities of any contaminated water release. |



Land Release:

Contact 1-800-654-6911 immediately. DANGER: All spills of this product should be treated as contaminated. Contaminated product may initiate a chemical reaction that may spontaneously ignite any combustible material present, resulting in a fire of great intensity. In case of a spill, separate all spilled product from packaging, debris and other material. Using a clean broom or shovel, place all spilled product into plastic bags, and place those bags into a clean, dry disposal container, properly marked and labeled. Disposal containers made of plastic or metal are recommended. Do not seal disposal containers tightly. Immediately remove all product in disposal containers to an isolated area outdoors. Place all damaged packaging material in a disposal container of water to assure decontamination (i.e. removal of all product) before disposal. Place all undamaged packaging in a clean, dry container properly marked and labeled. Call for disposal procedures.

Additional Spill Information :

Hazardous concentrations in air may be found in local spill area and immediately downwind. Remove all sources of ignition. Stop source of spill as soon as possible and notify appropriate personnel. Dispose of spill residues per guidelines under Section 13, Disposal Consideration. This material may be neutralized for disposal; you are requested to contact Arch Chemicals at 1-800-654-6911 before beginning any such procedure. FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC: 1-800-424-9300 REPORTABLE QUANTITY: 10 lbs. (as calcium hypochlorite) per 40 CFR 302.4.

SECTION 7. HANDLING AND STORAGE

Handling:

Avoid inhalation of dust and fumes. Do not take internally. Avoid contact with skin, eyes and clothing. Upon contact with skin or eyes, wash off with water. Remove contaminated clothing and wash before reuse.

Storage:

Keep product tightly sealed in original containers. Store product in a cool, dry, well-ventilated area. Store away from combustible or flammable products. Keep product packaging clean and free of all contamination, including, e.g. other pool treatment products, acids, organic materials, nitrogen-containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidizers, all corrosive liquids, flammable or combustible materials, etc.

Shelf Life Limitations:

Do not store product where the average daily temperature exceeds 95° F. Storage above this temperature may result in rapid decomposition, evolution of chlorine gas and heat sufficient to ignite combustible products. Shelf life (that is, the period of time before the product goes below stated label strength) is determined by storage time and temperatures. Store in a cool, dry and well ventilated area. Prolonged storage at elevated temperatures will significantly shorten the shelf life. Storage in a climate controlled storage area or building is recommended in those areas where extremes of high temperature occur. Average daily temperature of 35° C / 95° F. Storage above this temperature may result in rapid decomposition, evolution of chlorine gas and heat sufficient to ignite combustible products.



Incompatible Materials for Storage: Do not allow product to come in contact with other materials, including e.g. other pool treatment products, acids, organic materials, nitrogen-containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidizers, all corrosive liquids, flammable or combustible materials, etc. A chemical reaction with such substances can cause a fire of great intensity.

Do Not Store At temperatures Above: Average daily temperature of 35° C / 95° F. Storage above this temperature may result in rapid decomposition, evolution of chlorine gas and heat sufficient to ignite combustible products.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation: Local exhaust ventilation or other engineering controls are normally required when handling or using this product to keep airborne exposures below the TLV, PEL or other recommended exposure limit.

Protective Equipment for Routine Use of Product

Respiratory Protection : Wear a NIOSH approved respirator if levels above the exposure limits are possible.

Respirator Type : A NIOSH approved full-face air purifying respirator equipped with combination chlorine/P100 cartridges. Air purifying respirators should not be used in oxygen deficient or IDLH atmospheres or if exposure concentrations exceed ten (10) times the published limit.

Skin Protection : Wear impervious gloves to avoid skin contact. A full impervious suit is recommended if exposure is possible to a large portion of the body.

Eye Protection: Use chemical goggles.

Protective Clothing Type: Neoprene, Nitrile, Natural rubber (This includes: gloves, boots, apron, protective suit)

General Protective Measures: An eye wash and safety shower should be provided in the immediate work area.

Components with workplace control parameters

| Components (CAS-No.) | Value | Control parameters | Basis (Update) |
|----------------------------------|-------|--------------------|------------------|
| CALCIUM HYPOCHLORITE (7778-54-3) | TWA | 1 mg/m3 | ARCH OEL * |
| CALCIUM HYPOCHLORITE (7778-54-3) | Conc | 37 - 48 mg/m3 | NIOSH/GUIDE IDLH |
| CALCIUM HYDROXIDE (1305-62-0) | TWA | 5 mg/m3 | ACGIH (02 2014) |

ARCH OEL: Arch Recommended Occupational Exposure Guideline.



SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--|---|
| Physical State: | solid |
| Form | free flowing, granular |
| Color: | white |
| Odor: | Chlorine-like |
| Molecular Weight: | 143 g/mol |
| Relative density | Not applicable |
| pH : | 10.5 - 11.5 () (1% solution in neutral, distilled water), (@ 25 Deg. C) |
| Boiling Point: | Not applicable |
| Freezing Point: | Not applicable |
| Density | 0.8 g/cm3 |
| Vapor Pressure: | Not applicable |
| Vapor Density: | Not applicable |
| Viscosity: | Not applicable |
| Fat Solubility: | no data available |
| Solubility in Water: | Approximately 18%, (@ 25 Deg. C), Product also contains calcium hydroxide and calcium carbonate which will leave a residue. |
| Partition coefficient n-octanol/water: | no data available |
| Evaporation Rate: | Not applicable |
| Oxidizing: | Oxidizing |
| Volatiles, % by vol.: | Not applicable |
| VOC Content | Not applicable |
| HAP Content | Not applicable |

SECTION 10. STABILITY AND REACTIVITY

| | |
|-----------------------------------|---|
| Stability and Reactivity Summary: | Product is not sensitive to mechanical shock or impact. Product is not sensitive to electrical static discharge. Product will not undergo hazardous polymerization. Product is an NFPA Class 3 oxidizer which can cause a severe increase in fire intensity. Not pyrophoric. Not an organic peroxide. If subjected to excessive temperatures, the product may undergo rapid decomposition, evolution of chlorine gas, and heat sufficient to ignite combustible substances. If product is exposed to small amounts of water, it can react violently to produce heat and toxic gases and spatter. Use copious amounts of water for fires involving this product. NFPA Oxidizer Class: Meets the criteria of an NFPA Class 3 Oxidizer |
| Reactive Properties: | Product is not sensitive to mechanical shock or impact. Product is not sensitive to electrical static discharge. Not pyrophoric. Not an organic peroxide. |
| Conditions to Avoid: | Do not store next to heat source, in direct sunlight, or elevated storage temperature. Do not store where the daily average temperature exceeds 95 °F. Prevent ingress of humidity and moisture into container or package. Always close the lid. |



Chemical Incompatibility:

This product is chemically reactive with many substances, including, e.g., other pool treatment products, acids, organics, nitrogen-containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidizers, corrosive, flammable or combustible materials. Do not allow product to contact any foreign matter, including other water treatment products. Contamination or improper use may cause a fire of great intensity, explosion or the release of toxic gases. If product is exposed to small amounts of water, it can react violently to produce heat and toxic gases and spatter.

**Hazardous Decomposition Products:
Decomposition Temperature:**

Chlorine
170 - 180 °C - , 338 - 356 °F-

SECTION 11. TOXICOLOGICAL INFORMATION

Component Animal Toxicology

Oral LD50 value:

| | | | |
|-------------------------|---------------------------------|---------------|-----|
| CALCIUM HYPOCHLORITE | LD50 (65% calcium hypochlorite) | 850 mg/kg | Rat |
| SODIUM CHLORIDE | LD50 | = 3,000 mg/kg | Rat |
| CALCIUM CHLORIDE | LD50 | = 1,000 mg/kg | Rat |
| CALCIUM HYDROXIDE | LD50 | = 7,340 mg/kg | Rat |

Component Animal Toxicology

Dermal LD50 value:

| | | | |
|-------------------------|---------------------------------|----------------|--------|
| CALCIUM HYPOCHLORITE | LD50 (65% calcium hypochlorite) | > 2,000 mg/kg | Rabbit |
| SODIUM CHLORIDE | LD50 | > 10,000 mg/kg | Rabbit |
| CALCIUM CHLORIDE | LD50 | = 2,630 mg/kg | Rat |
| CALCIUM HYDROXIDE | no data available | | |

Component Animal Toxicology

Inhalation LC50 value:

| | | | |
|-------------------------|---|---|-------------|
| CALCIUM HYPOCHLORITE | Inhalation LC50 1 h (65% calcium hypochlorite), (Nose Only) | = | 2.04 mg/l |
| | Rat | | |
| | Inhalation LC50 4 h (65% calcium hypochlorite), (Nose Only) | = | 0.51 mg/l |
| | Rat | | |
| SODIUM CHLORIDE | Inhalation LC50 1 h | > | 42 mg/l Rat |
| CALCIUM CHLORIDE | no data available | | |
| CALCIUM HYDROXIDE | no data available | | |



Product Animal Toxicity

Oral LD50 value: LD50 Believed to be approximately 700 mg/kg Rat
Dermal LD50 value: LD50 Believed to be > 2,000 mg/kg Rabbit
Inhalation LC50 value: LC50 1.00 h (Nose Only) Believed to be approximately 1.7 mg/l Rat LC50 4 h (Nose Only) Believed to be approximately 0.425 mg/l Rat LC50 4 h Believed to be approximately 0.425 mg/l Rat LC50 1 h Believed to be approximately 1.7 mg/l Rat

Skin Irritation: DRY MATERIAL CAUSES MODERATE SKIN IRRITATION., WET MATERIAL CAUSES SKIN BURNS.

Eye Irritation: Corrosive to eyes.

Skin Sensitization: This material is not known or reported to be a skin or respiratory sensitizer.

Acute Toxicity: This product is corrosive to all tissues contacted and upon inhalation, may cause irritation to mucous membranes and respiratory tract. The dry material is irritating to the skin. However when wet, it will produce burns to the skin. This product is corrosive to all tissues contacted and upon inhalation, may cause irritation to mucous membranes and respiratory tract. The dry material is irritating to the skin. However when wet, it will produce burns to the skin.

Subchronic / Chronic Toxicity: There are no known or reported effects from repeated exposure except those secondary to burns.

Reproductive and Developmental Toxicity: Calcium hypochlorite has been tested for teratogenicity in laboratory animals. Results of this study have shown that calcium hypochlorite is not a teratogen.

CALCIUM CHLORIDE

Not known or reported to cause reproductive or developmental toxicity.

Mutagenicity: Calcium hypochlorite has been tested in the Dominant lethal assay in male mice, and it did not induce a dominant lethal response. Calcium hypochlorite has been reported to produce mutagenic activity in two in vitro assays. It has, however, been shown to lack the capability to produce mutations in animals based on results from the micronucleus assay. In vitro assays frequently are inappropriate to judge the mutagenic potential of bactericidal chemicals due to a high degree of cellular toxicity. The concentration which produces mutations in these in vitro assays is significantly greater than the concentrations used for disinfection. Based on high cellular toxicity in in vitro assays and the lack of mutagenicity in animals, the risk of genetic damage to humans is judged not significant.

CALCIUM CHLORIDE

This product was determined to be non-mutagenic in the Ames assay. It was also shown to be non-clastogenic in the chromosomal aberration test.

Carcinogenicity: This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA. One hundred mice were exposed dermally 3 times a week for 18 months to a solution of calcium hypochlorite. Histopathological examination failed to show an increased incidence of tumors. IARC (International Agency for Research on Cancer) reviewed studies conducted with several hypochlorite salts. IARC has classified hypochlorite salts as having inadequate evidence for



carcinogenicity to humans and animals. IARC therefore considers hypochlorite salts to be not classifiable as to their carcinogenicity to humans (Group 3 Substance).

CALCIUM CHLORIDE

This chemical is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP, or EPA.

SECTION 12. ECOLOGICAL INFORMATION

Overview: Highly toxic to fish and other aquatic organisms.

Ecological Toxicity Values for: CALCIUM HYPOCHLORITE

| | | |
|---|---|---|
| Bluegill | - | (nominal, static). 96 h LC50 0.088 mg/l |
| Rainbow trout (<i>Salmo gairdneri</i>), | - | (nominal, static). 96 h LC50 0.16 mg/l |
| Daphnia magna, | - | (nominal, static). 48 h LC50 0.11 mg/l |
| Bobwhite quail | - | Dietary LC50 > 5,000 ppm |
| Mallard ducklings | - | Dietary LC50 > 5,000 ppm |
| Bobwhite quail | - | Oral LD50 3,474 mg/kg |

Ecological Toxicity Values for: CALCIUM CHLORIDE

| | | |
|--------------------------------------|---|--|
| Bluegill | - | (nominal, static). 96 h LC50 = 10,650 mg/l |
| Mosquito fish | - | (nominal, static). 96 h LC50 = 13,400 mg/l |
| Pimephales promelas (fathead minnow) | - | (nominal, static). 96 h LC50 = 4,630 mg/l |
| Daphnia magna, | - | (nominal, static). 48 h LC50= 2,770 mg/l |
| Ceriodaphnia dubia | - | (nominal, static). 48 h LC50= 1,830 mg/l |
| Nitzschia linearis (diatom) | - | (nominal, static). 5 day LC50 = 3,130 mg/l |

SECTION 13. DISPOSAL CONSIDERATIONS

CARE MUST BE TAKEN TO PREVENT ENVIRONMENTAL CONTAMINATION FROM THE USE OF THE MATERIAL. THE USER OF THE MATERIAL HAS THE RESPONSIBILITY TO DISPOSE OF UNUSED MATERIAL, RESIDUES AND CONTAINERS IN COMPLIANCE WITH ALL RELEVANT LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS REGARDING TREATMENT, STORAGE AND DISPOSAL FOR HAZARDOUS AND NONHAZARDOUS WASTES.

Waste Disposal Summary :

If this product becomes a waste, it meets the criteria of a hazardous waste as defined under 40 CFR 261 and would have the following EPA hazardous waste number: D001. If this product becomes a waste, it will be a hazardous waste which is subject to the Land



Disposal restrictions under 40 CFR 268 and must be managed accordingly.

Disposal Methods : As a hazardous solid waste it should be disposed of in accordance with local, state and federal regulations.

Potential US EPA Waste Codes : D001

SECTION 14. TRANSPORT INFORMATION

DOT

UN number : 2880
Description of the goods : Calcium hypochlorite, hydrated mixtures
Class : 5.1
Packing group : II
Labels : 5.1
Emergency Response : 140
Guidebook Number

TDG

UN number : 2880
Description of the goods : CALCIUM HYPOCHLORITE, HYDRATED MIXTURE
Class : 5.1
Packing group : II
Labels : 5.1

IATA

UN number : 2880
Description of the goods : Calcium hypochlorite, hydrated mixture
Class : 5.1
Packing group : II
Labels : 5.1
Packing instruction (cargo aircraft) : 562
Packing instruction (passenger aircraft) : 558
Packing instruction (passenger aircraft) : Y544

IMDG-CODE

UN number : 2880
Description of the goods : CALCIUM HYPOCHLORITE, HYDRATED MIXTURE
Class : 5.1
Packing group : II
Labels : 5.1
EmS Number 1 : F-H
EmS Number 2 : S-Q

Marine pollutant : yes



SECTION 15. REGULATORY INFORMATION

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals.

Signal word : DANGER!
Hazard statements : Causes substantial but temporary eye injury.
Corrosive. Causes skin burns.
Corrosive. Causes irreversible eye damage.
This pesticide is toxic to fish.

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

| Components | CAS-No. | Component RQ (lbs) | Calculated product RQ (lbs) |
|----------------------|-----------|-----------------------|-----------------------------------|
| Calcium hypochlorite | 7778-54-3 | 10 | 11 |

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

Massachusetts Right To Know

| | |
|----------------------|------------|
| Calcium hypochlorite | 7778-54-3 |
| Calcium chlorate | 10137-74-3 |
| Calcium dihydroxide | 1305-62-0 |
| Calcium carbonate | 471-34-1 |

Pennsylvania Right To Know

| | |
|----------------------|------------|
| Calcium hypochlorite | 7778-54-3 |
| Calcium chlorate | 10137-74-3 |
| Calcium chloride | 10043-52-4 |
| Calcium dihydroxide | 1305-62-0 |
| Calcium carbonate | 471-34-1 |
| Sodium chloride | 7647-14-5 |



New Jersey Right To Know

| | |
|----------------------|------------|
| Calcium hypochlorite | 7778-54-3 |
| Calcium chlorate | 10137-74-3 |
| Calcium chloride | 10043-52-4 |
| Calcium dihydroxide | 1305-62-0 |
| Calcium carbonate | 471-34-1 |

California Prop 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

TSCA : This is an EPA registered pesticide.

TSCA : This is an EPA registered pesticide.

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

SECTION 16. OTHER INFORMATION

SECTIONS REVISED: 1
Major References : Available upon request.

THIS MATERIAL SAFETY DATA SHEET (MSDS) HAS BEEN PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200. THE INFORMATION IN THIS MSDS SHOULD BE PROVIDED TO ALL WHO WILL USE, HANDLE, STORE, TRANSPORT, OR OTHERWISE BE EXPOSED TO THIS PRODUCT. THIS INFORMATION HAS BEEN PREPARED FOR THE GUIDANCE OF PLANT ENGINEERING, OPERATIONS AND MANAGEMENT AND FOR PERSONS WORKING WITH OR HANDLING THIS PRODUCT. ARCH CHEMICALS BELIEVES THIS INFORMATION TO BE RELIABLE AND UP TO DATE AS OF THE DATE OF PUBLICATION BUT, MAKES NO WARRANTY THAT IT IS. ADDITIONALLY, IF THIS MSDS IS MORE THAN THREE YEARS OLD, YOU SHOULD CONTACT ARCH CHEMICALS MSDS CONTROL AT THE PHONE NUMBER ON THE FRONT PAGE TO MAKE CERTAIN THAT THIS DOCUMENT IS CURRENT. .

GUM ARABIC 14°Bé

SDS Number: J1075

Revision Date: 5/13/2015

Page 1 of 5

1 PRODUCT AND COMPANY IDENTIFICATION

Vendor

RBP Chemical Technology Inc.
150 South 118th Street
PO Box 14069
Milwaukee, WI 53214-0069

Phone: (414) 258-0911
Fax: (414) 258-7908
Web: <http://rbpchemical.com/>

Product Name: GUM ARABIC 14°Bé
Revision Date: 5/13/2015
Version: 1505
SDS Number: J1075
Internal ID: J1075
Product Use: 100% PURE GUM ARABIC SOLUTION

EMERGENCY (INFOTRAC): (800) 535-5053

2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS):
Health, Skin corrosion/irritation, 3

GHS Label elements, including precautionary statements

GHS Signal Word: **WARNING**

GHS Hazard Pictograms:

no GHS pictograms indicated for this product

GHS Hazard Statements:

H316 - Causes mild skin irritation



GHS Precautionary Statements:

P302+350 - IF ON SKIN: Gently wash with soap and water.
P332+313 - If skin irritation occurs: Get medical advice/attention.

HMIS III: Health = 0, Fire = 0, Physical Hazard = 0

HMIS PPE: B - Safety Glasses, Gloves

| HMIS | | |
|---------------------|--------------------------|---|
| HEALTH | <input type="checkbox"/> | 0 |
| FLAMMABILITY | | 0 |
| PHYSICAL HAZARD | | 0 |
| PERSONAL PROTECTION | | B |

| PPE |
|---|
|  |
|  |

3 COMPOSITION/INFORMATION ON INGREDIENTS

GUM ARABIC 14°Bé

SDS Number: J1075

Revision Date: 5/13/2015

Page 2 of 5

Ingredients:

| Cas# | % | Chemical Name |
|-----------|------|---------------|
| 9000-01-5 | 100% | Gum arabic |

4

FIRST AID MEASURES

Inhalation: Non-irritating.
Skin Contact: Wash with soap and water.
Eye Contact: Flush with large amounts of water.
Ingestion: Not a direct hazard.

5

FIRE FIGHTING MEASURES

Flammability: Non-flammable
Flash Point: NONE
Flash Point Method: TCC
Use any standard agent - choose the one most appropriate for type of surrounding fire.

6

ACCIDENTAL RELEASE MEASURES

Watch out for slippery conditions when spillage.

Waste Disposal Method
Dispose of in accordance with local, state and federal regulations.

7

HANDLING AND STORAGE

Handling Precautions: Handle with care and avoid spillage on the floor (slippage).
Storage Requirements: Store in cool/dry area.

8

EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use mechanical (general) ventilation for storage areas.
Personal Protective Equipment: HMIS PP, B | Safety Glasses, Gloves

Gum arabic (9000-01-5) [100%]: no data available

9

PHYSICAL AND CHEMICAL PROPERTIES

GUM ARABIC 14°Bé

SDS Number: J1075

Revision Date: 5/13/2015

Page 3 of 5

Appearance: Straw Colored Viscous
Physical State: Liquid
Odor Threshold: ND
Spec Grav./Density: 1.1
Viscosity: 70-130 mPa-s
Boiling Point: ND
Flammability: Non-flammable
Partition Coefficient: ND
Vapor Pressure: ND
pH: 4
Evap. Rate: ND
Decomp Temp: ND

Odor: Malty
Solubility: Complete
Freezing/Melting Pt.: ND
Flash Point: NONE (TCC)
Vapor Density: ND
VOC: NONE
Bulk Density: 9.2 lbs/gal
Auto-Ignition Temp: ND
UFL/LFL: ND

10 STABILITY AND REACTIVITY

Stability: Product is stable under normal conditions.
Conditions to Avoid: None
Materials to Avoid: None known
Hazardous Decomposition: Not known.
Hazardous Polymerization: Will not occur.

11 TOXICOLOGICAL INFORMATION

Gum arabic (9000-01-5) [100%]

Information on toxicological effects

Acute toxicity:
Oral LD50 LD50 Oral - rat - > 16,000 mg/kg
Inhalation LC50 no data available
Dermal LD50
Other information on acute toxicity

Skin corrosion/irritation: no data available

Serious eye damage/eye irritation: no data available

Respiratory or skin sensitization: no data available

Germ cell mutagenicity: Genotoxicity in vivo - rat - Oral Dominant lethal test

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Reproductive toxicity - rat - Oral:

Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea). no data available

Teratogenicity: no data available

Specific target organ toxicity - single exposure (Globally Harmonized System): no data available

GUM ARABIC 14°Bé

SDS Number: J1075

Revision Date: 5/13/2015

Page 4 of 5

Specific target organ toxicity - repeated exposure (Globally Harmonized System):
no data available

Aspiration hazard: no data available

Potential health effects: Inhalation May be harmful if inhaled. May cause respiratory tract irritation. Ingestion May be harmful if swallowed. Skin May be harmful if absorbed through skin. May cause skin irritation. Eyes May cause eye irritation.

Signs and Symptoms of Exposure: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects: no data available

Additional Information:

RTECS: CE5945000

| | |
|----|------------------------|
| 12 | ECOLOGICAL INFORMATION |
|----|------------------------|

Gum arabic (9000-01-5) [100%]

Information on ecological effects

Toxicity: no data available

Persistence and degradability: no data available

Bioaccumulative potential: no data available

Mobility in soil: no data available

PBT and vPvB assessment: no data available

Other adverse effects: no data available

| | |
|----|-------------------------|
| 13 | DISPOSAL CONSIDERATIONS |
|----|-------------------------|

This material is not considered hazardous waste. Dispose of in accordance with local regulations.

| | |
|----|-----------------------|
| 14 | TRANSPORT INFORMATION |
|----|-----------------------|

Non-hazardous for air, sea and road freight.

| | |
|----|------------------------|
| 15 | REGULATORY INFORMATION |
|----|------------------------|

GUM ARABIC 14°Bé

SDS Number: J1075

Revision Date: 5/13/2015

Page 5 of 5

Component (CAS#) [%] - CODES

Gum arabic (9000-01-5) [100%] TSCA

Regulatory CODE Descriptions

TSCA = Toxic Substances Control Act

16

OTHER INFORMATION

This document was composed and approved by qualified RBP Chemical Technology Inc. personnel

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).

The above information is not claiming characteristics of the product in term of legal claims of performance / guarantee.

This information only describes safety measures and no liability may arise from the use or application of the product described herein.

This information is given in good faith and based on our current knowledge of the product.

**PURELL® INSTANT HAND SANITIZER
MOISTURE THERAPY**

| | | | |
|----------------|------------------------------|-----------------------------|---|
| Version 1.2 | Revision Date: 03/26/2015 | MSDS Number: 67361-00003 | Date of last issue: 03/17/2015 Date of first issue: 03/06/2015 |
|----------------|------------------------------|-----------------------------|---|

SECTION 1. IDENTIFICATION

Product name : PURELL® INSTANT HAND SANITIZER MOISTURE THERAPY

Manufacturer or supplier's details

Company name of supplier : GOJO Industries, Inc.

Address : One GOJO Plaza, Suite 500
Akron OH 44311

Telephone : 1 (330) 255-6000

Emergency telephone : 1-800-424-9300 CHEMTREC

Recommended use of the chemical and restrictions on use

Recommended use : Hand Sanitizer

Restrictions on use : This is a personal care or cosmetic product that is safe for consumers and other users under normal and reasonably foreseeable use. Cosmetics and consumer products, specifically defined by regulations around the world, are exempt from the requirement of an SDS for the consumer. While this material is not considered hazardous, this SDS contains valuable information critical to the safe handling and proper use of the product for industrial workplace conditions as well as unusual and unintended exposures such as large spills. This SDS should be retained and available for employees and other users of this product. For specific intended-use guidance, please refer to the information provided on the package or instruction sheet.

SECTION 2. HAZARDS IDENTIFICATION**GHS Classification**

Flammable liquids : Category 3

Eye irritation : Category 2A

GHS Label element

Hazard pictograms :



Signal Word : Warning

**PURELL® INSTANT HAND SANITIZER
MOISTURE THERAPY**

| | | | |
|---------|----------------|--------------|---------------------------------|
| Version | Revision Date: | MSDS Number: | Date of last issue: 03/17/2015 |
| 1.2 | 03/26/2015 | 67361-00003 | Date of first issue: 03/06/2015 |

Hazard Statements : H226 Flammable liquid and vapor.
H319 Causes serious eye irritation.

Precautionary Statements : **Prevention:**
P210 Keep away from heat/sparks/open flames/hot surfaces.
No smoking.
P233 Keep container tightly closed.
P241 Use explosion-proof electrical/ ventilating/ lighting/
equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ eye protection/ face protection.
Response:
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately
all contaminated clothing. Rinse skin with water/shower.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water
for several minutes. Remove contact lenses, if present and easy
to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/
attention.
Storage:
P403 + P235 Store in a well-ventilated place. Keep cool.
Disposal:
P501 Dispose of contents/ container to an approved waste
disposal plant.

Other hazards

Vapors may form explosive mixture with air.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous ingredients

| Chemical Name | CAS-No. | Concentration (%) |
|---------------|---------|-------------------|
| Ethanol | 64-17-5 | >= 50 - < 70 |
| Glycerine | 56-81-5 | >= 5 - < 10 |
| Propan-2-ol | 67-63-0 | >= 1 - < 5 |

SECTION 4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical
advice immediately.
When symptoms persist or in all cases of doubt seek medical
advice.

If inhaled : If inhaled, remove to fresh air.
Get medical attention if symptoms occur.

**PURELL® INSTANT HAND SANITIZER
MOISTURE THERAPY**

| | | | |
|----------------|------------------------------|-----------------------------|---|
| Version 1.2 | Revision Date: 03/26/2015 | MSDS Number: 67361-00003 | Date of last issue: 03/17/2015 Date of first issue: 03/06/2015 |
|----------------|------------------------------|-----------------------------|---|

- | | |
|---|---|
| In case of skin contact | : Wash with water and soap as a precaution. Get medical attention if symptoms occur. |
| In case of eye contact | : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lens, if worn. Get medical attention. |
| If swallowed | : If swallowed, DO NOT induce vomiting. Get medical attention if symptoms occur. Rinse mouth thoroughly with water. |
| Most important symptoms and effects, both acute and delayed | : Causes serious eye irritation. |
| Protection of first-aiders | : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists. |
| Notes to physician | : Treat symptomatically and supportively. |
-

SECTION 5. FIRE-FIGHTING MEASURES

- | | |
|---|---|
| Suitable extinguishing media | : Water spray Alcohol-resistant foam Dry chemical Carbon dioxide (CO ₂) |
| Unsuitable extinguishing media | : High volume water jet |
| Specific hazards during fire fighting | : Do not use a solid water stream as it may scatter and spread fire. Flash back possible over considerable distance. Vapors may form explosive mixtures with air. Exposure to combustion products may be a hazard to health. |
| Hazardous combustion prod- ucts | : Carbon oxides |
| Specific extinguishing methods | : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area. |
| Special protective equipment for fire-fighters | : In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment. |

**PURELL® INSTANT HAND SANITIZER
MOISTURE THERAPY**

| | | | |
|---------|----------------|--------------|---------------------------------|
| Version | Revision Date: | MSDS Number: | Date of last issue: 03/17/2015 |
| 1.2 | 03/26/2015 | 67361-00003 | Date of first issue: 03/06/2015 |

SECTION 6. ACCIDENTAL RELEASE MEASURES

- | | |
|---|--|
| Personal precautions, protective equipment and emergency procedures | : Remove all sources of ignition. Use personal protective equipment. Follow safe handling advice and personal protective equipment recommendations. |
| Environmental precautions | : Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g. by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained. |
| Methods and materials for containment and cleaning up | : Non-sparking tools should be used. Soak up with inert absorbent material. Suppress (knock down) gases/vapors/mists with a water spray jet. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbent. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements. |

SECTION 7. HANDLING AND STORAGE

- | | |
|-------------------------|---|
| Technical measures | : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section. |
| Local/Total ventilation | : Use with local exhaust ventilation. Use only in an area equipped with explosion proof exhaust ventilation. |
| Advice on safe handling | : Do not breathe vapors or spray mist. Do not swallow. Do not get in eyes. Avoid prolonged or repeated contact with skin. Handle in accordance with good industrial hygiene and safety practice. Non-sparking tools should be used. Keep container tightly closed. Keep away from heat and sources of ignition. Take precautionary measures against static discharges. Take care to prevent spills, waste and minimize release to the |



PURELL® INSTANT HAND SANITIZER MOISTURE THERAPY

Version 1.2 Revision Date: 03/26/2015 MSDS Number: 67361-00003 Date of last issue: 03/17/2015
Date of first issue: 03/06/2015

environment.

Conditions for safe storage : Keep in properly labeled containers.
Keep tightly closed.
Keep in a cool, well-ventilated place.
Store in accordance with the particular national regulations.
Keep away from heat and sources of ignition.

Materials to avoid : Do not store with the following product types:
Strong oxidizing agents
Organic peroxides
Flammable solids
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Substances and mixtures which in contact with water emit flammable gases
Explosives
Gases

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

| Ingredients | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|-------------|---------|----------------------------------|---|-----------|
| Ethanol | 64-17-5 | TWA | 1,000 ppm 1,900 mg/m ³ | NIOSH REL |
| | | TWA | 1,000 ppm 1,900 mg/m ³ | OSHA Z-1 |
| | | STEL | 1,000 ppm | ACGIH |
| Glycerine | 56-81-5 | TWA (mist, respirable fraction) | 5 mg/m ³ | OSHA Z-1 |
| | | TWA (mist, total dust) | 15 mg/m ³ | OSHA Z-1 |
| Propan-2-ol | 67-63-0 | TWA | 200 ppm | ACGIH |
| | | STEL | 400 ppm | ACGIH |
| | | TWA | 400 ppm 980 mg/m ³ | NIOSH REL |
| | | ST | 500 ppm 1,225 mg/m ³ | NIOSH REL |
| | | TWA | 400 ppm 980 mg/m ³ | OSHA Z-1 |

Biological occupational exposure limits

| Ingredients | CAS-No. | Control parameters | Biological specimen | Sampling time | Permissible concentration | Basis |
|-------------|---------|--------------------|---------------------|---------------|---------------------------|-------|
| Propan-2-ol | 67-63-0 | Acetone | Urine | End of | 40 mg/l | ACGIH |



PURELL® INSTANT HAND SANITIZER

MOISTURE THERAPY

Version 1.2 Revision Date: 03/26/2015 MSDS Number: 67361-00003 Date of last issue: 03/17/2015
 Date of first issue: 03/06/2015

| | | | | | | |
|--|--|--|--|-------------------------------------|--|-----|
| | | | | shift at end of work- week | | BEI |
|--|--|--|--|-------------------------------------|--|-----|

Engineering measures : Minimize workplace exposure concentrations.
 Use only in an area equipped with explosion proof exhaust ventilation.
 Use with local exhaust ventilation.

Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Material : Impervious gloves

Material : Flame retardant gloves

Remarks : Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Eye protection : Wear the following personal protective equipment:
 Safety goggles

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
 Wear the following personal protective equipment:
 Flame retardant antistatic protective clothing.
 Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

Hygiene measures : Ensure that eye flushing systems and safety showers are located close to the working place.
 When using do not eat, drink or smoke.
 Wash contaminated clothing before re-use.

**PURELL® INSTANT HAND SANITIZER
MOISTURE THERAPY**

| | | | |
|----------------|------------------------------|-----------------------------|---|
| Version 1.2 | Revision Date: 03/26/2015 | MSDS Number: 67361-00003 | Date of last issue: 03/17/2015 Date of first issue: 03/06/2015 |
|----------------|------------------------------|-----------------------------|---|

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| Appearance | : gel |
| Color | : white, opaque |
| Odor | : floral |
| Odor Threshold | : No data available |
| pH | : 4.5 - 9.5 |
| Melting point/freezing point | : No data available |
| Initial boiling point and boiling range | : No data available |
| Flash point | : 30 °C |
| Evaporation rate | : No data available |
| Flammability (solid, gas) | : Not applicable |
| Upper explosion limit | : No data available |
| Lower explosion limit | : No data available |
| Vapor pressure | : No data available |
| Relative vapor density | : No data available |
| Density | : 0.9060 g/cm ³ |
| Solubility(ies) | |
| Water solubility | : soluble |
| Partition coefficient: n-octanol/water | : Not applicable |
| Autoignition temperature | : No data available |
| Decomposition temperature | : The substance or mixture is not classified self-reactive. |
| Viscosity | |
| Viscosity, kinematic | : 5,000 - 48,000 mm ² /s (20 °C) |
| Explosive properties | : Not explosive |
| Oxidizing properties | : The substance or mixture is not classified as oxidizing. |

**PURELL® INSTANT HAND SANITIZER
MOISTURE THERAPY**

| | | | |
|---------|----------------|--------------|---------------------------------|
| Version | Revision Date: | MSDS Number: | Date of last issue: 03/17/2015 |
| 1.2 | 03/26/2015 | 67361-00003 | Date of first issue: 03/06/2015 |

SECTION 10. STABILITY AND REACTIVITY

| | |
|------------------------------------|---|
| Reactivity | : Not classified as a reactivity hazard. |
| Chemical stability | : Stable under normal conditions. |
| Possibility of hazardous reactions | : Flammable liquid and vapor. Vapors may form explosive mixture with air. Can react with strong oxidizing agents. |
| Conditions to avoid | : Heat, flames and sparks. |
| Incompatible materials | : Oxidizing agents |
| Hazardous decomposition products | : No hazardous decomposition products are known. |

SECTION 11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure**

Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity

Not classified based on available information.

Product:

| | |
|---------------------|--|
| Acute oral toxicity | : Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method |
|---------------------|--|

Ingredients:**Ethanol:**

| | |
|---------------------------|--|
| Acute oral toxicity | : LD50 (Rat): > 5,000 mg/kg |
| Acute inhalation toxicity | : LC50 (Rat): 124.7 mg/l Exposure time: 4 h Test atmosphere: vapor |

Glycerine:

| | |
|---------------------|-----------------------------|
| Acute oral toxicity | : LD50 (Rat): > 5,000 mg/kg |
|---------------------|-----------------------------|

Propan-2-ol:

| | |
|---------------------------|---|
| Acute oral toxicity | : LD50 (Rat): > 5,000 mg/kg |
| Acute inhalation toxicity | : LC50 (Rat): 72.6 mg/l Exposure time: 4 h Test atmosphere: vapor |
| Acute dermal toxicity | : LD50 (Rat): > 5,000 mg/kg |



**PURELL® INSTANT HAND SANITIZER
MOISTURE THERAPY**

| | | | |
|---------|----------------|--------------|---------------------------------|
| Version | Revision Date: | MSDS Number: | Date of last issue: 03/17/2015 |
| 1.2 | 03/26/2015 | 67361-00003 | Date of first issue: 03/06/2015 |

Skin corrosion/irritation

Not classified based on available information.

Product:

Result: No skin irritation

Ingredients:

Ethanol:

Species: Rabbit

Method: OECD Test Guideline 404

Result: No skin irritation

Glycerine:

Result: No skin irritation

Propan-2-ol:

Species: Rabbit

Result: No skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Ingredients:

Ethanol:

Species: Rabbit

Result: Irritation to eyes, reversing within 21 days

Method: OECD Test Guideline 405

Glycerine:

Result: No eye irritation

Propan-2-ol:

Species: Rabbit

Result: Irritation to eyes, reversing within 21 days

Respiratory or skin sensitization

Skin sensitization: Not classified based on available information.

Respiratory sensitization: Not classified based on available information.

Product:

Assessment: Does not cause skin sensitization.

Ingredients:

Ethanol:

Test Type: Local lymph node assay (LLNA)

Routes of exposure: Skin contact

Species: Mouse

Result: negative

Propan-2-ol:

Test Type: Buehler Test

**PURELL® INSTANT HAND SANITIZER
MOISTURE THERAPY**

| | | | |
|----------------|------------------------------|-----------------------------|---|
| Version 1.2 | Revision Date: 03/26/2015 | MSDS Number: 67361-00003 | Date of last issue: 03/17/2015 Date of first issue: 03/06/2015 |
|----------------|------------------------------|-----------------------------|---|

Routes of exposure: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative

Germ cell mutagenicity

Not classified based on available information.

Ingredients:**Ethanol:**

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Result: negative

Genotoxicity in vivo : Test Type: Rodent dominant lethal test (germ cell) (in vivo)
Species: Mouse
Application Route: Ingestion
Result: negative

Glycerine:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Propan-2-ol:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo
cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative

Carcinogenicity

Not classified based on available information.

Ingredients:**Glycerine:**

Species: Rat
Application Route: Ingestion
Exposure time: 2 Years
Result: negative

Propan-2-ol:

Species: Rat
Application Route: inhalation (vapor)
Exposure time: 104 weeks
Method: OECD Test Guideline 451
Result: negative

IARC

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**PURELL® INSTANT HAND SANITIZER
MOISTURE THERAPY**

| | | | |
|----------------|------------------------------|-----------------------------|---|
| Version 1.2 | Revision Date: 03/26/2015 | MSDS Number: 67361-00003 | Date of last issue: 03/17/2015 Date of first issue: 03/06/2015 |
|----------------|------------------------------|-----------------------------|---|

OSHA

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

Ingredients:**Ethanol:**

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 416
Result: negative

Glycerine:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rabbit
Application Route: Ingestion
Result: negative

Propan-2-ol:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rat
Application Route: Ingestion
Result: negative

STOT-single exposure

Not classified based on available information.

Ingredients:**Propan-2-ol:**

Assessment: May cause drowsiness or dizziness.

STOT-repeated exposure

Not classified based on available information.

**PURELL® INSTANT HAND SANITIZER
MOISTURE THERAPY**

| | | | |
|----------------|------------------------------|-----------------------------|---|
| Version 1.2 | Revision Date: 03/26/2015 | MSDS Number: 67361-00003 | Date of last issue: 03/17/2015 Date of first issue: 03/06/2015 |
|----------------|------------------------------|-----------------------------|---|

Repeated dose toxicity**Ingredients:****Ethanol:**

Species: Rat
NOAEL: 2,400 mg/kg
Application Route: Ingestion
Exposure time: 2 y

Glycerine:

Species: Rat
NOAEL: 167 mg/m³
LOAEL: 660 mg/m³
Application Route: inhalation (dust/mist/fume)
Exposure time: 13 w
Symptoms: Local irritation

Propan-2-ol:

Species: Rat
NOAEL: 5000 ppm
Application Route: inhalation (vapor)
Exposure time: 104 w
Method: OECD Test Guideline 413

Aspiration toxicity

Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Ingredients:****Ethanol:**

| | |
|--|---|
| Toxicity to fish | : LC50 (Pimephales promelas (fathead minnow)): > 1,000 mg/l Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l Exposure time: 48 h |
| Toxicity to algae | : EC50 (Chlorella vulgaris (Fresh water algae)): 275 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : NOEC (Daphnia magna (Water flea)): 9.6 mg/l Exposure time: 9 d |
| Toxicity to bacteria | : EC50 (Photobacterium phosphoreum): 32.1 mg/l Exposure time: 0.25 h |

Glycerine:

| | |
|------------------|---|
| Toxicity to fish | : LC50 (Oncorhynchus mykiss (rainbow trout)): 54,000 mg/l |
|------------------|---|

**PURELL® INSTANT HAND SANITIZER
MOISTURE THERAPY**

| | | | |
|---------|----------------|--------------|---------------------------------|
| Version | Revision Date: | MSDS Number: | Date of last issue: 03/17/2015 |
| 1.2 | 03/26/2015 | 67361-00003 | Date of first issue: 03/06/2015 |

Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1,955 mg/l
Exposure time: 48 hToxicity to bacteria : NOEC (Pseudomonas putida): > 10,000 mg/l
Exposure time: 16 h**Propan-2-ol:**Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 10,000 mg/l
Exposure time: 96 hToxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10,000 mg/l
Exposure time: 24 hToxicity to algae : ErC50 (Scenedesmus quadricauda (Green algae)): > 1,800 mg/l
Exposure time: 8 dToxicity to bacteria : EC50 (Pseudomonas putida): > 1,050 mg/l
Exposure time: 16 h**Persistence and degradability****Ingredients:****Ethanol:**Biodegradability : Result: Readily biodegradable.
Biodegradation: 84 %
Exposure time: 20 d**Glycerine:**Biodegradability : Result: Readily biodegradable.
Biodegradation: 94 %
Exposure time: 1 d**Propan-2-ol:**

Biodegradability : Result: rapidly degradable

Bioaccumulative potential**Ingredients:****Ethanol:**

Partition coefficient: n-octanol/water : log Pow: -0.35

Glycerine:

Partition coefficient: n-octanol/water : log Pow: -1.76

Propan-2-ol:

Partition coefficient: n-octanol/water : log Pow: 0.05

**PURELL® INSTANT HAND SANITIZER
MOISTURE THERAPY**

| | | | |
|---------|----------------|--------------|---------------------------------|
| Version | Revision Date: | MSDS Number: | Date of last issue: 03/17/2015 |
| 1.2 | 03/26/2015 | 67361-00003 | Date of first issue: 03/06/2015 |

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

| | |
|------------------------|--|
| Waste from residues | : Dispose of in accordance with local regulations. |
| Contaminated packaging | : Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not burn, or use a cutting torch on, the empty drum. |

SECTION 14. TRANSPORT INFORMATION**International Regulation****UNRTDG**

| | |
|----------------------|--|
| UN number | : UN 1987 |
| Proper shipping name | : ALCOHOLS, N.O.S. (Ethanol, Propan-2-ol) |
| Class | : 3 |
| Packing group | : III |
| Labels | : 3 |

IATA-DGR

| | |
|--|--|
| UN/ID No. | : UN 1987 |
| Proper shipping name | : Alcohols, n.o.s. (Ethanol, Propan-2-ol) |
| Class | : 3 |
| Packing group | : III |
| Labels | : Flammable Liquids |
| Packing instruction (cargo aircraft) | : 366 |
| Packing instruction (passenger aircraft) | : 355 |

IMDG-Code

| | |
|----------------------|--|
| UN number | : UN 1987 |
| Proper shipping name | : ALCOHOLS, N.O.S. (Ethanol, Propan-2-ol) |
| Class | : 3 |
| Packing group | : III |
| Labels | : 3 |
| EmS Code | : F-E, S-D |
| Marine pollutant | : no |

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

**PURELL® INSTANT HAND SANITIZER
MOISTURE THERAPY**

| | | | |
|----------------|------------------------------|-----------------------------|---|
| Version 1.2 | Revision Date: 03/26/2015 | MSDS Number: 67361-00003 | Date of last issue: 03/17/2015 Date of first issue: 03/06/2015 |
|----------------|------------------------------|-----------------------------|---|

Not applicable for product as supplied.

Domestic regulation**49 CFR**

| | |
|----------------------|--------------------|
| UN/ID/NA number | : UN 1987 |
| Proper shipping name | : ALCOHOLS, N.O.S. |
| Class | : 3 |
| Packing group | : III |
| Labels | : FLAMMABLE LIQUID |
| ERG Code | : 127 |
| Marine pollutant | : no |

SECTION 15. REGULATORY INFORMATION**EPCRA - Emergency Planning and Community Right-to-Know****CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

| | |
|-----------------------------|--------------------------------------|
| SARA 311/312 Hazards | : Fire Hazard Acute Health Hazard |
|-----------------------------|--------------------------------------|

| | |
|-----------------|---|
| SARA 302 | : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302. |
|-----------------|---|

| | |
|-----------------|--|
| SARA 313 | : The following components are subject to reporting levels established by SARA Title III, Section 313: |
|-----------------|--|

| | | |
|-------------|---------|---------|
| Propan-2-ol | 67-63-0 | 3.013 % |
|-------------|---------|---------|

Pennsylvania Right To Know

| | | |
|-------------|-----------|-----------|
| Ethanol | 64-17-5 | 50 - 70 % |
| Water | 7732-18-5 | 30 - 50 % |
| Glycerine | 56-81-5 | 5 - 10 % |
| Propan-2-ol | 67-63-0 | 1 - 5 % |

New Jersey Right To Know

| | | |
|-------------|-----------|-----------|
| Ethanol | 64-17-5 | 50 - 70 % |
| Water | 7732-18-5 | 30 - 50 % |
| Glycerine | 56-81-5 | 5 - 10 % |
| Propan-2-ol | 67-63-0 | 1 - 5 % |

California Prop 65

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

PURELL® INSTANT HAND SANITIZER MOISTURE THERAPY

| | | | |
|----------------|------------------------------|-----------------------------|---|
| Version 1.2 | Revision Date: 03/26/2015 | MSDS Number: 67361-00003 | Date of last issue: 03/17/2015 Date of first issue: 03/06/2015 |
|----------------|------------------------------|-----------------------------|---|

The ingredients of this product are reported in the following inventories:

REACH : All ingredients (pre-)registered or exempt.

TSCA : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

DSL : All chemical substances in this product comply with the CEPA 1999 and NSNR and are on or exempt from listing on the Canadian Domestic Substances List (DSL).

AICS : All ingredients listed or exempt.

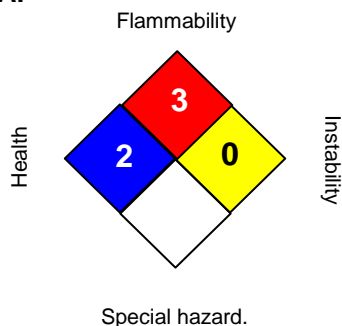
Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

| | |
|------------------------|----------|
| HEALTH | 2 |
| FLAMMABILITY | 3 |
| PHYSICAL HAZARD | 0 |

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
 ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)
 NIOSH REL : USA. NIOSH Recommended Exposure Limits
 OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
 ACGIH / TWA : 8-hour, time-weighted average
 ACGIH / STEL : Short-term exposure limit
 NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
 NIOSH REL / ST : STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
 OSHA Z-1 / TWA : 8-hour time weighted average

SAFETY DATA SHEET



PURELL® INSTANT HAND SANITIZER MOISTURE THERAPY

| | | | |
|---------|----------------|--------------|---------------------------------|
| Version | Revision Date: | MSDS Number: | Date of last issue: 03/17/2015 |
| 1.2 | 03/26/2015 | 67361-00003 | Date of first issue: 03/06/2015 |

Sources of key data used to compile the Material Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Revision Date : 03/26/2015

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

US / Z8

Safety Data Sheet

Printing date 02/27/2017

Revised On 02/16/2017

1 Identification of the substance and manufacturer

Trade name: **QUIK STRIPE ARCTIC WHITE**
 Product code: **QSW1, QSW12**
 Product category: **PC9a Paints and coatings.**

MANUFACTURED FOR:
PIONEER ATHLETICS
4529 INDUSTRIAL PKWY
CLEVELAND, OH 44135
PHONE NUMBER: 800-877-1500

2 Hazard(s) identification**Classification of the substance or mixture**

Flam. Aerosol 1 H222 Extremely flammable aerosol.
 Press. Gas H280 Contains gas under pressure; may explode if heated.
 Eye Irrit. 2B H320 Causes eye irritation.
 STOT SE 3 H335 May cause respiratory irritation.
 STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

GHS Hazard pictograms

GHS02 GHS04 GHS07 GHS08

Signal word**Hazard statements****Precautionary statements**

Danger
 Extremely flammable aerosol.
 Contains gas under pressure; may explode if heated.
 Causes eye irritation.
 May cause respiratory irritation.
 May cause damage to organs through prolonged or repeated exposure.
 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
 Do not spray on an open flame or other ignition source.
 Do not pierce or burn, even after use.
 Wash hands thoroughly after handling.
 Use only outdoors or in a well-ventilated area.
 Do not breathe dust/fume/gas/mist/vapors/spray.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Call a POISON CENTER/doctor if you feel unwell.
 If eye irritation persists: Get medical advice/attention.
 Store locked up.
 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
 Protect from sunlight. Store in a well-ventilated place.
 Store in a well-ventilated place. Keep container tightly closed.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients**Chemical characterization: Mixtures****Chemical Description:**

This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:

| | | |
|------------|-------------------|--------|
| 64742-89-8 | VM&P Naphtha | 14.93% |
| 1317-65-3 | Calcium Carbonate | 13.67% |
| 74-98-6 | propane | 12.6% |
| 13463-67-7 | titanium dioxide | 9.67% |
| 106-97-8 | n-butane | 7.4% |
| 142-82-5 | heptane | 6.08% |
| 64742-47-8 | Mineral Spirits | 5.59% |
| 1330-20-7 | xylene (mix) | 1.24% |

4 First-aid measures**After inhalation:**

Supply fresh air; consult doctor in case of complaints.

After skin contact:

Remove contaminated clothing. Wash exposed area with soap and water.

After eye contact:

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing:

Rinse out mouth and then drink plenty of water.

Rinse mouth with water. Do not induce vomiting.

Most important symptoms and effects:

Dizziness

Indication of any immediate medical attention needed:

No further relevant information available.

5 Fire-fighting measures**Extinguishing agents:**

CO2, extinguishing powder or water spray. Fight larger fires with water spray.

Special hazards:

Can form explosive gas-air mixtures.

(Contd. on page 2)

FOR CHEMICAL EMERGENCY**Call INFOTRAC****1-800-535-5053****24 hours per day, 7 days per week**

Safety Data Sheet

Printing date 02/27/2017

Revised On 02/16/2017

Trade name: QS ARCTIC WHITE

Protective equipment for firefighters:

A respiratory protective device may be necessary.

(Contd. of page 1)

6 Accidental release measures**Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Keep unprotected persons away.
Use respiratory protective device against the effects of fumes/dust/aerosol.

Methods and material for containment and cleaning up:

Ensure adequate ventilation.

7 Handling and storage**Precautions for safe handling
Storage requirements:**

Use only in well ventilated areas.
Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions. Store locked up.

8 Exposure controls/personal protection**Components with limit values that require monitoring at the workplace:****74-98-6 propane**

PEL (USA) Long-term value: 1800 mg/m³, 1000 ppm
REL (USA) Long-term value: 1800 mg/m³, 1000 ppm
TLV (USA) refer to Appendix F in TLVs&BEIs book; NIC-EX

106-97-8 n-butane

REL (USA) Long-term value: 1900 mg/m³, 800 ppm
TLV (USA) Short-term value: (2370) mg/m³, (1000) ppm
NIC-EX

142-82-5 heptane

PEL (USA) Long-term value: 2000 mg/m³, 500 ppm
REL (USA) Long-term value: 350 mg/m³, 85 ppm
Ceiling limit value: 1800* mg/m³, 440* ppm
*15-min
TLV (USA) Short-term value: 2050 mg/m³, 500 ppm
Long-term value: 1640 mg/m³, 400 ppm

1330-20-7 xylene (mix)

PEL (USA) Long-term value: 435 mg/m³, 100 ppm
REL (USA) Short-term value: 655 mg/m³, 150 ppm
Long-term value: 435 mg/m³, 100 ppm
TLV (USA) Short-term value: 651 mg/m³, 150 ppm
Long-term value: 434 mg/m³, 100 ppm
BEI

Ingredients with biological limit values:**1330-20-7 xylene (mix)**

BEI (USA) 1.5 g/g creatinine
Medium: urine
Time: end of shift
Parameter: Methylhippuric acids

Hygienic protection:

Keep away from foodstuffs and animal feed. Wash hands after use.
Immediately remove all soiled and contaminated clothing.
Wash hands after use.
Do not eat or drink while working.

Breathing equipment:

A respirator is generally not necessary when using this product outdoors or in large open areas.
In cases where short and/or long term overexposure exists, a charcoal filter respirator should be worn. If you suspect overexposure conditions exist, please consult an authority on chemical hygiene.

Hand protection:

Nitrile gloves.
Protective gloves. The glove material must be impermeable and resistant to the substance.

Eye protection:

Tightly sealed goggles

9 Physical and chemical properties

Appearance: Aerosol.
Odor: Aromatic
Odor threshold: Not determined.
pH-value: Not determined.
Melting point/Melting range: Undetermined.
Boiling point: -44 °C (-47 °F)
Flash point: -19 °C (-2 °F)
Flammability (solid, gas): Extremely flammable.
Decomposition temperature: Not determined.
Auto igniting: Product is not self-igniting.
Danger of explosion: In use, may form flammable/explosive vapour-air mixture.
Lower Explosion Limit: 1.7 Vol %

(Contd. on page 3)

Safety Data Sheet

Printing date 02/27/2017

Revised On 02/16/2017

Trade name: QS ARCTIC WHITE

Upper Explosion Limit: 10.9 Vol %
 Vapor pressure: Not determined.
 Relative Density: Between 0.77 and 0.85 (Water equals 1.00)
 Vapor density: Not determined.
 Evaporation rate: Not applicable.
 Partition coefficient: n-octanol/water: Not determined.
 Solubility: Not determined.
 Viscosity: Not determined.
 VOC content (less exempt solvents): 48.4 %
 Water: 17.5 %
 Solids content: 32.6 %

(Contd. of page 2)

10 Stability and reactivity

Reactivity: Stable at normal temperatures.
 Conditions to avoid: Do not allow can to exceed 120 degrees Fahrenheit. Do not warehouse in subfreezing temperatures.
 Chemical stability: Not fully evaluated.
 Possibility of hazardous reactions: No dangerous reactions known.
 Incompatible materials: No further relevant information available.
 Hazardous decomposition: No dangerous decomposition products known.

11 Toxicological information

LD/LC50 values that are relevant for classification:

13463-67-7 titanium dioxide

| | | |
|------------|----------|--------------------|
| Oral | LD50 | >20000 mg/kg (rat) |
| Dermal | LD50 | >10000 mg/kg (rbt) |
| Inhalative | LC50/4 h | >6.82 mg/l (rat) |

106-97-8 n-butane

| | | |
|------------|----------|----------------|
| Inhalative | LC50/4 h | 658 mg/l (rat) |
|------------|----------|----------------|

1330-20-7 xylene (mix)

| | | |
|------------|----------|------------------|
| Oral | LD50 | 8700 mg/kg (rat) |
| Dermal | LD50 | 2000 mg/kg (rbt) |
| Inhalative | LC50/4 h | 6350 mg/l (rat) |

Information on toxicological effects: No data available.
 Skin effects: No irritant effect.
 Eye effects: No irritating effect.
 Sensitization: No sensitizing effects known.

12 Ecological information

Aquatic toxicity: Hazardous for water, do not empty into drains.
 Persistence and degradability: The product is degradable after prolonged exposure to natural weathering processes.
 Bioaccumulative potential: No further relevant information available.
 Mobility in soil: No further relevant information available.
 Ecotoxicological effects:
 Remark: Toxic for fish
 Other adverse effects: No further relevant information available.

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.
 Recommendation: Completely empty cans should be recycled.

14 Transport information

UN-Number: UN1950
 DOT: N/A
 DOT: Consumer Commodity ORM-D
 ADR: Aerosols, flammable
 Transport hazard class(es): 1950 Aerosols, ENVIRONMENTALLY HAZARDOUS
 Class: 2.1
 Marine pollutant: Yes
 Special marking (ADR): Symbol (fish and tree)
 Special precautions for user: Symbol (fish and tree)
 EMS Number: Warning: Gases
 Packaging Group: F-D,S-U
 UN "Model Regulation": --
 UN "Model Regulation": UN1950, Aerosols, ENVIRONMENTALLY HAZARDOUS, 2.1

(Contd. on page 4)

Safety Data Sheet

Printing date 02/27/2017

Revised On 02/16/2017

Trade name: QS ARCTIC WHITE

(Contd. of page 3)

15 Regulatory information

SARA Section 355 (extremely hazardous substances):

None of the ingredients in this product are listed.

SARA Section 313 (Specific toxic chemical listings):

1330-20-7 | xylene (mix)

Toxic Substances Control Act (TSCA):

All ingredients for this product are found on the inventory list of substances.

Consumer Product Safety Commission (CPSC):

This product complies with 16 CFR 1303 and does not contain more than 90 ppm of lead.

California Proposition 65 chemicals known to cause cancer:

13463-67-7 | titanium dioxide

100-41-4 | ethyl benzene

California Proposition 65 chemicals known to cause birth defects or reproductive harm:

None of the ingredients in this product are listed.

CANADIAN ENVIRONMENTAL PROTECTION ACT:**WHMIS Symbols for Canada:**

All hazardous ingredients for this product appear on the Canadian Domestic Substance List.

A - Compressed gas

**EPA:**

142-82-5 | heptane

1330-20-7 | xylene (mix)

D

I

16 Other information

Contact:

Regulatory Affairs

Date of preparation / last revision

02/27/2017 / -

1 Identification of the substance and manufacturer

SDS NUMBER: QS24G2

Trade name: QUIK STRIPE SOCCER YELLOW

Product code: QSYS1, QSYS12

Product category: PC9a Paints and coatings

MANUFACTURED FOR:
PIONEER ATHLETICS
4529 INDUSTRIAL PKWY
CLEVELAND, OH 44135
PHONE NUMBER: 800-877-1500

2 Hazard(s) identification**Classification of the substance or mixture**

Flam. Aerosol 1 H222 Extremely flammable aerosol.
Press. Gas H280 Contains gas under pressure; may explode if heated.
Repr. 2 H361 Suspected of damaging fertility or the unborn child.
STOT SE 3 H335 May cause respiratory irritation.
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

GHS Hazard pictograms

GHS02 GHS04 GHS07 GHS08

Signal word
Hazard statements

Danger

Precautionary statements

Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Suspected of damaging fertility or the unborn child.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.
Obtain special instructions before use.
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Do not spray on an open flame or other ignition source.
Do not pierce or burn, even after use.
Use only outdoors or in a well-ventilated area.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not breathe dust/fume/gas/mist/vapors/spray.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor if you feel unwell.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Protect from sunlight. Store in a well-ventilated place.
Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients**Chemical characterization: Mixtures****Chemical Description:**

This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:

| | | |
|------------|-------------------|--------|
| 1317-65-3 | Calcium Carbonate | |
| 64742-89-8 | VM&P Naphtha | 18.79% |
| 74-98-6 | propane | 14.21% |
| 106-97-8 | n-butane | 12.6% |
| 108-88-3 | Toluene | 7.4% |
| 108-65-6 | PM acetate | 6.99% |
| 13463-67-7 | titanium dioxide | 4.82% |
| | | 3.02% |

4 First-aid measures**After inhalation:****After skin contact:****After eye contact:****After swallowing:**

Supply fresh air; consult doctor in case of complaints.
Remove contaminated clothing. Wash exposed area with soap and water.
Rinse opened eye for several minutes under running water. Then consult a doctor.
Rinse out mouth and then drink plenty of water.
Rinse mouth with water. Do not induce vomiting.

Most important symptoms and effects:

Dizziness

Indication of any immediate medical attention needed:

No further relevant information available.

5 Fire-fighting measures**Extinguishing agents:****Special hazards:****Protective equipment for firefighters:**

CO2, extinguishing powder or water spray. Fight larger fires with water spray.
Can form explosive gas-air mixtures.

A respiratory protective device may be necessary.

(Contd. on page 2)

FOR CHEMICAL EMERGENCY

Call INFOTRAC

1-800-535-5053

24 hours per day, 7 days per week

Safety Data Sheet

Printing date 02/27/2017

Revised On 02/27/2017

Trade name: QUIK STRIPE SOCCER YELLOW

(Contd. of page 1)

6 Accidental release measures**Personal precautions, protective equipment and emergency procedures:**

Use respiratory protective device against the effects of fumes/dust/aerosol.

Methods and material for containment and cleaning up:

Dispose contaminated material as waste according to section 13.

7 Handling and storage**Precautions for safe handling**
Storage requirements:

Use only in well ventilated areas.

Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions. Store locked up.

8 Exposure controls/personal protection**Components with limit values that require monitoring at the workplace:****74-98-6 propane**REL (USA) Long-term value: 1800 mg/m³, 1000 ppmREL (USA) Long-term value: 1800 mg/m³, 1000 ppm

TLV (USA) refer to Appendix F in TLVs&BEIs book; NIC-EX

106-97-8 n-butaneREL (USA) Long-term value: 1900 mg/m³, 800 ppmTLV (USA) Short-term value: (2370) mg/m³, (1000) ppm**108-65-6 PM acetate**

WEEL (USA) Long-term value: 50 ppm

Hygienic protection:

Immediately remove all soiled and contaminated clothing.

Wash hands after use.

Store protective clothing separately.

Do not eat or drink while working.

Breathing equipment:

A respirator is generally not necessary when using this product outdoors or in large open areas. In cases where short and/or long term overexposure exists, a charcoal filter respirator should be worn. If you suspect overexposure conditions exist, please consult an authority on chemical hygiene.

Hand protection:

Nitrile gloves.

Eye protection:

Protective gloves. The glove material must be impermeable and resistant to the substance. Tightly sealed goggles

9 Physical and chemical properties**Appearance:**

Aerosol.

Odor:

Aromatic

Odor threshold:

Not determined.

pH-value:

Not determined.

Melting point/Melting range

Undetermined.

Boiling point:

-110 °C (-166 °F)

Flash point:

-19 °C (-2 °F)

Flammability (solid, gas):

Extremely flammable.

Decomposition temperature:

Not determined.

Auto igniting:

Product is not self-igniting.

Danger of explosion:

In use, may form flammable/explosive vapour-air mixture.

Lower Explosion Limit:

1.7 Vol %

Upper Explosion Limit:

10.9 Vol %

Vapor pressure:

Not determined.

Relative Density:

Between 0.77 and 0.85 (Water equals 1.00)

Vapor density

Not determined.

Evaporation rate

Not applicable.

Partition coefficient: n-octanol/water:

Not determined.

Solubility:

Not determined.

Viscosity:

Not determined.

VOC content (less exempt solvents):

41.9 %

Water:

21.4 %

Solids content:

29.0 %

10 Stability and reactivity**Reactivity:**

Stable at normal temperatures.

Conditions to avoid:

Do not allow can to exceed 120 degrees Fahrenheit. Do not warehouse in subfreezing temperatures.

Chemical stability:

Not fully evaluated.

Possibility of hazardous reactions:

No dangerous reactions known.

Incompatible materials:

No further relevant information available.

(Contd. on page 3)

Safety Data Sheet

Printing date 02/27/2017

Revised On 02/27/2017

Trade name: QUIK STRIPE SOCCER YELLOW

Hazardous decomposition: No dangerous decomposition products known.

(Contd. of page 2)

11 Toxicological information

LD/LC50 values that are relevant for classification:

106-97-8 n-butane

Inhalative LC50/4 h | 658 mg/l (rat)

108-65-6 PM acetate

Oral LD50 8500 mg/kg (rat)

Inhalative LC50/4 h | 35.7 mg/l (rat)

13463-67-7 titanium dioxide

Oral LD50 >20000 mg/kg (rat)

Dermal LD50 >10000 mg/kg (rbt)

Inhalative LC50/4 h | >6.82 mg/l (rat)

Information on toxicological effects: No data available.
 Skin effects: No irritant effect.
 Eye effects: No irritating effect.
 Sensitization: No sensitizing effects known.

12 Ecological information

Aquatic toxicity: Hazardous for water, do not empty into drains.
 Persistence and degradability: The product is degradable after prolonged exposure to natural weathering processes.
 Bioaccumulative potential: No further relevant information available.
 Mobility in soil: No further relevant information available.
 Other adverse effects: No further relevant information available.

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.
 Recommendation: Completely empty cans should be recycled.

14 Transport information

UN-Number UN1950
 DOT N/A
 DOT Consumer Commodity ORM-D
 Aerosols, flammable
 1950 Aerosols
 ADR
 Transport hazard class(es):
 Class 2.1
 Marine pollutant: No
 Special precautions for user: Warning: Gases
 EMS Number: F-D,S-U
 Packaging Group: --
 UN "Model Regulation": UN1950, Aerosols, 2.1

15 Regulatory information

SARA Section 355 (extremely hazardous substances):

None of the ingredients in this product are listed.

SARA Section 313 (Specific toxic chemical listings):

108-88-3 Toluene

Toxic Substances Control Act

(TSCA):

Consumer Product Safety

Commission (CPSC):

All ingredients for this product are found on the inventory list of substances.

This product complies with 16 CFR 1303 and does not contain more than 90 ppm of lead.

California Proposition 65 chemicals known to cause cancer:

13463-67-7 titanium dioxide

100-41-4 ethyl benzene

California Proposition 65 chemicals known to cause birth defects or reproductive harm:

108-88-3 Toluene

CANADIAN ENVIRONMENTAL

PROTECTION ACT:

WHMIS Symbols for Canada:

All hazardous ingredients for this product appear on the Canadian Domestic Substance List.
 A - Compressed gas
 D2A - Very toxic material causing other toxic effects



EPA:

None of the ingredients is listed.

16 Other information

Contact: Regulatory Affairs

(Contd. on page 4)

Safety Data Sheet

Printing date 02/27/2017

Revised On 02/27/2017

Trade name: QUIK STRIPE SOCCER YELLOW

Date of preparation / last revision 02/27/2017 / -

(Contd. of page 3)

SECTION 1: Product and Company Information

Product Name: Quik Stripe Aerosol Yellow Gold

Product Code: QSYG1, QSYG12

Trade Name: Quik Stripe Aerosol Yellow Gold

Pioneer Athletics
4529 Industrial Parkway
Cleveland Ohio 44135

For chemical emergency call INFOTRAC
1-800-535-5053, 24 hrs. per day 7 days a week

SECTION 2 Hazards

GHS Ratings:

| | | |
|-------------------------------|------------|---|
| Flammable aerosol | 1 | Flammable aerosol class 1 |
| Gas under pressure | Compressed | Entirely gaseous at -50°C |
| Skin corrosive | 2 | Reversible adverse effects in dermal tissue, Draize score: ≥ 2.3 < 4.0 or persistent inflammation |
| Eye corrosive | 2A | Eye irritant: Subcategory 2A, Reversible in 21 days |
| Carcinogen | 2 | Limited evidence of human or animal carcinogenicity |
| Reproductive toxin | 2 | Human or animal evidence possibly with other information |
| Organ toxin single exposure | 3 | Transient target organ effects- Narcotic effects- Respiratory tract irritation |
| Organ toxin repeated exposure | 2 | Presumed to be harmful to human health- Animal studies with significant toxic effects relevant to humans at generally moderate exposure (guidance)- Human evidence in exceptional cases |
| Aspiration hazard | 1 | Aspiration Toxicity Category 1: Known (regarded)- human evidence - hydrocarbons with kinematic viscosity ≥ 20.5 mm ² /s at 40° C. |

GHS Hazards

| | |
|------|---|
| H222 | Extremely flammable material |
| H280 | Contains gas under pressure; may explode if heated |
| H304 | May be fatal if swallowed and enters airways |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| H335 | May cause respiratory irritation |
| H336 | May cause drowsiness or dizziness |
| H351 | Suspected of causing cancer |
| H361 | Suspected of damaging fertility or the unborn child |
| H373 | May cause damage to organs through prolonged or repeated exposure |

GHS Precautions

| | |
|------|---|
| P201 | Obtain special instructions before use |
| P202 | Do not handle until all safety precautions have been read and understood |
| P210 | Keep away from heat/sparks/open flames/hot surfaces – No smoking |
| P211 | Do not spray on an open flame or other ignition source |
| P251 | Pressurized container – Do not pierce or burn, even after use |
| P260 | Do not breathe dust/fume/gas/mist/vapours/spray |
| P261 | Avoid breathing dust/fume/gas/mist/vapours/spray |
| P264 | Wash ... thoroughly after handling |
| P271 | Use only outdoors or in a well-ventilated area |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection |
| P281 | Use personal protective equipment as required |
| P312 | Call a POISON CENTER or doctor/physician if you feel unwell |

| | |
|----------------|---|
| P314 | Get Medical advice/attention if you feel unwell |
| P321 | Specific treatment (see ... on this label) |
| P331 | Do NOT induce vomiting |
| P362 | Take off contaminated clothing and wash before reuse |
| P301+P310 | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician |
| P302+P352 | IF ON SKIN: Wash with soap and water |
| P304+P340 | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing |
| P305+P351+P338 | IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing |
| P308+P313 | IF exposed or concerned: Get medical advice/attention |
| P332+P313 | If skin irritation occurs: Get medical advice/attention |
| P337+P313 | If eye irritation persists, get medical advice/attention |
| P405 | Store locked up |
| P403+P233 | Store in a well ventilated place. Keep container tightly closed |
| P410+P403 | Protect from sunlight. Store in a well ventilated place |
| P410+P412 | Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F |
| P501 | Dispose of contents/container to ... |

Signal Word: Danger



SECTION 3 Composition

| Chemical Name | CAS number | Weight Concentration % |
|---------------------------------|------------|------------------------|
| Aliphatic Petroleum Distillates | 64742-89-8 | |
| Propane | 74-98-6 | |
| Acetone | 67-64-1 | |
| n-butane | 106-97-8 | |
| Aliphatic Hydrocarbons | 8052-41-3 | |
| Toluene | 108-88-3 | |
| n-Heptane | 142-82-5 | |
| Octane | 111-65-9 | |

SECTION 4 First Aid

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Remove contaminated clothing. Wash off with soap and plenty of water. If skin irritation occurs get medical attention.

Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into lungs. Aspiration may cause pulmonary edema and pneumonitis.

SECTION 5 Fire Fighting

Flash Point: N/A

LEL: 2.00

UEL: 13.00

Powder. Alcohol resistant foam. Water. Carbon Dioxide (CO2).

Contents under pressure. Pressurized container may explode when exposed to heat or flame.

Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in a cargo area, use unmanned hose holder or monitor nozzles if possible. If not, withdraw and let fire burn out.

Use standard firefighting procedures and consider the hazards of other involved materials. Move container from fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. In the event of fire and/or explosion do not breathe fumes.

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

SECTION 6 Accidental Release Measures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection see section 8 of the SDS.

Eliminate all ignition sources (no smoking, flares, sparks or flames in the immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Isolate area until gas has dispersed. Collect spillage. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

SECTION 7 Handling and Storage

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Pressurized container: do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Do not re-use empty containers. Do not breathe gas. Avoid contact with skin. Avoid contact with eyes. Avoid contact during pregnancy or while nursing. Avoid prolonged exposure. Use only in well ventilated areas. Use personal protective equipment as required. Observe good industrial hygiene practices. When using, do not eat, drink, or smoke. Wash hands thoroughly after handling. Do not empty into drains.

Store locked up. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50 degrees C/ 122 degrees F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Store away from incompatible materials (see section 10 of the SDS). Level 2 aerosol.

SECTION 8 Exposure Control and Personal Protection

| Chemical Name / CAS No. | OSHA Exposure Limits | ACGIH Exposure Limits | Other Exposure Limits |
|---|----------------------|-----------------------|-----------------------|
| Aliphatic Petroleum Distillates 64742-89-8 | Octane 500ppm | n-Heptane 400 ppm | Not Established |
| Propane 74-98-6 | Not Established | Not Established | Not Established |

| | | | |
|-------------------------------------|--|-----------------|---------------------|
| Acetone 67-64-1 | PEL 750 ppm | TLV 500 ppm | Not Established |
| n-butane 106-97-8 | Not Established | Not Established | Not Established |
| Aliphatic Hydrocarbons 8052-41-3 | 500 ppm | 100 ppm | Not Established |
| Toluene 108-88-3 | Z2 TWA 200 PPM Z2 Ceiling 300 ppm Z2 MAX. CONC 500 ppm | 20 ppm | SHELL IS TWA 50 ppm |
| n-Heptane 142-82-5 | Not Established | Not Established | Not Established |
| Octane 111-65-9 | Not Established | Not Established | Not Established |

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Eye/Face protection: wear eye/face protection. Wear safety glasses with side shields or goggles.

Hand protection: Wear protective gloves

Other: Wear chemical resistant clothing

Respiratory protection: If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.

General hygiene considerations: When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

SECTION 9 Physical and Chemical Properties

| | |
|------------------------------------|---------------------------------------|
| Boiling Range 100 to 150 °C | % Volume Volatile 0.00 |
| Specific Gravity (SG) 1.006 | Lbs VOC/Gallon Less Water 0.00 |

SECTION 10 Stability and Reactivity

STABLE

No hazardous decomposition products are known

Hazardous polymerization will not occur.

SECTION 11 Toxicological Information

Mixture Toxicity

Component Toxicity

Effects of Overexposure

| | | | |
|-------------------|--------------------|-----------------|--------------------------|
| <u>CAS Number</u> | <u>Description</u> | <u>% Weight</u> | <u>Carcinogen Rating</u> |
|-------------------|--------------------|-----------------|--------------------------|

SECTION 12 Ecological Information**Component Eco toxicity****SECTION 13 Disposal**

Collect and reclaim or dispose in sealed containers at a licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14 Transport

| <u>Agency</u> | <u>Proper Shipping Name</u> | <u>UN Number</u> | <u>Packing Group</u> | <u>Hazard Class</u> |
|---------------|-----------------------------|------------------|----------------------|---------------------|
|---------------|-----------------------------|------------------|----------------------|---------------------|

SECTION 15 Regulatory Information

State of California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): WARNING! This product contains the following chemicals which are listed by the State of California as carcinogenic or a reproductive toxin:

108-88-3 Toluene REPRODUCTIVE TOXIN

100-41-4 Ethylbenzene CARCINOGEN

71-43-2 Benzene 73 PPM CARCINOGEN, REPRODUCTIVE TOXIN

| <u>Country</u> | <u>Regulation</u> | <u>All Components Listed</u> |
|----------------|-------------------|------------------------------|
|----------------|-------------------|------------------------------|

EU Risk Phrases**Safety Phrase**

- None

SECTION 16 Other Information**Hazardous Material Information System (HMIS)**

| | |
|---------------------|--------------------------------|
| HEALTH | <input type="text" value="2"/> |
| FLAMMABILITY | <input type="text" value="4"/> |
| PHYSICAL HAZARD | <input type="text" value="0"/> |
| PERSONAL PROTECTION | <input type="text"/> |

HMIS & NFPA Hazard Rating Legend

* = Chronic Health Hazard

0 = INSIGNIFICANT

1 = SLIGHT

2 = MODERATE

3 = HIGH

Date Prepared: 3/17/2017

Reviewer Revision





SAFETY DATA SHEET

1. Product and Company Identification

| | |
|-----------------------------------|--|
| Product Name | ECO-RECLAIM |
| Product Number | 3AN |
| Product Type | Mixture |
| Product Use | Carpet cleaner |
| Manufacturer | CFR, A Division of Tacony Corporation 3101 Wichita Court Fort Worth, TX 76140-1710 |
| Company Contact | 1-800-533-2557 or website www.cfrcorp.com |
| Emergency Telephone Number | 1-800-270-5201 |

2. Hazards Identification

GHS Classification in accordance with 29CFR 1910 OSHA HCS

Skin corrosion/irritation, (Category 3) H316
Serious eye damage/eye irritation, (Category 2B) H320

GHS Label elements, including precautionary statements

| | |
|---------------------------------|---|
| Pictogram | None required |
| Signal Word | Warning |
| Hazard Statements | |
| H316 | Causes mild skin irritation. |
| H320 | Causes eye irritation. |
| Precautionary Statements | |
| Prevention | |
| P264 | Wash and rinse hands and exposed skin after handling concentrated product. |
| Response | |
| P332+P313 | If skin irritation occurs, get medical attention. |
| P305+P351+P338 | IF IN EYES, Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. |
| P337+P313 | If eye irritation persists, get medical attention. |
| Storage/Disposal | |
| P501 | Dispose of contents/container in accordance with local, regional and federal regulations |

3. Composition/Information on Ingredients

The criteria for listing components in this section are: Ingredients that meet the criteria for carcinogenic, toxic to reproduction, or specific target organ toxicity and components otherwise considered hazardous according to OSHA which exceed the cut off limits for SDS specified by the criteria for mixtures are listed. Non hazardous components are not listed. This is not a composition disclosure. Exact percentages are considered proprietary and a trade secret.

| Hazardous Components | CAS# | Classification | % |
|-------------------------------|-------------|------------------|-------|
| Sodium Bicarbonate | 533-96-0 | H320 | 1-10% |
| Sodium Carbonate | 497-19-8 | H319 | 1-10% |
| Anionic polymer/surfactant | Proprietary | H316, H319, | 1-3% |
| Alcohols, C9-C11, ethoxylated | 68439-46-3 | H302, H316, H320 | 1-3% |

4. First Aid Measures

Description of First Aid Procedures

| | |
|--------------------------------|--|
| In case of Eye Contact | Flush with cool running water for 15 minutes. If irritation persists, get medical attention. |
| In case of Skin Contact | Flush with cool water, Wash with soap and water, If irritation persists, get medical Attention. |
| If Inhaled | If symptoms develop, move to fresh air. If symptoms persist, get medical attention |
| If Ingested | Rinse mouth with water. Drink one or two glasses of water. Do not induce vomiting. Obtain medical attention. Never give anything by mouth to an unconscious person. |
| Notes to Physician | Symptoms may be delayed. |
| General advice | Seek medical attention if feeling unwell. Show the SDS to the physician in attendance. |

5. Fire-fighting Measures

| | |
|--|---|
| Flammable properties | Not flammable. |
| Extinguishing media | Treat for surrounding material. |
| Protection of firefighters | Firefighters should wear protective clothing including self contained breathing apparatus |
| Hazardous combustion products | May include and not limited to oxides of carbon and oxides of sulfur. |
| Unusual Fire, Explosion hazards | None known. |

6. Accidental Release Measures

| | |
|----------------------------------|--|
| Personal precautions | Keep unnecessary personal away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled containers unless wearing protective Clothing. Stay upwind of spills or leaks. |
| Methods for containment | Stop leak if you can do so without risk. Prevent entry into waterways, sewers. |
| Methods for cleaning up | Before attempting clean up refer to hazard data given above. Small spills may be absorbed with non reactive absorbent and placed in suitable, covered, labeled containers. Prevent large spills from entering sewers or water ways. Dike spill. Absorb spill with non reactive absorbent and place in a suitable, covered, labeled container for disposal. Never return spill to original container for reuse. |
| Environmental Precautions | Avoid release to the environment. |

7. Handling and Storage

| | |
|--------------------------------------|--|
| Precautions for Safe Handling | Use good industrial hygiene practices when handling this material |
| Conditions for Safe Storage | Keep out of reach of children. Keep from freezing, store in a cool dry place away from incompatible materials. |

8. Exposure Controls and Personal Protection

| Exposure limits | | | |
|-------------------------------|---------------|--|------------------|
| Ingredients | CAS-No | OSHA PEL | ACGIH TLV |
| Sodium Bicarbonate | 533-96-0 | 15 mg/m ³ total dust, 5mg/m ³ (resp. fraction) | Not established |
| Sodium Carbonate | 497-19-8 | Not established | Not established |
| Anionic polymer/surfactant | Proprietary | Not established | Not established |
| Alcohols, C9-C11, ethoxylated | 68439-46-3 | Not established | Not established |



Engineering controls

Personal protective equipment

Eye/Face protection

Hand protection

Skin and body

Respiratory protection

General hygiene considerations

General ventilation normally adequate.

Wear safety glasses with side shields if splash conditions exist.

Rubber or nitrile gloves.

As required by employer code.

Use a NIOSH approved respirator when exposure guidelines are exceeded.

Handle in accordance with good industrial hygiene practices. Do not eat or drink when using product. Wash hands well before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

| | |
|---|--|
| Appearance/form | Clear liquid |
| Color | Light straw to colorless |
| Odor | Odorless |
| Odor threshold | Not established |
| pH | 9.2-9.5 (Concentrate) |
| Melting point/freezing point | Not established |
| Initial Boiling point | > 212° F. (100° C.) |
| Flash point | None |
| Evaporation rate | Not established |
| Flammability | Not flammable |
| Upper/lower flammability or Explosive limits | Not applicable |
| Vapor pressure | Not established |
| Vapor density | Not established |
| Specific gravity/density | 1.10-1.20 |
| Solubility in water | Complete |
| Partition coefficient: | Not established |
| Auto ignition temperature | Not established |
| Decomposition temperature | Not established |
| Stability and Reactivity | Stable and non reactive under normal use and storage conditions. |
| VOC | < 1% |
| % Volatile | Approx. 85% |

Other safety Information

10. Stability and Reactivity

| | |
|---|--|
| Reactivity | Not reactive under normal use and storage. |
| Chemical Stability | Stable under normal storage conditions. |
| Hazardous reactions | None known. |
| Conditions to avoid | Do not mix with other chemicals. |
| Incompatible materials | Strong acids and oxidizers. |
| Hazardous decomposition products | May include but not limited to oxides of carbon, and oxides of sulfur. |
| Hazardous polymerization | Will not occur. |

11. Toxicological Information

| | |
|-------------------------------|--|
| Ingredients | LC50 |
| Sodium bicarbonate | > 5.03 mg/l 4 hours - inhalation rat |
| Sodium carbonate | 800 mg/m ³ inhalation guinea pig, 1150 mg/m ³ inhalation rat |
| Anionic polymer/surfactant | No data available |
| Alcohols, C9-C11, ethoxylated | No data available |

**Ingredients**

Sodium bicarbonate
Sodium carbonate
Anionic polymer/surfactant
Alcohols, C9-C11, ethoxylated

LD50

5600 mg/kg (Oral-rat)
2800 mg/kg (Oral-rat) , > 2000 mg/kg (Dermal-rabbit)
No data available
> 2,000 mg.kg (Oral-rat), > 5,000 mg/kg (Dermal-rat)

Effects of acute exposure

| | |
|--|---|
| Eye | Causes eye irritation |
| Skin | Causes mild irritation. |
| Inhalation | Not expected to be an irritant to the respiratory tract. |
| Ingestion | Not likely to be harmful. |
| Sensitization | No data available. |
| Chronic effects of short and long term exposure | No data available |
| Carcinogenicity | Does not contain ingredients considered carcinogenic by NTP, IARC, or OSHA. |
| Mutagenicity | No data available. |
| Reproductive effects | No data available. |
| Teratogenicity | No data available. |

12. Ecological Information

| | |
|---|--|
| Eco-toxicity | Components of this product have not been identified as having potential environmental concerns. |
| Environmental effects | No data available. |
| Aquatic toxicity Sodium carbonate | LC50 Fish (Lepomis macrochirus): 300 mg/L (static) 96 hour EC50 Akgae (Nitzschia): 242mg/L 120 hour |
| Persistence and Degradability | |
| Bioaccumulation/accumulation | No data available. |
| Partition coefficient | No data available. |
| Mobility in environmental media | No data available. |
| Chemical fate information | No data available. |
| Other adverse effects | No data available. |

13. Disposal Considerations

| | |
|--|---|
| Disposal instructions | Dispose in accordance with local, state, and federal regulations. |
| Wastes from residues/unused Product | Containerize. Rinse area with water. Keep out of storm sewer/waterways. |
| Contaminated packaging | Dispose in accordance with all applicable regulations. |

14. Transport Information

| | |
|-------------------------------------|-------------------|
| Basic shipping requirements: | Not DOT regulated |
| Proper shipping name | |
| Hazard class | |
| UN number | |
| Packing group | |
| Special provisions | |



15. Regulatory Information

| | |
|--------------------------------|--|
| U.S federal regulations | This product has been classified in accordance with the Occupational Safety and Health Administration hazard criteria and the SDS contains all of the information required by OSHA HCS 2012. |
| TSCA | All ingredients are listed on the Toxic Substances Control Act or are exempt from listing. |
| CERCLA Super Fund 40CFR117.302 | Product contains a material with a Reportable Quantity (RQ): None |
| SARA Title III Section 311&312 | Immediate (Acute) Health Hazard Sodium carbonate Anionic polymer/surfactant Proprietary |
| SARA Title III Section 313 | Ingredients subject to the reporting requirements of Section 313: None |
| California Proposition 65 | This product does not contain intentional ingredients known to the State of California to cause cancer, birth defects or reproductive effects. |
| States Right to Know | Reportable Chemicals: None |

Inventory Status

| Countries | Inventory Name | On Inventory (Yes/No)* |
|--|--------------------------|------------------------|
| U.S. | Chemical Inventory List | Yes |
| Canada | Domestic substances list | Yes |
| • A δYesö indicates that all of the components of this product comply with the inventory requirements administered by the governing country(s) listed. | | |

16. Other Information

HMIS RATING

HMIS LEGEND

| | |
|----------|---|
| Severe | 4 |
| Serious | 3 |
| Moderate | 2 |
| Slight | 1 |
| Minimal | |

| | |
|---------------------|---|
| Health | 1 |
| Flammability | 0 |
| Reactivity | 0 |
| Personal Protection | B |

Disclaimer

To the best of our knowledge, the information included herein is accurate. However, neither the above named supplier nor any of its subsidiaries assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of the suitability of any material is the responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Issue date

Supersedes date

Reason for update

Expiration date

May 10, 2015

Previous issues

Conform to GHS OSHA HCS 2012

May 10, 2018

Safety Data Sheet

Printing date 12/20/2016

Revised On 12/20/2016

1 Identification of the substance and manufacturer

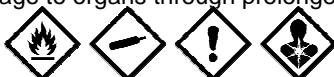
Trade name: 1509175 RED OXIDE SANDABLE PRIMER
Product category: PC9a Paints and coatings.
Manufacturer/Supplier: Lawson Products, Inc.
 8770 W. Bryn Mawr Avenue
 Chicago, IL 60631
 USA
 phone: 773-304-5050
Emergency telephone number: 888-426-4851

2 Hazard(s) identification

Classification of the substance or mixture

Flam. Aerosol 1 H222 Extremely flammable aerosol.
 Press. Gas H280 Contains gas under pressure; may explode if heated.
 Eye Irrit. 2A H319 Causes serious eye irritation.
 STOT SE 3 H336 May cause drowsiness or dizziness.
 STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

GHS Hazard pictograms



GHS02 GHS04 GHS07 GHS08

Signal word

Hazard statements

Danger
 Extremely flammable aerosol.
 Contains gas under pressure; may explode if heated.
 Causes serious eye irritation.

Precautionary statements

May cause drowsiness or dizziness.
 May cause damage to organs through prolonged or repeated exposure.
 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
 Do not spray on an open flame or other ignition source.
 Do not pierce or burn, even after use.
 Wash hands thoroughly after handling.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves/protective clothing/eye protection/face protection.
 Do not breathe dust/fume/gas/mist/vapors/spray.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Call a POISON CENTER/doctor if you feel unwell.
 If eye irritation persists: Get medical advice/attention.
 Store locked up.
 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
 Protect from sunlight. Store in a well-ventilated place.
 Store in a well-ventilated place. Keep container tightly closed.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical characterization: Mixtures

Chemical Description: This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:

| | | |
|------------|------------------------|--------|
| 67-64-1 | Acetone | 23.94% |
| 74-98-6 | propane | 12.6% |
| 110-19-0 | Isobutyl Acetate | 10.59% |
| 106-97-8 | n-butane | 7.4% |
| 64742-89-8 | VM&P Naphtha | 5.74% |
| 64-17-5 | ethyl alcohol | 3.75% |
| 1309-37-1 | red iron oxide pigment | 3.12% |
| 14807-96-6 | Talc | 3.08% |
| 123-86-4 | n-butyl acetate | 2.79% |
| 108-65-6 | PM acetate | 2.67% |
| 64742-47-8 | Mineral Spirits | 2.06% |
| 67-63-0 | Isopropyl Alcohol | 1.25% |

4 First-aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact: Remove contaminated clothing. Wash exposed area with soap and water.
After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
After swallowing: Rinse mouth with water. Do not induce vomiting.
Most important symptoms and effects: Dizziness
Indication of any immediate medical attention needed: No further relevant information available.

5 Fire-fighting measures

Extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray.

(Contd. on page 2)

Safety Data Sheet

Printing date 12/20/2016

Revised On 12/20/2016

Trade name: 1509175 RED OXIDE SANDABLE PRIMER

(Contd. of page 1)

Special hazards: Can form explosive gas-air mixtures.

Protective equipment for firefighters: A respiratory protective device may be necessary.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures: Use respiratory protective device against the effects of fumes/dust/aerosol.

Methods and material for containment and cleaning up: Absorb liquid components with liquid-binding material.

7 Handling and storage

Precautions for safe handling: Use only in well ventilated areas.

Storage requirements: Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions. Store locked up.

8 Exposure controls/personal protection**Components with limit values that require monitoring at the workplace:****67-64-1 Acetone**

| | |
|-------------------------|--|
| PEL (United States GHS) | Long-term value: 2400 mg/m ³ , 1000 ppm |
| REL (United States GHS) | Long-term value: 590 mg/m ³ , 250 ppm |
| TLV (United States GHS) | Short-term value: 1187 mg/m ³ , 500 ppm |
| | Long-term value: 594 mg/m ³ , 250 ppm |
| | BEI |

74-98-6 propane

| | |
|-------------------------|--|
| PEL (United States GHS) | Long-term value: 1800 mg/m ³ , 1000 ppm |
| REL (United States GHS) | Long-term value: 1800 mg/m ³ , 1000 ppm |
| TLV (United States GHS) | refer to Appendix F in TLVs&BEIs book; NIC-EX |

110-19-0 Isobutyl Acetate

| | |
|-------------------------|---|
| PEL (United States GHS) | Long-term value: 700 mg/m ³ , 150 ppm |
| REL (United States GHS) | Long-term value: 700 mg/m ³ , 150 ppm |
| TLV (United States GHS) | Short-term value: 172 mg/m ³ , 150 ppm |
| | Long-term value: 238 mg/m ³ , 50 ppm |

106-97-8 n-butane

| | |
|-------------------------|---|
| REL (United States GHS) | Long-term value: 1900 mg/m ³ , 800 ppm |
| TLV (United States GHS) | Short-term value: (2370) mg/m ³ , (1000) ppm |
| | NIC-EX |

64-17-5 ethyl alcohol

| | |
|-------------------------|---|
| PEL (United States GHS) | Long-term value: 1900 mg/m ³ , 1000 ppm |
| REL (United States GHS) | Long-term value: 1900 mg/m ³ , 1000 ppm |
| TLV (United States GHS) | Short-term value: 1880 mg/m ³ , 1000 ppm |

123-86-4 n-butyl acetate

| | |
|-------------------------|---|
| PEL (United States GHS) | Long-term value: 710 mg/m ³ , 150 ppm |
| REL (United States GHS) | Short-term value: 950 mg/m ³ , 200 ppm |
| | Long-term value: 710 mg/m ³ , 150 ppm |
| TLV (United States GHS) | Short-term value: 712 mg/m ³ , 150 ppm |
| | Long-term value: 238 mg/m ³ , 50 ppm |

108-65-6 PM acetate

| | |
|--------------------------|-------------------------|
| WEEL (United States GHS) | Long-term value: 50 ppm |
|--------------------------|-------------------------|

67-63-0 Isopropyl Alcohol

| | |
|-------------------------|--|
| PEL (United States GHS) | Long-term value: 980 mg/m ³ , 400 ppm |
| REL (United States GHS) | Short-term value: 1225 mg/m ³ , 500 ppm |
| | Long-term value: 980 mg/m ³ , 400 ppm |
| TLV (United States GHS) | Short-term value: 984 mg/m ³ , 400 ppm |
| | Long-term value: 492 mg/m ³ , 200 ppm |
| | BEI |

Ingredients with biological limit values:**67-64-1 Acetone**

| | |
|-------------------------|----------------------------------|
| BEI (United States GHS) | 50 mg/L |
| | Medium: urine |
| | Time: end of shift |
| | Parameter: Acetone (nonspecific) |

67-63-0 Isopropyl Alcohol

| | |
|-------------------------|--|
| BEI (United States GHS) | 40 mg/L |
| | Medium: urine |
| | Time: end of shift at end of workweek |
| | Parameter: Acetone (background, nonspecific) |

Hygienic protection: Immediately remove all soiled and contaminated clothing.
Wash hands after use.
Avoid contact with the eyes and skin.
Do not eat or drink while working.

Breathing equipment: A respirator is generally not necessary when using this product outdoors or in large open areas.
In cases where short and/or long term overexposure exists, a charcoal filter respirator should be

(Contd. on page 3)

Safety Data Sheet

Printing date 12/20/2016

Revised On 12/20/2016

Trade name: 1509175 RED OXIDE SANDABLE PRIMER

(Contd. of page 2)

Hand protection: worn. If you suspect overexposure conditions exist, please consult an authority on chemical hygiene.
Nitrile gloves.

Eye protection: Protective gloves. The glove material must be impermeable and resistant to the substance.
Tightly sealed goggles

9 Physical and chemical properties

Appearance: Aerosol.
Odor: Aromatic
Odor threshold: Not determined.
pH-value: Not determined.
Melting point/Melting range: Undetermined.
Boiling point: -44 °C (-47 °F)
Flash point: -19 °C (-2 °F)
Flammability (solid, gas): Extremely flammable.
Decomposition temperature: Not determined.
Auto igniting: Product is not self-igniting.
Danger of explosion: In use, may form flammable/explosive vapour-air mixture.
Lower Explosion Limit: 1.7 Vol %
Upper Explosion Limit: 10.9 Vol %
Vapor pressure: Not determined.
Relative Density: Between 0.77 and 0.85 (Water equals 1.00)
Vapor density: Not determined.
Evaporation rate: Not applicable.
Partition coefficient: n-octanol/water: Not determined.
Solubility: Not determined.
Viscosity: Not determined.
VOC content (less exempt solvents): 50.8 %
MIR Value: 0.68
Solids content: 23.8 %

10 Stability and reactivity

Reactivity: Stable at normal temperatures.
Conditions to avoid: Do not allow can to exceed 120 degrees Fahrenheit. Do not warehouse in subfreezing temperatures.
Chemical stability: Not fully evaluated.
Possibility of hazardous reactions: No dangerous reactions known.
Incompatible materials: No further relevant information available.
Hazardous decomposition: No dangerous decomposition products known.

11 Toxicological information

LD/LC50 values that are relevant for classification:

110-19-0 Isobutyl Acetate

| | | |
|------|------|------------------|
| Oral | LD50 | 4763 mg/kg (rbt) |
|------|------|------------------|

106-97-8 n-butane

| | | |
|------------|----------|----------------|
| Inhalative | LC50/4 h | 658 mg/l (rat) |
|------------|----------|----------------|

64-17-5 ethyl alcohol

| | | |
|------|------|------------------|
| Oral | LD50 | 7060 mg/kg (rat) |
|------|------|------------------|

| | | |
|------------|----------|------------------|
| Inhalative | LC50/4 h | 20000 mg/l (rat) |
|------------|----------|------------------|

1309-37-1 red iron oxide pigment

| | | |
|------|------|-------------------|
| Oral | LD50 | >5000 mg/kg (rat) |
|------|------|-------------------|

123-86-4 n-butyl acetate

| | | |
|------|------|-------------------|
| Oral | LD50 | 14000 mg/kg (rat) |
|------|------|-------------------|

| | | |
|------------|----------|------------------|
| Inhalative | LC50/4 h | >21.0 mg/l (rat) |
|------------|----------|------------------|

108-65-6 PM acetate

| | | |
|------|------|------------------|
| Oral | LD50 | 8500 mg/kg (rat) |
|------|------|------------------|

| | | |
|------------|----------|-----------------|
| Inhalative | LC50/4 h | 35.7 mg/l (rat) |
|------------|----------|-----------------|

67-63-0 Isopropyl Alcohol

| | | |
|------|------|------------------|
| Oral | LD50 | 4570 mg/kg (rat) |
|------|------|------------------|

| | | |
|--------|------|-------------------|
| Dermal | LD50 | 13400 mg/kg (rab) |
|--------|------|-------------------|

| | | |
|------------|----------|---------------|
| Inhalative | LC50/4 h | 30 mg/l (rat) |
|------------|----------|---------------|

Information on toxicological effects: No data available.**Skin effects:** No irritant effect.**Eye effects:** Irritating effect.**Sensitization:** No sensitizing effects known.

Carcinogenic categories

IARC (International Agency for Research on Cancer)

| | | |
|---------|---------------|---|
| 64-17-5 | ethyl alcohol | 1 |
|---------|---------------|---|

(Contd. on page 4)

Safety Data Sheet

Printing date 12/20/2016

Revised On 12/20/2016

Trade name: 1509175 RED OXIDE SANDABLE PRIMER

(Contd. of page 3)

| | | |
|--|------------------------|---|
| 1309-37-1 | red iron oxide pigment | 3 |
| 14807-96-6 | Talc | 3 |
| 67-63-0 | Isopropyl Alcohol | 3 |
| NTP (National Toxicology Program) | | |
| None of the ingredients is listed. | | |

12 Ecological information

| | |
|---------------------------------------|---|
| Aquatic toxicity: | Hazardous for water, do not empty into drains. |
| Persistence and degradability: | The product is degradable after prolonged exposure to natural weathering processes. |
| Bioaccumulative potential: | No further relevant information available. |
| Mobility in soil: | No further relevant information available. |
| Other adverse effects: | No further relevant information available. |

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.

Recommendation: Completely empty cans should be recycled.

14 Transport information

| | |
|--------------------------------------|--|
| UN-Number | UN1950 |
| DOT | N/A |
| DOT | Consumer Commodity ORM-D |
| ADR | Aerosols, flammable |
| Transport hazard class(es): | 1950 Aerosols |
| Class | 2.1 |
| Special precautions for user: | Warning: Gases |
| EMS Number: | F-D,S-U |
| Stowage Code | SW1 Protected from sources of heat. SW22 For AEROSOLS with a maximum capacity of 1 litre: Category A. For AEROSOLS with a capacity above 1 litre: Category B. For WASTE AEROSOLS: Category C, Clear of living quarters. |
| Segregation Code | SG69 For AEROSOLS with a maximum capacity of 1 litre: Segregation as for class 9. Stow "separated from" class 1 except for division 1.4. For AEROSOLS with a capacity above 1 litre: Segregation as for the appropriate subdivision of class 2. For WASTE AEROSOLS: Segregation as for the appropriate subdivision of class 2. |
| Quantity limitations | On passenger aircraft/rail: 75 kg On cargo aircraft only: 150 kg |
| ADR | |
| Excepted quantities (EQ) | Code: E0 Not permitted as Excepted Quantity |
| IMDG | |
| Limited quantities (LQ) | 1L |
| Excepted quantities (EQ) | Code: E0 Not permitted as Excepted Quantity |
| Packaging Group: | -- |
| UN "Model Regulation": | UN 1950 AEROSOLS, 2.1 |

15 Regulatory information**SARA Section 355 (extremely hazardous substances):**

None of the ingredients in this product are listed.

SARA Section 313 (Specific toxic chemical listings):

67-63-0 Isopropyl Alcohol

CPSC: This product complies with 16 CFR 1303 and does not contain more than 90 ppm of lead.**California Proposition 65 chemicals known to cause cancer:**

| | |
|------------|------------------------|
| 13463-67-7 | titanium dioxide |
| 1333-86-4 | Carbon black |
| 100-41-4 | ethyl benzene |
| 108-10-1 | methyl isobutyl ketone |

California Proposition 65 chemicals known to cause developmental toxicity:**CANADIAN ENVIRONMENTAL PROTECTION ACT:****WHMIS Symbols for Canada:**

67-56-1 Methanol

All hazardous ingredients for this product appear on the Canadian Domestic Substance List.

A - Compressed gas
D2B - Toxic material causing other toxic effects

**EPA:**

67-64-1 Acetone

(Contd. on page 5)

Safety Data Sheet

Printing date 12/20/2016

Revised On 12/20/2016

Trade name: 1509175 RED OXIDE SANDABLE PRIMER

(Contd. of page 4)

110-19-0 | Isobutyl Acetate

D

16 Other information

Contact: Regulatory Affairs
Date of preparation / last revision 12/20/2016 / -

Safety Data Sheet
Red Spec

PRODUCT NAME: RED SPEC

PRODUCT USE: Lubricant grease

COMPANY NAME: Continental Research Corporation

COMPANY ADDRESS: PO Box 15204 St. Louis MO 63110

COMPANY PHONE: 800-325-4869

EMERGENCY PHONE: 888-255-3924 (CHEM-TEL)

SECTION II – HAZARDS IDENTIFICATION

CLASSIFICATION: Does not present a hazard according to OSHA (29CFR 1910.1200)

HAZARD STATEMENT(S): N/A

This product contains the following percentage of chemicals of unknown toxicity: 100%

PRECAUTIONARY STATEMENTS: N/A

SYMBOL: N/A

HAZARDS NOT OTHERWISE CLASSIFIED: N/A

SECTION III – COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENT

Does not contain any hazardous ingredients at or above reportable levels
as defined by OSHA (29CFR 1910.1200)

CAS NUMBER

N/A

PERCENT

N/A

EYES: Immediately flush with water for 15 - 20 minutes while holding eyelids open. Seek medical attention if irritation persists.

INGESTION: Rinse mouth with water. Do not induce vomiting unless directed by medical authority. Seek medical attention if irritation persists.

INHALATION: Move to fresh air. If breathing is difficult or unconscious, administer oxygen. If not breathing administer artificial respiration. Seek medical attention if irritation persists.

SKIN: Immediately wash with soap and water for 15 minutes. Seek medical attention if irritation develops.

ACUTE HEALTH HAZARDS: None Known

CHRONIC HEALTH HAZARDS: None known

NOTE TO PHYSICIAN: There is no specific treatment regimen. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

EXTINGUISHING MEDIA: Dry chemical or suitable for surrounding materials.

UNSUITABLE EXTINGUISHING MEDIA: Water spray/stream.

SPECIAL FIRE FIGHTING PROCEDURES: Wear full protective clothing and NIOSH approved SCBA with full facepiece operated in positive pressure or pressure demand. Use water mist to keep material cool in fire situations.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Keep away from oxygen generating materials.

HAZARDOUS COMBUSTION PRODUCTS: N/A

PERSONAL PROTECTIVE EQUIPMENT: Refer to section VIII for proper Personal Protective Equipment.

SPILL: Clean up using cloth or absorbent material. dispose of product-containing wiping cloth or absorbent paper in suitable manner. place waste in proper containers for waste disposal.

WASTE DISPOSAL: Dispose of in accordance with federal, state, and local regulations. Do not reuse container and recycle or place in trash collection. Drums and pails should be offered for recycling.

RCRA STATUS: Not listed as hazardous waste under RCRA, however product should be fully characterized prior to disposal (40 CFR 261).

Safety Data Sheet
Red Spec

-

HANDLING AND STORAGE: Store in a cool, dry area. Do not use or store near heat or open flames. Keep container tightly closed when not in use.

OTHER PRECAUTIONS: Keep out of reach of children. May cause irritation to eyes. Prolonged contact with skin may cause irritation. If ingested, may cause nausea, vomiting, and diarrhea. For eye contact, flush with water, see physician if oily film persists. For skin, wash with soap and water. For ingestion of more than 8 ounces contact physician.

INCOMPATIBILITY: Strong acids & bases; material that react with unsaturated hydrocarbons.

-

| HAZARDOUS INGREDIENT | OSHA PEL | ACGIH TLV |
|---|----------|-----------|
| Does not contain any hazardous ingredients at or above reportable levels as defined by OSHA (29CFR 1910.1200) | N/A | N/A |

ENGINEERING CONTROLS / VENTILATION: Ambient ventilation adequate.

RESPIRATORY PROTECTION: Not required with normal use.

PERSONAL PROTECTIVE EQUIPMENT: Safety glasses and chemical resistant gloves

ADDITIONAL MEASURES: Wash hands thoroughly with soap and water after use.

APPEARANCE: Red grease

ODOR: Bland odor

ODOR THRESHOLD: N/D

BOILING POINT: Decomposes

FREEZING POINT: N/D

FLAMMABILITY: Not considered a flammable liquid by OSHA (29CFR 1910.1200)

FLASH POINT: 455°F (235°C)

AUTOIGNITION TEMPERATURE: N/D

LOWER FLAMMABILITY LIMIT: N/D

UPPER FLAMMABILITY LIMIT: N/D

VAPOR PRESSURE (mm Hg): <1.0mmHg @ 77°F (25°C)

VAPOR DENSITY (AIR 1): < 1

EVAPORATION RATE: Not established

SPECIFIC GRAVITY (H₂O 1): .87

pH: N/A

SOLIDS (%): N/A

SOLUBILITY IN WATER: 0%

PARTITION COEFFICIENT: n-OCTANOL/WATER (K_{ow}):

VOLATILITY INCLUDING WATER (%): 0%

VOLATILE ORGANIC COMPOUNDS (VOC): 0%

DIELECTRIC STRENGTH (Volts): N/D

DECOMPOSITION TEMPERATURE: N/D

VISCOSITY: N/D

REACTIVITY: None Known

CHEMICAL STABILITY: Stable

CONDITIONS TO AVOID: Sources of ignition.

INCOMPATIBILITY: Strong acids & bases; material that react with unsaturated hydrocarbons.

HAZARDOUS DECOMPOSITION OR BY-PRODUCT: None Known

POSSIBLE HAZARDOUS REACTIONS: None Known

Safety Data Sheet
Red Spec

TOXICOLOGICAL INFORMATION: Not Established

ROUTES OF ENTRY: Eyes, Ingestion, Skin

EYES: May cause irritation.

INGESTION: Causes gastrointestinal irritation, nausea, diarrhea, vomiting.

INHALATION: No hazards under normal use due to its low volatility. If vapor is present in high concentrations, irritation to upper respiratory tract may occur.

SKIN: Causes irritation with prolonged contact.

MEDICAL CONDITION AGGRAVATED: None known

ACUTE HEALTH HAZARDS: None Known

CHRONIC HEALTH HAZARDS: None known

CARCINOGENICITY: OSHA: No ACGIH: No NTP: No IARC: No OTHER: N/A

ECOLOGICAL INFORMATION: Not Established

BIODEGRADABILITY: N/D

BIOACCUMULATION: This product is not expected to bioaccumulate.

SOIL MOBILITY: This product is mobile in soil.

OTHER ECOLOGICAL HAZARDS: None Known

WASTE DISPOSAL: Dispose of in accordance with federal, state, and local regulations. Do not reuse container and recycle or place in trash collection. Drums and pails should be offered for recycling.

RCRA STATUS: Not listed as hazardous waste under RCRA, however product should be fully characterized prior to disposal (40 CFR 261).

PROPER SHIPPING NAME: Lubricating Oil Petroleum Base

HAZARD CLASS/DIVISION: Not Regulated

UN/NA NUMBER: N/A

PACKAGING GROUP: None

AIR SHIPMENT

PROPER SHIPPING NAME: Lubricating Oil Petroleum Base

HAZARD CLASS/DIVISION: Not Regulated

UN/NA NUMBER: N/A

SHIPPING BY WATER:

VESSEL (IMO/IMDG)

PROPER SHIPPING NAME: Lubricating Oil Petroleum Base

HAZARD CLASS/DIVISION: Not Regulated

UN/NA NUMBER: N/A

ENVIRONMENTAL HAZARDS WATER: N/A

TSCA STATUS: All Chemicals are listed or exempt.

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT): None

SARA 311/312 HAZARD CATEGORIES: None

SARA 313 REPORTABLE INGREDIENTS: None

STATE REGULATIONS: California Proposition 65: None

INTERNATIONAL REGULATIONS: All components are listed or exempted.

NFPA HEALTH: 1

HMIS HEALTH: 1

Safety Data Sheet

Red Spec

NFPA FLAMMABILITY: 1
NFPA REACTIVITY: 0
NFPA OTHER: None

HMIS FLAMMABILITY: 1
HMIS REACTIVITY: 0
HMIS PROTECTION: A

PREPARATION BY: EHS Administrator

DATE PREPARED: 10/24/2013

REVISION DATE: 11/03/2014

N/A = Not Applicable; N/D = Not Determined

DISCLAIMER: To the best of our knowledge, information contained herein is accurate. However there is no assumption of liability for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazard which exists. The information contained in this SDS was obtained from current and reliable sources; however, the data is provided without any warranty, expressed or implied, regarding its correctness or accuracy. Since the conditions or handling, storage and disposal of this product are beyond the control of the manufacturer, the manufacturer will not be responsible for loss, injury, or expense arising out of the products improper use. No warranty, expressed or inferred, regarding the product described in this SDS shall be created or inferred by any statement in this SDS. Various government agencies may have specific regulations regarding the transportation, handling, storage, use, or disposal of this product which may not be covered by this SDS. The user is responsible for full compliance.



Safety Data Sheet

Issue Date: 01-Nov-2013

Revision Date: 06-Apr-2015

Version 2

1. IDENTIFICATION

Product Identifier

Product Name Regular Deodorizing Urinal Screen

Other means of identification

SDS # IP-042

Product Code Regular Deodorizing Urinal Screen Red/Cherry: 1451

Recommended use of the chemical and restrictions on use

Recommended Use Odor control.

Details of the supplier of the safety data sheet

Manufacturer Address

Impact Products, LLC
2840 Centennial Road
Toledo, Ohio 43617-1898

Emergency Telephone Number

Company Phone Number Phone: 800.333.1541
Fax: 800.333.1531
Email: custserv@impact-products.com
Emergency Telephone (24 hr) INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance According to product specification

Physical State Solid

Odor Pleasant

Classification

This product is a plastic device infused with fragrance which meets the definition of an ARTICLE as defined in 29 CFR 1910.1200. However, this Safety Data Sheet (SDS) contains valuable information useful to the safe handling and proper use of this product. This SDS should be retained and available for employees and other users of this product.

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is an article as defined by 29 CFR 1910.1200 and not subject to the Hazard Communication requirements.

4. FIRST-AID MEASURES

First Aid Measures

General Advice Provide this SDS to medical personnel for treatment.

Eye Contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin Contact

IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

Inhalation

If symptomatic, move to fresh air.

Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

Most important symptoms and effects**Symptoms**

Causes eye irritation. Causes skin irritation. May cause discomfort if swallowed.

Indication of any immediate medical attention and special treatment needed**Notes to Physician**

Treat symptomatically.

5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Not determined.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures****Personal Precautions**

Use personal protection recommended in Section 8.

Environmental Precautions

See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up**Methods for Containment**

Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up

Keep in suitable, closed containers for disposal. For waste disposal, see section 13 of the SDS.

7. HANDLING AND STORAGE**Precautions for safe handling****Advice on Safe Handling**

Handle in accordance with good industrial hygiene and safety practice. Wash face, hands, and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace.

Conditions for safe storage, including any incompatibilities**Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Materials

None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---------------|--|----------|------------|
| Polymer Blend | TWA: 1 mg/m ³ respirable fraction | - | - |

Other Information

Personal Protective Equipment recommendations are for repeated and prolonged contact in an occupational setting. They do not apply to normal product use.

Appropriate engineering controls

Engineering Controls

Apply technical measures to comply with the occupational exposure limits.

Individual protection measures, such as personal protective equipment

Eye/Face Protection

Avoid contact with eyes.

Skin and Body Protection

Wear suitable gloves.

Respiratory Protection

Ensure adequate ventilation, especially in confined areas.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice. Contaminated work clothing should not be allowed out of the workplace.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | | | |
|----------------|------------------------------------|----------------|--------------------|
| Physical State | Solid | Odor | Pleasant Fragrance |
| Appearance | According to product specification | Odor Threshold | Not determined |
| Color | Gray | | |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|------------------------------|---|-------------------------|
| pH | Not Applicable due to form of the product | |
| Melting Point/Freezing Point | Not Applicable due to form of the product | |
| Boiling Point/Boiling Range | Not Applicable due to form of the product | |
| Flash Point | Not Applicable due to form of the product | |
| Evaporation Rate | Not Applicable due to form of the product | |
| Flammability (Solid, Gas) | Not Applicable due to form of the product | |
| Upper Flammability Limits | Not Applicable due to form of the product | |
| Lower Flammability Limit | Not Applicable due to form of the product | |
| Vapor Pressure | Not Applicable due to form of the product | |
| Vapor Density | Not Applicable due to form of the product | |
| Specific Gravity | Not Applicable due to form of the product | |
| Water Solubility | Not determined | |
| Solubility in other solvents | Not Applicable due to form of the product | |

| | |
|----------------------------------|---|
| Partition Coefficient | Not Applicable due to form of the product |
| Auto-ignition Temperature | Not Applicable due to form of the product |
| Decomposition Temperature | Not Applicable due to form of the product |
| Kinematic Viscosity | Not Applicable due to form of the product |
| Dynamic Viscosity | Not Applicable due to form of the product |
| Explosive Properties | Not Applicable due to form of the product |
| Oxidizing Properties | Not Applicable due to form of the product |

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to Avoid

Keep out of reach of children.

Incompatible Materials

None known based on information supplied.

Hazardous Decomposition Products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

| | |
|---------------------|--|
| Eye Contact | Causes eye irritation. |
| Skin Contact | Causes skin irritation. May cause an allergic skin reaction. |
| Inhalation | Under normal conditions of intended use, this material is not expected to be an inhalation hazard. |
| Ingestion | Harmful if swallowed. |

Component Information

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---------------|--------------------|-------------|-----------------|
| Trade Secret | > 90 mL/kg (Rat) | - | - |

Information on physical, chemical and toxicological effects

| | |
|-----------------|--|
| Symptoms | Please see section 4 of this SDS for symptoms. |
|-----------------|--|

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Carcinogenicity**

Group 3 IARC components are "not classifiable as human carcinogens".

| Chemical Name | ACGIH | IARC | NTP | OSHA |
|---------------|-------|---------|-----|------|
| Polymer Blend | | Group 3 | | |

Numerical measures of toxicity

Not determined

12. ECOLOGICAL INFORMATION**Ecotoxicity**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

Not determined

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS**Waste Treatment Methods****Disposal of Wastes**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION**Note**

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT

Not regulated

IATA

Not regulated

IMDG

Not regulated

15. REGULATORY INFORMATION

International Inventories

Not determined

US Federal Regulations

SARA 313

Not determined

US State Regulations

U.S. State Right-to-Know Regulations

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|---------------|------------|---------------|--------------|
| Polymer Blend | X | | |

16. OTHER INFORMATION

NEPA

Health Hazards

Not determined

Flammability

Not determined

Instability

Not determined

Special Hazards

Not determined

HMIS

Health Hazards

Not determined

Flammability

Not determined

Physical Hazards

Not determined

Personal Protection

Not determined

Issue Date:

01-Nov-2013

Revision Date:

04-Nov-2013

Revision Note:

New format

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



Regular Dry Chemical (Fire Extinguishing Agent –
Pressurized and Non-pressurized)
BC, SDC, Sodium Bicarbonate

Fire Extinguishing Agent
Consult applicable fire protection codes
Kidde Residential & Commercial
1016 Corporate Park Drive
Mebane, NC 27302
USA
(919) 563-5911
(919) 304-8200

(800) 424-9300
(703) 527-3887 (International)
February 10, 2017
October 1, 2015

Safety Data Sheet prepared in accordance with OSHA's Hazard Communication Standard (29 CFR 1910.1200) and the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

Gas under pressure – Compressed gas

Hazard Symbols



Signal Word: Warning

Contents under pressure; may explode if heated.

None

None



Protect from sunlight.
Store in well-ventilated place.

None

This product is classified as not hazardous in accordance with the Globally Harmonized System of Classification and Labelling (GHS).

Hazard Symbols
None

Signal Word: None

None

None

None

None

None

Calcium carbonate and mica may contain small quantities of quartz (crystalline silica) as an impurity. Prolonged exposure to respirable crystalline silica dust at concentrations exceeding the occupational exposure limits may increase the risk of developing a disabling lung disease known as silicosis. IARC found limited evidence for pulmonary carcinogenicity of crystalline silica in humans.

The values listed below represent the percentages of ingredients of unknown toxicity.

| | |
|---------------------------|-------|
| Acute oral toxicity | < 10% |
| Acute dermal toxicity | < 10% |
| Acute inhalation toxicity | < 10% |
| Acute aquatic toxicity | < 10% |

BC, SDC, Sodium Bicarbonate
This product is a mixture.



| | | |
|--------------------|------------|----------|
| Sodium Bicarbonate | 144-55-8 | 88 - 92% |
| Calcium Carbonate | 471-34-1 | 4 - 8% |
| Mica | 12001-26-2 | 1 - 5% |
| Clay | 1332-58-7 | < 2% |
| Amorphous Silica | 7631-86-9 | < 2% |

Immediately flood the eye with plenty of water for at least 15 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.

Wash skin thoroughly with soap and water. Obtain medical attention if irritation persists.

Dilute by drinking large quantities of water and obtain medical attention.

Move victim to fresh air. Obtain medical attention immediately for any breathing difficulty.

Aside from the information found under Description of necessary first aid measures (above) and Indication of immediate medical attention and special treatment needed, no additional symptoms and effects are anticipated.

Treat symptomatically.

This preparation is used as an extinguishing agent and therefore is not a problem when trying to control a blaze. Use extinguishing agent appropriate to other materials involved. Keep pressurized extinguishers and surroundings cool with water spray as they may rupture or burst in the heat of a fire

Pressurized containers may explode in heat of fire.

Wear full protective clothing and self-contained breathing apparatus as appropriate for specific fire conditions.

Wear appropriate protective clothing. Prevent skin and eye contact. Remove leaking cylinder to a safe place. Ventilate the area.



Prevent large quantities of the material from entering drains or watercourses.

Sweep up or vacuum and transfer into suitable containers for recovery or disposal.

Wear appropriate protective clothing. Prevent skin and eye contact.

Pressurized extinguishers should be properly stored and secured to prevent falling or being knocked over. Do not drag, slide or roll extinguishers. Do not drop extinguishers or permit them to strike against each other. Never apply flame or localized heat directly to any part of the extinguisher or plastic container. Store pressurized extinguishers and plastic containers away from high heat sources. Storage area should be: - cool - dry - well ventilated - under cover - out of direct sunlight

Exposure limits are listed below, if they exist.

ACGIH TLV: 3 mg/m³ TWA, measured as respirable fraction of the aerosol.
OSHA PEL 20 mppcf, <1% crystalline silica

OSHA PEL: 15 mg/m³ TWA, total dust
5 mg/m³ TWA, respirable fraction

ACGIH TLV: 2 mg/m³ TWA
OSHA PEL: 15 mg/m³ TWA, total dust
5 mg/m³ TWA, respirable fraction

OSHA PEL: 50 mppcf or 15 mg/m³ TWA, total dust
15 mppcf or 5 mg/m³ TWA, respirable fraction

Use with adequate ventilation. If this product is used in a pressurized system, there should be local procedures for the selection, training, inspection and maintenance of this equipment. When used in large volumes, use local exhaust ventilation.

Not normally required. Use dust mask where dustiness is prevalent, or TLV is exceeded. In oxygen deficient atmospheres, use a self-contained breathing apparatus, as an air purifying respirator will not provide protection.

Not normally needed when used as a portable fire extinguisher. Use gloves if irritation occurs.



Chemical goggles or safety glasses with side shields.

Normal work wear.

Solid (powder)
White
Odorless
No data available
Not applicable
Ca. 2.2
Not applicable
No data available
Not flammable
No data available
No data available
16.4g/100g
Not applicable
None
None
No data available

No data available
No data available
No data available
No data available
No data available
No data available

Compressed gas
Colorless
None
No data available
Not applicable
0.075 lb/ft³ @70°F as vapor (Nitrogen)
0.1144 lb/ft³ (Carbon dioxide gas density)
-196°C/-321 °F(Nitrogen)
-78.5 °C /-109.3°F(Carbon Dioxide)
No data available
Not flammable
838 psig @70°F and 1 atmosphere(Carbon Dioxide)
No data available
No data available
Not applicable
None



None
No data available

Not applicable
No data available
No data available
Not explosive
Not explosive
Not flammable

Pressurized containers may rupture or explode if exposed to heat.

Stable under normal conditions.

Hazardous polymerization will not occur.

Exposure to direct sunlight - contact with incompatible materials

Strong oxidizing agents - strong acids

Oxides of carbon

Sodium Bicarbonate:

Oral LD50 (Rat) >4000 mg/kg

Inhalation LC50(rat) >4.74 mg/l

Calcium Carbonate:

Oral LD50 (Rat) >2000 mg/kg

Dermal LD50 (Rabbit) >2000mg/kg

Inhalation LC50(rat) >3.0mg/l

Mica:

Oral LD50 (Rat) >2000 mg/kg

Amorphous Silica:

Oral LD50 (Rat) >5000 mg/kg

Dermal LD50 (Rabbit) >2000mg/kg

Clay:

Oral LD50 (Rat) >5000 mg/kg

Dermal LD50 (Rabbit) >5000mg/kg

Nitrogen

Simple asphyxiant

Carbon Dioxide

Simple asphyxiant

LCLo (inhalation in humans): 90,000ppm/ 5 minutes.

—

Sodium Bicarbonate: Available data indicates this component is not expected to cause target organ effects after a single exposure.

Calcium Carbonate: Available data indicates this component is not expected to cause target organ effects after a single exposure.

Nitrogen: Exposure to nitrogen gas at high concentrations can cause suffocation by reducing oxygen available for breathing. Breathing very high concentrations can cause dizziness, shortness of breath, unconsciousness or asphyxiation.

—

Sodium Bicarbonate: Available data indicates this component is not expected to cause target organ effects after repeat exposure.

Calcium Carbonate: Available data indicates this component is not expected to cause target organ effects after repeat exposure.

Sodium Bicarbonate: Slightly irritating (rabbit)

Calcium Carbonate: Not irritating (rabbit)

Mica: Not irritating (rabbit)

Sodium Bicarbonate: Slightly irritating (rabbit)

Calcium Carbonate: Not irritating (rabbit)

Mica: Not irritating (rabbit)

Calcium Carbonate: Non-sensitizing to skin in Mouse local lymph node assay.

Calcium carbonate and mica may contain small quantities of quartz (crystalline silica) as an impurity. Prolonged exposure to respirable crystalline silica dust at concentrations exceeding the occupational exposure limits may increase the risk of developing a disabling lung disease known as silicosis. IARC has classified Silica Dust, Crystalline, in the form of quartz or cristobalite as 1 (carcinogenic to humans).

Sodium Bicarbonate: Negative test results in animal studies.

Calcium Carbonate: Negative results in the Mammalian Cell Gene Mutation Assay with and without metabolic activation, Ames test, and In vitro Mammalian Chromosome Aberration Test.

Sodium Bicarbonate: Available data indicates this component is not expected to cause reproductive toxicity or birth defects.

Calcium Carbonate: Available data indicates this component is not expected to cause reproductive toxicity or birth defects.



Not an aspiration hazard.

Sodium Bicarbonate:

LC50 *Lepomis macrochirus* 7100 mg/l 96h

EC50 *Daphnia magna* 4100 mg/l 48h

Nitrogen occurs naturally in the atmosphere

Nitrogen occurs naturally in the atmosphere.

Nitrogen occurs naturally in the atmosphere.

No relevant studies identified.

Dispose of container in accordance with all applicable local and national regulations. Do not cut, puncture or weld on or near to the container. If spilled, nitrogen will vaporize to the atmosphere.

Safety Data Sheet information is intended to address a specific material and not various forms or states of containment.

Special Precautions for Shipping:

Individuals must be certified as Hazardous Material Shipper for all transportation modes.

Pressurized Fire Extinguishers are considered a hazardous material by the US Department of Transportation and Transport Canada.

Fire extinguishers, 2.2, UN1044

Fire extinguishers

(2.2)

UN1044

Not applicable

Consult current IATA Regulations prior to shipping by air.

Consult current IMDG Regulations prior to shipping by water.



When shipping via ground, portable fire extinguishers pressurized to less than 241 psi and of less than 1100 cubic inches in size meet the requirements of "Limited Quantity" as referenced in 49 CFR 173.309 (2010). There is no limited quantity designation for fire extinguishers when shipped by air or water.

This section is believed to be accurate at the time of preparation. It is not intended to be a complete statement or summary of the applicable laws, rules, or hazardous material regulations, and is subject to change. Users have the responsibility to confirm compliance with all laws, rules, and hazardous material regulations in effect at the time of shipping.

This product contains ingredients that are listed on or exempt from listing on the EPA Toxic Substance Control Act Chemical Substance Inventory.

All ingredients in this product are listed on the Domestic Substance List (DSL) or the Non-Domestic Substance List (NDSL) or are exempt from listing.

Gas under pressure

None

This product does not contain any chemicals that are listed in Section 313 at or above de minimis concentrations.

NFPA Code for Health - 1
NFPA Code for Flammability - 0
NFPA Code for Reactivity - 0
NFPA Code for Special Hazards - None

HMIS Code for Health - 1
HMIS Code for Flammability - 0
HMIS Code for Physical Hazard - 0
HMIS Code for Personal Protection - See Section 8
*Chronic



ACGIH: American Conference of Governmental Industrial Hygienists
CAS#: Chemical Abstracts Service Number
EC50: Effect Concentration 50%
IARC: International Agency for Research on Cancer
LC50: Lethal Concentration 50%
LD50: Lethal Dose 50%
N/A: Denotes no applicable information found or available
OSHA: Occupational Safety and Health Administration
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit
TLV: Threshold Limit Value
TSCA: Toxic Substance Control Act

Revision Date: February 10, 2017
Replaces: October 1, 2015
Changes made: Update to Section 3 and 15.

This SDS is prepared by Hazard Communication Specialists based on information provided by internal company references.

EnviroNet LLC.

The information and recommendations presented in this SDS are based on sources believed to be accurate. Kidde Residential & Commercial assumes no liability for the accuracy or completeness of this information. It is the user's responsibility to determine the suitability of the material for their particular purposes. In particular, we make NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, with respect to such information, and we assume no liability resulting from its use. Users should ensure that any use or disposal of the material is in accordance with applicable Federal, State, and local laws and regulations.

SAFETY DATA SHEET

DA6172

Section 1. Identification

Product name : Repell Moisture Displacer
Product code : DA6172
Other means of identification : Not available.
Product type : Aerosol.
Relevant identified uses of the substance or mixture and uses advised against
Not applicable.

Manufacturer : Drummond, A Lawson Brand
Lawson Products, Inc.
8770 W. Bryn Mawr, Suite 900
Chicago, IL 60631-3515
773-304-5050

Emergency telephone number of the company : (888) 426-4851

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : GASES UNDER PRESSURE - Compressed gas
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 1B
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation and Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 3.3%

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
Causes skin irritation.
May cause cancer.
May cause respiratory irritation.
May cause drowsiness and dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Wash hands thoroughly after handling.

Date of issue/Date of revision

: 9/19/2014.

Date of previous issue

: 9/19/2014.

Version : 2.05

1/12

Section 2. Hazards identification

- Response** : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
- Storage** : Store locked up. Protect from sunlight. Store in a well-ventilated place.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Supplemental label elements** : DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer. FOR INDUSTRIAL USE ONLY.
- Please refer to the SDS for additional information. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.
- Hazards not otherwise classified** : None known.

Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture
- Other means of identification** : Not available.

CAS number/other identifiers

| Ingredient name | % by weight | CAS number |
|--------------------------------|-------------|------------|
| Tetrachloroethylene | 80.1 | 127-18-4 |
| Heavy Naphthenic Petroleum Oil | 15.4 | 64742-52-5 |
| Paraffin Wax | 1.6 | 8002-74-2 |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Section 4. First aid measures

- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : Causes skin irritation.
- Ingestion** : Can cause central nervous system (CNS) depression. Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst. Bursting aerosol containers may be propelled from a fire at high speed. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds
carbonyl halides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid breathing gas. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Empty containers retain product residue and can be hazardous.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|--------------------------------|--|
| Tetrachloroethylene | ACGIH TLV (United States, 6/2013). TWA: 25 ppm 8 hours. TWA: 170 mg/m ³ 8 hours. STEL: 100 ppm 15 minutes. STEL: 685 mg/m ³ 15 minutes. OSHA PEL Z2 (United States, 2/2013). TWA: 100 ppm 8 hours. CEIL: 200 ppm AMP: 300 ppm 5 minutes. |
| Heavy Naphthenic Petroleum Oil | ACGIH TLV (United States, 6/2013). TWA: 5 mg/m ³ 8 hours. Form: Inhalable fraction NIOSH REL (United States, 10/2013). TWA: 5 mg/m ³ 10 hours. Form: Mist STEL: 10 mg/m ³ 15 minutes. Form: Mist OSHA PEL (United States, 2/2013). TWA: 5 mg/m ³ 8 hours. |
| Paraffin Wax | ACGIH TLV (United States, 6/2013). TWA: 2 mg/m ³ 8 hours. Form: Fume NIOSH REL (United States, 10/2013). TWA: 2 mg/m ³ 10 hours. Form: Fume |

- Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Section 8. Exposure controls/personal protection

| | |
|-------------------------------|--|
| Hygiene measures | : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location. |
| Eye/face protection | : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. |
| Skin protection | |
| Hand protection | : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. |
| Body protection | : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. |
| Other skin protection | : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. |
| Respiratory protection | : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. |

Section 9. Physical and chemical properties

Appearance

| | |
|---|---|
| Physical state | : Liquid. |
| Color | : Not available. |
| Odor | : Not available. |
| Odor threshold | : Not available. |
| pH | : Not available. |
| Melting point | : Not available. |
| Boiling point | : Not available. |
| Flash point | : Closed cup: 121°C (249.8°F) [Pensky-Martens Closed Cup] |
| Evaporation rate | : 2.59 (butyl acetate = 1) |
| Flammability (solid, gas) | : Not available. |
| Lower and upper explosive (flammable) limits | : Not available. |
| Vapor pressure | : 13.5 kPa (101.325 mm Hg) [at 20°C] |
| Vapor density | : 5.83 [Air = 1] |
| Relative density | : 1.38 |
| Solubility | : Not available. |
| Partition coefficient: n-octanol/water | : Not available. |
| Auto-ignition temperature | : Not available. |
| Decomposition temperature | : Not available. |
| Viscosity | : Kinematic (40°C (104°F)): <0.07 cm ² /s (<7 cSt) |

Aerosol product

Section 9. Physical and chemical properties

Type of aerosol : Spray
Heat of combustion : 9.409 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|--------------------------------|-----------|---------|-------------|----------|
| Tetrachloroethylene | LD50 Oral | Rat | 2629 mg/kg | - |
| Heavy Naphthenic Petroleum Oil | LD50 Oral | Rat | >5000 mg/kg | - |

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|--------------------------------|--------------------------|---------|-------|-------------------------|-------------|
| Tetrachloroethylene | Eyes - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Eyes - Mild irritant | Rabbit | - | 162 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Skin - Severe irritant | Rabbit | - | 24 hours 810 milligrams | - |
| Heavy Naphthenic Petroleum Oil | Skin - Severe irritant | Rabbit | - | 500 milligrams | - |
| Paraffin Wax | Eyes - Mild irritant | Rabbit | - | 50 Percent | - |
| | Eyes - Mild irritant | Rabbit | - | 24 hours 100 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 500 milligrams | - |

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Section 11. Toxicological information

Classification

| Product/ingredient name | OSHA | IARC | NTP |
|-------------------------|------|------|--|
| Tetrachloroethylene | - | 2A | Reasonably anticipated to be a human carcinogen. |

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

| Name | Category | Route of exposure | Target organs |
|--------------------------------|------------|-------------------|---|
| Tetrachloroethylene | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| Heavy Naphthenic Petroleum Oil | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| Paraffin Wax | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |

Specific target organ toxicity (repeated exposure)

| Name | Category | Route of exposure | Target organs |
|--------------------------------|------------|-------------------|----------------|
| Tetrachloroethylene | Category 2 | Not determined | Not determined |
| Heavy Naphthenic Petroleum Oil | Category 2 | Not determined | Not determined |
| Paraffin Wax | Category 2 | Not determined | Not determined |

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

- General** : May cause damage to organs through prolonged or repeated exposure.
- Carcinogenicity** : May cause cancer. Risk of cancer depends on duration and level of exposure.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

| Route | ATE value |
|-------|--------------|
| Oral | 3281.6 mg/kg |

Section 12. Ecological information

Toxicity

| Product/ingredient name | Result | Species | Exposure |
|-------------------------|------------------------------------|--|----------|
| Tetrachloroethylene | Acute EC50 200 µg/l Marine water | Algae - Skeletonema costatum | 72 hours |
| | Acute EC50 500000 µg/l Fresh water | Algae - Pseudokirchneriella subcapitata | 96 hours |
| | Acute EC50 7500 µg/l Fresh water | Daphnia - Daphnia magna - Instar | 48 hours |
| | Acute LC50 3.5 mg/l Marine water | Crustaceans - Elminius modestus | 48 hours |
| | Acute LC50 4000 µg/l Fresh water | Fish - Jordanella floridae - Juvenile (Fledgling, Hatchling, Weanling) | 96 hours |
| | Chronic EC10 1.77 mg/l Fresh water | Algae - Chlamydomonas reinhardtii - Exponential growth phase | 72 hours |
| | Chronic NOEC 0.4 mg/l Fresh water | Daphnia - Daphnia magna | 21 days |
| | | | |

Section 12. Ecological information

| | | | |
|--|-----------------------------------|-------------------------------------|---------|
| | Chronic NOEC 500 µg/l Fresh water | Fish - Pimephales promelas - Larvae | 32 days |
|--|-----------------------------------|-------------------------------------|---------|

Persistence and degradability

Not available.

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|-------------------------|--------------------|-----|-----------|
| Tetrachloroethylene | - | 49 | low |

Mobility in soil








Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

| | DOT Classification | TDG Classification | Mexico Classification | IATA | IMDG |
|----------------------------|--|--|--|---|---|
| UN number | UN1950 | UN1950 | UN1950 | UN1950 | UN1950 |
| UN proper shipping name | AEROSOLS | AEROSOLS | AEROSOLS | AEROSOLS, non-flammable, containing substances in Division 6.1 packing group III | AEROSOLS. Marine pollutant (Tetrachloroethylene) |
| Transport hazard class(es) | 2.2  | 2.2  | 2.2  | 2.2 (6.1)   | 2.2   |
| Packing group | - | - | - | - | - |
| Environmental hazards | No. | No. | No. | No. | Yes. |

Section 14. Transport information

| | | | | | |
|-------------------------------|---|---|--|---|---|
| Additional information | Special provisions LIMITED QUANTITY | Special provisions LIMITED QUANTITY | Special provisions (ERG#126) | The environmentally hazardous substance mark may appear if required by other transportation regulations. Special provisions LIMITED QUANTITY | The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. Emergency schedules (EmS) LIMITED QUANTITY, F-D, S-U |
|-------------------------------|---|---|--|---|---|

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations :

SARA 313

SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

State regulations

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

| | | |
|------------------|---|---|
| Health | * | 2 |
| Flammability | | 2 |
| Physical hazards | | 0 |
| | | |

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA).

The customer is responsible for determining the PPE code for this material.

Section 16. Other information

[Notice to reader](#)

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

MONSANTO COMPANY

Safety Data Sheet Commercial Product

1. PRODUCT AND COMPANY IDENTIFICATION

1.1. Product identifier

Roundup PRO® Herbicide

1.1.1. Chemical name

Not applicable.

1.1.2. Synonyms

None.

1.1.3. EPA Reg. No.

524-475

1.2. Product use

Herbicide

1.3. Company

MONSANTO COMPANY, 800 N. Lindbergh Blvd., St. Louis, MO, 63167

Telephone: 800-332-3111, Fax: 314-694-5557

E-mail: safety.datasheet@monsanto.com

1.4. Emergency numbers

FOR CHEMICAL EMERGENCY, SPILL LEAK, FIRE, EXPOSURE, OR ACCIDENT Call
CHEMTREC - Day or Night: 1-800-424-9300 toll free in the continental U.S., Puerto Rico, Canada, or
Virgin Islands. For calls originating elsewhere: 703-527-3887 (collect calls accepted).
FOR MEDICAL EMERGENCY - Day or Night: +1 (314) 694-4000 (collect calls accepted).

2. HAZARDS IDENTIFICATION

2.1. Classification

OSHA Hazard Communication Standard, 29 CFR 1910.1200 (2012)

Acute toxicity, inhalation - Category 4

2.2. Label elements

2.2.1. Signal word

WARNING!

2.2.2. Hazard pictogram/pictograms



2.2.3. Hazard statement/statements

Harmful if inhaled.

2.2.4. Precautionary statement/statements

Avoid breathing mist, vapours or spray.

Use only outdoors or in a well-ventilated area.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

2.3. Appearance and odour (colour/form/odour)

Clear-Amber /Liquid / Sweet

2.4. OSHA Status

This product is hazardous according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Refer to section 11 for toxicological and section 12 for environmental information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Active ingredient

Isopropylamine salt of N-(phosphonomethyl)glycine; {Isopropylamine salt of glyphosate}

Composition

| COMPONENT | CAS No. | % by weight (approximate) |
|-----------------------------------|------------|---------------------------|
| Isopropylamine salt of glyphosate | 38641-94-0 | 41 |
| Other ingredients | | 59 |

Trade secret composition.

4. FIRST AID MEASURES

Use personal protection recommended in section 8.

4.1. Description of first aid measures

- 4.1.1. **Eye contact:** If in eyes, hold eye open and rinse slowly and gently for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.
- 4.1.2. **Skin contact:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
- 4.1.3. **Inhalation:** If inhaled, move person to fresh air. If person is not breathing, call emergency number or ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.
- 4.1.4. **Ingestion:** Call poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison center or doctor. Do not give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed

- 4.2.1. **Eye contact, short term:** May cause temporary eye irritation.
- 4.2.2. **Skin contact, short term:** Not expected to produce significant adverse effects when recommended use instructions are followed.
- 4.2.3. **Inhalation, short term:** Not expected to produce significant adverse effects when recommended use instructions are followed.
- 4.2.4. **Single ingestion:** Not expected to produce significant adverse effects when recommended use instructions are followed.

4.3. Indication of any immediate medical attention and special treatment needed

- 4.3.1. **Advice to doctors:** This product is not an inhibitor of cholinesterase.
- 4.3.2. **Antidote:** Treatment with atropine and oximes is not indicated.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

5.1.1. Recommended: Water, foam, dry chemical, carbon dioxide (CO₂)

5.2. Special hazards

5.2.1. Unusual fire and explosion hazards

Minimise use of water to prevent environmental contamination.

Environmental precautions: see section 6.

5.2.2. Hazardous products of combustion

Carbon monoxide (CO), phosphorus oxides (P_xO_y), nitrogen oxides (NO_x)

5.3. Fire fighting equipment: Self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

5.4. Flash point

Does not flash.

6. ACCIDENTAL RELEASE MEASURES

6.1. Environmental precautions

SMALL QUANTITIES:

Low environmental hazard.

LARGE QUANTITIES:

Minimise spread.

Keep out of drains, sewers, ditches and water ways.

6.2. Methods for cleaning up

SMALL QUANTITIES:

Flush spill area with water.

LARGE QUANTITIES:

Absorb in earth, sand or absorbent material.

Dig up heavily contaminated soil.

Collect in containers for disposal.

Refer to section 7 for types of containers.

Flush residues with small quantities of water.

Minimise use of water to prevent environmental contamination.

Refer to section 13 for disposal of spilled material.

Use handling recommendations in Section 7 and personal protection recommendations in Section 8.

7. HANDLING AND STORAGE

Good industrial practice in housekeeping and personal hygiene should be followed.

7.1. Precautions for safe handling

Avoid contact with eyes. When using do not eat, drink or smoke. Wash hands thoroughly after handling or contact. Wash contaminated clothing before re-use. Thoroughly clean equipment after use. Do not contaminate drains, sewers and water ways when disposing of equipment rinse water. Refer to section 13 of the safety data sheet for disposal of rinse water.

7.2. Conditions for safe storage

Minimum storage temperature: -15 °C

Maximum storage temperature: 50 °C

Compatible materials for storage: stainless steel, fibreglass, plastic, glass lining

Incompatible materials for storage: galvanised steel, unlined mild steel, see section 10.

Keep out of reach of children.

Keep away from food, drink and animal feed.

Keep only in the original container.
Keep container tightly closed in a cool, well-ventilated place.
Partial crystallization may occur on prolonged storage below the minimum storage temperature.
If frozen, place in warm room and shake frequently to put back into solution.
Minimum shelf life: 5 years.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Airborne exposure limits

| Components | Exposure Guidelines |
|-----------------------------------|---|
| Isopropylamine salt of glyphosate | No specific occupational exposure limit has been established. |
| Other ingredients | No specific occupational exposure limit has been established. |

8.2. Engineering controls: Provide local exhaust ventilation.

8.3. Recommendations for personal protective equipment

8.3.1. Eye protection: If there is significant potential for contact: Wear chemical goggles.

8.3.2. Skin protection: No special requirement when used as recommended. If repeated or prolonged contact: Wear chemical resistant gloves. Applicators and other handlers must wear: Wear long sleeved shirt, long pants and shoes with socks.

8.3.3. Respiratory protection: No special requirement when used as recommended.

When recommended, consult manufacturer of personal protective equipment for the appropriate type of equipment for a given application.

9. PHYSICAL AND CHEMICAL PROPERTIES

These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

| | |
|---|--------------------------------|
| Colour/colour range: | Clear - Amber |
| Odour: | Sweet |
| Form: | Liquid |
| Physical form changes (melting, boiling, etc.): | |
| Melting point: | Not applicable. |
| Boiling point: | No data. |
| Flash point: | Does not flash. |
| Explosive properties: | No explosive properties |
| Auto ignition temperature: | 452 °C |
| Self-accelerating decomposition temperature (SADT): | No data. |
| Oxidizing properties: | No data. |
| Specific gravity: | 1.169 @ 20 °C / 15.6 °C |
| Vapour pressure: | 25 mmHg 24 °C |
| Vapour density: | Not applicable. |
| Evaporation rate: | No data. |
| Dynamic viscosity: | 73.2 mPa·s |
| Kinematic viscosity: | 62.47 cSt @ 20 °C |
| Density: | 1.17 g/cm ³ @ 20 °C |
| Solubility: | Water: Completely miscible. |

| | |
|------------------------|--------------------------------------|
| pH: | 4.4 - 5.0 @ 80 g/l |
| Partition coefficient: | log Pow: < -3.2 @ 25 °C (glyphosate) |

10. STABILITY AND REACTIVITY

10.1. Reactivity

Reacts with galvanised steel or unlined mild steel to produce hydrogen, a highly flammable gas that could explode.

10.2. Stability

Stable under normal conditions of handling and storage.

10.3. Possibility of hazardous reactions

Reacts with galvanised steel or unlined mild steel to produce hydrogen, a highly flammable gas that could explode.

10.4. Incompatible materials

galvanised steel; unlined mild steel; see section 10.;
Compatible materials for storage: see section 7.2.

10.5. Hazardous decomposition

Thermal decomposition: Hazardous products of combustion: see section 5.

11. TOXICOLOGICAL INFORMATION

This section is intended for use by toxicologists and other health professionals.

Likely routes of exposure: Skin contact, eye contact

Potential health effects

Eye contact, short term: May cause temporary eye irritation.

Skin contact, short term: Not expected to produce significant adverse effects when recommended use instructions are followed.

Inhalation, short term: Not expected to produce significant adverse effects when recommended use instructions are followed.

Single ingestion: Not expected to produce significant adverse effects when recommended use instructions are followed.

Data obtained on product and components are summarized below.

Acute oral toxicity

Rat, LD50: 5,108 mg/kg body weight

Practically non-toxic.

Acute dermal toxicity

Rat, LD50 (limit test): > 5,000 mg/kg body weight

Practically non-toxic. No mortality.

Acute inhalation toxicity

Rat, LC50, 4 hours, aerosol: 2.9 mg/L

Other effects: weight loss, breathing difficulty

Practically non-toxic.

Skin irritation

Rabbit, 6 animals, OECD 404 test:

Days to heal: 3

Primary Irritation Index (PII): 0.5/8.0

Essentially non irritating.

Eye irritation

Rabbit, 6 animals, OECD 405 test:

Days to heal: 3

Slight irritation.

Skin sensitization

Guinea pig, 3-induction Buehler test:

Positive incidence: 0 %

N-(phosphonomethyl)glycine; { glyphosate acid}

Genotoxicity

Not genotoxic.

Carcinogenicity

Not carcinogenic in rats or mice.

Reproductive/Developmental Toxicity

Developmental effects in rats and rabbits only in the presence of significant maternal toxicity.

Reproductive effects in rats only in the presence of significant maternal toxicity.

12. ECOLOGICAL INFORMATION

This section is intended for use by ecotoxicologists and other environmental specialists.

Aquatic toxicity, fish

Rainbow trout (*Oncorhynchus mykiss*):

Acute toxicity, 96 hours, static, LC50: 5.4 mg/L

Moderately toxic.

Bluegill sunfish (*Lepomis macrochirus*):

Acute toxicity, 96 hours, static, LC50: 7.3 mg/L

Moderately toxic.

Aquatic toxicity, invertebrates

Water flea (*Daphnia magna*):

Acute toxicity, 48 hours, static, EC50: 11 mg/L

Slightly toxic.

Avian toxicity

Mallard duck (*Anas platyrhynchos*):

Dietary toxicity, 5 days, LC50: > 5,620 mg/kg diet

Practically non-toxic.

Bobwhite quail (*Colinus virginianus*):

Dietary toxicity, 5 days, LC50: > 5,620 mg/kg diet

Practically non-toxic.

Arthropod toxicity

Honey bee (*Apis mellifera*):

Oral/contact, 48 hours, LD50: > 100 µg/bee

Practically non-toxic.

Soil organism toxicity, invertebrates

Earthworm (*Eisenia foetida*):

Acute toxicity, 14 days, LC50: > 1,250 mg/kg soil

Practically non-toxic.

Similar formulation

Aquatic toxicity, algae/aquatic plants

Green algae (*Selenastrum capricornutum*):

Acute toxicity, 72 hours, static, EbC50 (biomass): 12.4 mg/L
Slightly toxic.

Green algae (*Selenastrum capricornutum*):

Acute toxicity, 72 hours, static, NOEC: 6.3 mg/L

Similar formulation

Soil organism toxicity, microorganisms

Nitrogen and carbon transformation test:

30 L/ha, 28 days: Less than 25% effect on nitrogen or carbon transformation processes in soil.

N-(phosphonomethyl)glycine: { glyphosate acid}

Avian toxicity

Bobwhite quail (*Colinus virginianus*):

Dietary toxicity, 5 days, LC50: > 4,640 mg/kg diet
No more than slightly toxic.

Mallard duck (*Anas platyrhynchos*):

Dietary toxicity, 5 days, LC50: > 4,640 mg/kg diet
No more than slightly toxic.

Bobwhite quail (*Colinus virginianus*):

Acute oral toxicity, single dose, LD50: > 3,851 mg/kg body weight
Practically non-toxic.

Bioaccumulation

Bluegill sunfish (*Lepomis macrochirus*):

Whole fish: BCF: < 1
No significant bioaccumulation is expected.

Dissipation

Soil, field:

Half life: 2 - 174 days
Koc: 884 - 60,000 L/kg
Adsorbs strongly to soil.

Water, aerobic:

Half life: < 7 days

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

13.1.1. Product

Excess product may be disposed of by agricultural use according to label instructions. Keep out of drains, sewers, ditches and water ways. Recycle if appropriate facilities/equipment available. Burn in proper incinerator. Follow all local/regional/national/international regulations.

13.1.2. Container

See the individual container label for disposal information. Emptied containers retain vapour and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. Empty packaging completely. Triple or pressure rinse empty containers. Do NOT contaminate water when disposing of rinse waters. Store for collection by approved waste disposal service. Ensure packaging cannot be reused. Do NOT re-use containers. Recycle if appropriate facilities/equipment available. Follow all local/regional/national/international regulations.

Use handling recommendations in Section 7 and personal protection recommendations in Section 8.

14. TRANSPORT INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

14.1. US Dept. of Transportation (DOT) Hazardous Materials Regulations (49 CFR Parts 105-180)

| | |
|---|--|
| Proper Shipping Name (Technical Name if required): | Not regulated for domestic ground transportation. () |
|---|--|

14.2. IMDG Code

| | |
|---|--|
| Proper Shipping Name (Technical Name if required): | Not regulated for transport under IMO Regulations () |
|---|--|

14.3. IATA/ICAO

| | |
|---|--|
| Proper Shipping Name (Technical Name if required): | Not regulated for transport under IATA/ICAO Regulations () |
|---|--|

15. REGULATORY INFORMATION

15.1. Environmental Protection Agency

15.1.1. TSCA Inventory

All components are on the US EPA's TSCA Inventory

15.1.2. SARA Title III Rules

Section 311/312 Hazard Categories: Immediate

Section 302 Extremely Hazardous Substances: Not applicable.

Section 313 Toxic Chemical(s): Not applicable.

15.1.3. CERCLA Reportable quantity

Not applicable.

15.1.4. Federal Insecticide, Fungicide, Rodenticide Act (FIFRA)

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION!

CAUSES EYE IRRITATION

Acute oral toxicity: FIFRA category IV.

Acute dermal toxicity: FIFRA category IV.

Acute inhalation toxicity: FIFRA category IV.

Skin irritation: FIFRA category IV.

Eye irritation: FIFRA category III.

16. OTHER INFORMATION

The information given here is not necessarily exhaustive but is representative of relevant, reliable data. Follow all local/regional/national/international regulations.

Please consult supplier if further information is needed.

In this document the British spelling was applied.

|| Significant changes versus previous edition.

| | Health | Flammability | Instability | Additional Markings |
|------|--------|--------------|-------------|---------------------|
| NFPA | 1 | 1 | 1 | |

0 = Minimal hazard, 1 = Slight hazard, 2 = Moderate hazard, 3 = Severe hazard, 4 = Extreme hazard

Full denomination of most frequently used acronyms. BCF (Bioconcentration Factor), BOD (Biochemical Oxygen Demand), COD (Chemical Oxygen Demand), EC50 (50% effect concentration), ED50 (50% effect dose), I.M. (intramuscular), I.P. (intraperitoneal), I.V. (intravenous), Koc (Soil adsorption coefficient), LC50 (50% lethality concentration), LD50 (50% lethality dose), LDLo (Lower limit of lethal dosage), LEL (Lower Explosion Limit), LOAEC (Lowest Observed Adverse Effect Concentration), LOAEL (Lowest Observed Adverse Effect Level), LOEC (Lowest Observed Effect Concentration), LOEL (Lowest Observed Effect Level), MEL (Maximum Exposure limit), MTD (Maximum Tolerated Dose), NOAEC (No Observed Adverse Effect Concentration), NOAEL (No Observed Adverse Effect Level), NOEC (No Observed Effect Concentration), NOEL (No Observed Effect Level), OEL (Occupational Exposure Limit), PEL (Permissible Exposure Limit), PII (Primary Irritation Index), Pow (Partition coefficient n-octanol/water), S.C. (subcutaneous), STEL (Short-Term Exposure Limit), TLV-C (Threshold Limit Value-Ceiling), TLV-TWA (Threshold Limit Value - Time Weighted Average), UEL (Upper Explosion Limit)

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABELING (attached to and accompanying the product container). This MSDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-approved label.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, MONSANTO Company or any of its subsidiaries makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for the purposes prior to use. In no event will MONSANTO Company or any of its subsidiaries be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR TO THE PRODUCT TO WHICH INFORMATION REFERS.

SAFETY DATA SHEET

Citrus Scrub 'N Shine

Section 1. Identification

GHS product identifier : Citrus Scrub 'N Shine
Other means of identification : 525FR
Product type : Liquid

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Supplier's details : Essential Industries, Inc.
P.O. Box 12
Merton, WI 53056-0012
Phone: 262-538-1122

Emergency telephone number (with hours of operation) : 800-843-6174 (24 Hours)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 2

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : May cause an allergic skin reaction.
Suspected of causing cancer.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Avoid breathing vapor. Contaminated work clothing should not be allowed out of the workplace.

Response : IF exposed or concerned: Get medical attention. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

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Section 3. Composition/information on ingredients

Substance/mixture : Mixture
Other means of identification : Not available

CAS number/other identifiers

CAS number : Not applicable
Product code : 525FR

| Ingredient name | % | CAS number |
|----------------------------|-------|------------|
| Coconut oil diethanolamide | 1 - 5 | 68603-42-9 |
| d-Limonene | 0 - 1 | 5989-27-5 |
| Diethanolamine | 0 - 1 | 111-42-2 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

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2/11

Section 4. First aid measures

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Section 6. Accidental release measures

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|-----------------|---|
| Diethanolamine | OSHA PEL 1989 (United States, 3/1989). TWA: 3 ppm 8 hours. TWA: 15 mg/m ³ 8 hours. NIOSH REL (United States, 10/2013). TWA: 3 ppm 10 hours. TWA: 15 mg/m ³ 10 hours. ACGIH TLV (United States, 6/2013). Absorbed through skin. TWA: 1 mg/m ³ 8 hours. Form: Inhalable fraction and vapor |

Section 8. Exposure controls/personal protection

| | |
|--|--|
| Appropriate engineering controls | : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. |
| Environmental exposure controls | : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. |
| <u>Individual protection measures</u> | |
| Hygiene measures | : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location. |
| Eye/face protection | : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. |
| <u>Skin protection</u> | |
| Hand protection | : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. |
| Body protection | : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. |
| Other skin protection | : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. |
| Respiratory protection | : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. |

Section 9. Physical and chemical properties

Appearance

| | |
|----------------------------------|--|
| Physical state | : Liquid |
| Color | : Light Yellow |
| Odor | : Citrus |
| Odor threshold | : Not available |
| pH | : 9.7 to 10.7 |
| Melting point | : 0°C (32°F) |
| Boiling point | : 100°C (212°F) |
| Flash point | : Closed cup: >98.89°C (>210°F) [No sustained combustion under required test conditions listed in DOT 173.120(3).] |
| Evaporation rate | : Not available |
| Flammability (solid, gas) | : Not available |

Section 9. Physical and chemical properties

| | |
|---|---|
| Lower and upper explosive (flammable) limits | : Not available |
| Vapor pressure | : <4 kPa (<30 mm Hg) [room temperature] |
| Vapor density | : <1 [Air = 1] |
| Specific gravity | : 1 g/cm ³ |
| Solubility | : Not available |

Partition coefficient: n-octanol/water : Not available

Auto-ignition temperature : Not available

Viscosity : Not available

VOC content : 1.4%

VOCs are calculated following the requirements under 40 CFR, Part 59, Subpart C for Consumer Products and Subpart D for Architectural Coatings.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|----------------------------|-------------|---------|-------------|----------|
| Coconut oil diethanolamide | LD50 Dermal | Rabbit | 12200 mg/kg | - |
| | LD50 Oral | Rat | 1600 mg/kg | - |
| d-Limonene | LD50 Dermal | Rabbit | >5000 mg/kg | - |
| | LD50 Oral | Rat | 4400 mg/kg | - |
| Diethanolamine | LD50 Dermal | Rabbit | 12200 mg/kg | - |
| | LD50 Oral | Rat | 710 mg/kg | - |

Irritation/Corrosion

Section 11. Toxicological information

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|----------------------------|--------------------------|---------|-------|-------------------------|-------------|
| Coconut oil diethanolamide | Eyes - Severe irritant | Rabbit | - | 100 microliters | - |
| | Skin - Moderate irritant | Rabbit | - | 300 microliters | - |
| d-Limonene | Skin - Mild irritant | Rabbit | - | 24 hours 10 Percent | - |
| Diethanolamine | Eyes - Severe irritant | Rabbit | - | 24 hours 750 Micrograms | - |
| | Eyes - Severe irritant | Rabbit | - | 5500 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 50 milligrams | - |

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

| Product/ingredient name | OSHA | IARC | NTP |
|----------------------------|------|------|-----|
| Coconut oil diethanolamide | - | 2B | - |
| d-Limonene | - | 3 | - |
| Diethanolamine | - | 2B | - |

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

| Name | Result |
|------------|--------------------------------|
| d-Limonene | ASPIRATION HAZARD - Category 1 |

Information on the likely routes of exposure : Not available

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : May cause an allergic skin reaction.
Ingestion : No known significant effects or critical hazards.

Section 11. Toxicological information

Symptoms related to the physical, chemical and toxicological characteristics

| | |
|---------------------|--|
| Eye contact | : No specific data. |
| Inhalation | : No specific data. |
| Skin contact | : Adverse symptoms may include the following: irritation redness |
| Ingestion | : No specific data. |

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

| | |
|------------------------------------|-----------------|
| Potential immediate effects | : Not available |
| Potential delayed effects | : Not available |

Long term exposure

| | |
|------------------------------------|-----------------|
| Potential immediate effects | : Not available |
| Potential delayed effects | : Not available |

Potential chronic health effects

Not available.

| | |
|------------------------------|---|
| General | : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. |
| Carcinogenicity | : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure. |
| Mutagenicity | : No known significant effects or critical hazards. |
| Teratogenicity | : No known significant effects or critical hazards. |
| Developmental effects | : No known significant effects or critical hazards. |
| Fertility effects | : No known significant effects or critical hazards. |

Numerical measures of toxicity

Acute toxicity estimates

| Route | ATE value |
|-------|---------------|
| Oral | 96383.4 mg/kg |

Section 12. Ecological information

Toxicity

| Product/ingredient name | Result | Species | Exposure |
|-------------------------|-----------------------------------|--|----------|
| d-Limonene | Acute EC50 421 µg/l Fresh water | Daphnia - Daphnia magna | 48 hours |
| | Acute EC50 688 µg/l Fresh water | Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) | 96 hours |
| Diethanolamine | Acute EC50 12 mg/l Fresh water | Algae - Pseudokirchneriella subcapitata | 96 hours |
| | Acute LC50 28800 µg/l Fresh water | Crustaceans - Ceriodaphnia dubia - Neonate | 48 hours |
| | Acute LC50 2150 µg/l Fresh water | Daphnia - Daphnia pulex | 48 hours |
| | Acute LC50 100 mg/l Fresh water | Fish - Pimephales promelas - | 96 hours |

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Section 12. Ecological information

| | | | |
|--|--|---|--|
| | | Juvenile (Fledgling, Hatchling, Weanling) | |
|--|--|---|--|

Persistence and degradability

Not available.

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|-------------------------|--------------------|------|-----------|
| d-Limonene | 4.38 | 1022 | high |
| Diethanolamine | -1.43 | - | low |

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

| | DOT Classification | IMDG | IATA |
|----------------------------|--------------------|---------------|---------------|
| UN number | Not regulated | Not regulated | Not regulated |
| UN proper shipping name | - | - | - |
| Transport hazard class(es) | - | - | - |
| Packing group | - | - | - |
| Environmental hazards | No. | No. | No. |
| Additional information | - | - | - |

Section 14. Transport information

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **United States inventory (TSCA 8b):** All components are listed or exempted.

Clean Air Act Section 112 : Not listed

(b) Hazardous Air Pollutants (HAPs)

SARA 311/312

Classification : Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

| Name | % | Fire hazard | Sudden release of pressure | Reactive | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|----------------------------|-------|-------------|----------------------------|----------|---------------------------------|---------------------------------|
| Coconut oil diethanolamide | 1 - 5 | No. | No. | No. | Yes. | Yes. |
| d-Limonene | 0 - 1 | Yes. | No. | No. | Yes. | No. |
| Diethanolamine | 0 - 1 | No. | No. | No. | Yes. | Yes. |

State regulations

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

| Ingredient name | Cancer | Reproductive | No significant risk level | Maximum acceptable dosage level |
|----------------------------|--------|--------------|---------------------------|---------------------------------|
| Coconut oil diethanolamide | Yes. | No. | No. | No. |
| Diethanolamine | Yes. | No. | No. | No. |

International regulations

Canada inventory : All components are listed or exempted.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

| | | |
|------------------|---|---|
| Health | * | 2 |
| Flammability | | 0 |
| Physical hazards | | 0 |
| | | |

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

Date of issue/Date of revision : 12/29/2014. **Date of previous issue** : No previous validation. **Version** : 0.01 10/11

Section 16. Other information

The customer is responsible for determining the PPE code for this material.

[National Fire Protection Association \(U.S.A.\)](#)



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

[History](#)

Date of printing : 12/29/2014.

Date of issue/Date of revision : 12/29/2014.

Date of previous issue : No previous validation.

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References : Not available

Indicates information that has changed from previously issued version.

[Notice to reader](#)

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



TECHNICAL CONCEPTS

SeBreeze 3000 CITRUS BREEZE

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 03/18/2015

Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name : SeBreeze 3000 CITRUS BREEZE
Product code : 1821624
SKU # : FG5139000000

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Aerosol
Air care products
Odour agents
For professional use only

1.3. Details of the supplier of the safety data sheet

Rubbermaid Commercial Products LLC
3124 Valley Avenue
Winchester, VA 22601-2694 - USA
T (540) 6678700
www.rubbermaidcommercial.com

1.4. Emergency telephone number

Emergency number : 24-Hour Emergency: INFOTRAC: 1-800535-5063

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

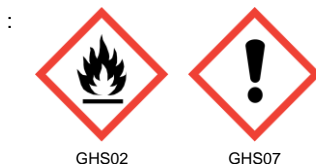
Flam. Aerosol 1 H222
Skin Irrit. 2 H315
Eye Irrit. 2A H319
Skin Sens. 1 H317
STOT SE 3 H336

Full text of H-statements: see section 16

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US)



GHS02

GHS07

Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H222 - Extremely flammable aerosol
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H336 - May cause drowsiness or dizziness

Precautionary statements (GHS-US)

: P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking
P211 - Do not spray on an open flame or other ignition source
P251 - Pressurized container: Do not pierce or burn, even after use
P280 - Wear protective gloves
P302+P352 - If on skin: Wash with plenty of water
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P312 - Call a doctor if you feel unwell
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
P337+P313 - If eye irritation persists: Get medical advice/attention
P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F

SeBreeze 3000 CITRUS BREEZE

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

| Name | Product identifier | % | GHS-US classification |
|-----------------|--------------------|---------|--|
| Acetone | (CAS No) 67-64-1 | 20 - 50 | Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336 |
| HEXYLENE GLYCOL | (CAS No) 107-41-5 | 1 - 10 | Skin Irrit. 2, H315 Eye Irrit. 2A, H319 |
| LIMONENE | (CAS No) 5989-27-5 | 1 - 10 | Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| MYRCENE | (CAS No) 123-35-3 | < 0,1 | Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Asp. Tox. 1, H304 |
| PINENES | (CAS No) 127-91-3 | < 0,1 | Skin Irrit. 2, H315 Skin Sens. 1, H317 Asp. Tox. 1, H304 |

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|---|
| First-aid measures general | : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). |
| First-aid measures after inhalation | : Cough. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. |
| First-aid measures after skin contact | : Remove/Take off immediately all contaminated clothing. If skin irritation persists, take medical advice. Wash with plenty of soap and water. Wash contaminated clothing before reuse. |
| First-aid measures after eye contact | : Rinse cautiously with water for several minutes. Direct contact with the eyes is likely to be irritating. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. |
| First-aid measures after ingestion | : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. |

4.2. Most important symptoms and effects, both acute and delayed

| | |
|--------------------------------------|--|
| Symptoms/injuries after inhalation | : Shortness of breath. May cause an allergic skin reaction. May cause drowsiness or dizziness. |
| Symptoms/injuries after skin contact | : Causes skin irritation. |
| Symptoms/injuries after eye contact | : Causes serious eye irritation. |

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

| | |
|--------------------------------|--|
| Suitable extinguishing media | : Foam. Dry powder. Carbon dioxide. Water spray. Sand. |
| Unsuitable extinguishing media | : Do not use a heavy water stream. |

5.2. Special hazards arising from the substance or mixture

| | |
|------------------|--|
| Fire hazard | : Extremely flammable aerosol. |
| Explosion hazard | : May form flammable/explosive vapour-air mixture. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries. |
| Reactivity | : Stable under normal conditions of use. |

SeBreeze 3000 CITRUS BREEZE

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. DO NOT fight fire when fire reaches explosives. Evacuate area.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : No open flames. No smoking. Isolate from fire, if possible, without unnecessary risk. Remove ignition sources. Use special care to avoid static electric charges.

6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Ventilate spillage area. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : Handle empty containers with care because residual vapours are flammable. Hazardous waste due to potential risk of explosion. Pressurized container: Do not pierce or burn, even after use.
- Precautions for safe handling : No open flames. No smoking. Use only non-sparking tools. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area.
- Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Comply with applicable regulations.
- Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Direct sunlight, Heat sources, Ignition sources. Do not expose to temperatures exceeding 50 °C/ 122 °F.
- Incompatible products : Strong bases. Strong acids.
- Incompatible materials : Sources of ignition. Direct sunlight. Heat sources.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| SeBreeze 3000 CITRUS BREEZE | | |
|-----------------------------|---------------------|---------------|
| ACGIH | Not applicable | |
| OSHA | Not applicable | |
| HEXYLENE GLYCOL (107-41-5) | | |
| ACGIH | ACGIH Ceiling (ppm) | 25 ppm |
| ACGIH | Remark (ACGIH) | Eye & URT irr |
| OSHA | Not applicable | |

SeBreeze 3000 CITRUS BREEZE

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| Acetone (67-64-1) | | |
|-------------------|-------------------------------------|--------------------------|
| ACGIH | ACGIH TWA (ppm) | 200 ppm |
| ACGIH | ACGIH STEL (ppm) | 500 ppm |
| ACGIH | Remark (ACGIH) | eye irr; CNS impair; BEI |
| OSHA | OSHA PEL (TWA) (mg/m ³) | 2400 mg/m ³ |
| OSHA | OSHA PEL (TWA) (ppm) | 1000 ppm |

| LIMONENE (5989-27-5) | |
|----------------------|----------------|
| ACGIH | Not applicable |
| OSHA | Not applicable |

| MYRCENE (123-35-3) | |
|--------------------|----------------|
| ACGIH | Not applicable |
| OSHA | Not applicable |

| PINENES (127-91-3) | |
|--------------------|----------------|
| ACGIH | Not applicable |
| OSHA | Not applicable |

8.2. Exposure controls

| | |
|----------------------------------|--|
| Appropriate engineering controls | : Provide local exhaust or general room ventilation to minimize mist and/or vapour concentrations. |
| Personal protective equipment | : Avoid all unnecessary exposure. |
| Hand protection | : Wear protective gloves. |
| Eye protection | : None under normal use. |
| Respiratory protection | : None under normal use. |
| Other information | : Do not eat, drink or smoke during use. |

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|---------------------------------|
| Physical state | : Liquid |
| Appearance | : Clear Transparent Liquid. |
| Colour | : colourless to slightly yellow |
| Odour | : characteristic |
| Odour threshold | : No data available |
| pH | : No data available |
| Relative evaporation rate (butylacetate=1) | : No data available |
| Melting point | : No data available |
| Freezing point | : No data available |
| Boiling point | : No data available |
| Flash point | : No data available |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : Extremely flammable aerosol |
| Vapour pressure | : 4,5 - 5,5 bar |
| Relative vapour density at 20 °C | : No data available |
| Relative density | : 0,7 |
| Solubility | : No data available |
| Log Pow | : No data available |
| Log Kow | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |

SeBreeze 3000 CITRUS BREEZE

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| | |
|----------------------|---------------------|
| Explosive properties | : No data available |
| Oxidising properties | : No data available |
| Explosive limits | : 1,8 - 19 vol % |

9.2. Other information

| | |
|-----------|-----------------|
| Gas group | : Liquefied gas |
|-----------|-----------------|

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions of use.

10.2. Chemical stability

Extremely flammable aerosol. Contains gas under pressure; may explode if heated. Extreme risk of explosion by shock, friction, fire or other sources of ignition.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Heat. Sparks. Open flame. Overheating.

10.5. Incompatible materials

Oxidizing agent. Strong acids. Strong bases.

10.6. Hazardous decomposition products

May release flammable gases. fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

| | |
|---|--|
| Acute toxicity | : Not classified |
| Skin corrosion/irritation | : Causes skin irritation. |
| Serious eye damage/irritation | : Causes serious eye irritation. |
| Respiratory or skin sensitisation | : May cause an allergic skin reaction. |
| Germ cell mutagenicity | : Not classified Based on available data, the classification criteria are not met |
| Carcinogenicity | : Not classified |
| Reproductive toxicity | : Not classified Based on available data, the classification criteria are not met |
| Specific target organ toxicity (single exposure) | : May cause drowsiness or dizziness. |
| Specific target organ toxicity (repeated exposure) | : Not classified |
| Aspiration hazard | : Not classified |
| Potential adverse human health effects and symptoms | : Based on available data, the classification criteria are not met. |
| Symptoms/injuries after inhalation | : Shortness of breath. May cause an allergic skin reaction. May cause drowsiness or dizziness. |
| Symptoms/injuries after skin contact | : Causes skin irritation. |
| Symptoms/injuries after eye contact | : Causes serious eye irritation. |

SECTION 12: Ecological information

12.1. Toxicity

| HEXYLENE GLYCOL (107-41-5) | |
|--------------------------------|-----------------------------------|
| LC50 fish 1 | > 1000 mg/l |
| EC50 other aquatic organisms 2 | > 1000 mg/l IC50 alga (72 h) mg/l |

SeBreeze 3000 CITRUS BREEZE

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Acetone (67-64-1)

| | |
|--------------------------------|----------------------------------|
| LC50 fish 1 | 5540 mg/l |
| EC50 other aquatic organisms 1 | 3400 mg/l EC50 waterflea (48 h) |
| EC50 other aquatic organisms 2 | 12600 mg/l IC50 alga (72 h) mg/l |

12.2. Persistence and degradability

SeBreeze 3000 CITRUS BREEZE

| | |
|-------------------------------|------------------|
| Persistence and degradability | Not established. |
|-------------------------------|------------------|

Acetone (67-64-1)

| | |
|-------------------------------|------------------|
| Persistence and degradability | Not established. |
|-------------------------------|------------------|

12.3. Bioaccumulative potential

SeBreeze 3000 CITRUS BREEZE

| | |
|---------------------------|------------------|
| Bioaccumulative potential | Not established. |
|---------------------------|------------------|

Acetone (67-64-1)

| | |
|---------------------------|------------------|
| Bioaccumulative potential | Not established. |
|---------------------------|------------------|

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

| | |
|------------------------------|--|
| Effect on ozone layer | : None to our knowledge |
| Effect on the global warming | : No known ecological damage caused by this product. |
| Other information | : Avoid release to the environment. |

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|--------------------------------|--|
| Waste disposal recommendations | : Dispose in a safe manner in accordance with local/national regulations. Container under pressure. Do not drill or burn even after use. |
| Additional information | : Handle empty containers with care because residual vapours are flammable. Flammable vapours may accumulate in the container. |
| Ecology - waste materials | : Avoid release to the environment. |

SECTION 14: Transport information

In accordance with DOT

| | |
|----------------------------------|--|
| Transport document description | : UN1950 Aerosols, 2.1 |
| UN-No.(DOT) | : UN1950 |
| Proper Shipping Name (DOT) | : Aerosols |
| Transport hazard class(es) (DOT) | : 2.1 - Class 2.1 - Flammable gas 49 CFR 173.115 |
| Hazard labels (DOT) | : 2.1 - Flammable gas |



| | |
|--|--|
| DOT Special Provisions (49 CFR 172.102) | : N82 - See 173.306 of this subchapter for classification criteria for flammable aerosols. |
| DOT Packaging Exceptions (49 CFR 173.xxx) | : 306 |
| DOT Packaging Non Bulk (49 CFR 173.xxx) | : None |
| DOT Packaging Bulk (49 CFR 173.xxx) | : None |
| DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) | : 75 kg |
| DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) | : 150 kg |

SeBreeze 3000 CITRUS BREEZE

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| | |
|-----------------------------|---|
| DOT Vessel Stowage Location | : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel. |
| DOT Vessel Stowage Other | : 48 - Stow "away from" sources of heat, 87 - Stow "separated from" Class 1 (explosives) except Division 14, 126 - Segregation same as for Class 9, miscellaneous hazardous materials |

Additional information

| | |
|-------------------|---|
| Other information | : No supplementary information available. |
|-------------------|---|

ADR

| | |
|--------------------------------|------------------------------|
| Transport document description | : UN 1950 AEROSOLS, 2.1, (D) |
| Class (ADR) | : 2 - Gases |
| Classification code (ADR) | : 5F |
| Danger labels (ADR) | : 2.1 - Flammable gases |



| | |
|-------------------------------|------|
| Tunnel restriction code (ADR) | : D |
| LQ | : 1I |
| Excepted quantities (ADR) | : E0 |

Transport by sea

| | |
|-----------------------------|-------------|
| UN-No. (IMDG) | : 1950 |
| Proper Shipping Name (IMDG) | : AEROSOLS |
| Class (IMDG) | : 2 - Gases |

Air transport

| | |
|-----------------------------|-----------------------|
| UN-No. (IATA) | : 1950 |
| Proper Shipping Name (IATA) | : Aerosols, flammable |
| Class (IATA) | : 2 |

SECTION 15: Regulatory information

15.1. US Federal regulations

HEXYLENE GLYCOL (107-41-5)

Not subject to reporting requirements of the United States SARA Section 313
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Acetone (67-64-1)

Subject to reporting requirements of United States SARA Section 313
Listed on the United States TSCA (Toxic Substances Control Act) inventory

LIMONENE (5989-27-5)

Not subject to reporting requirements of the United States SARA Section 313
Listed on the United States TSCA (Toxic Substances Control Act) inventory

MYRCENE (123-35-3)

Not subject to reporting requirements of the United States SARA Section 313
Listed on the United States TSCA (Toxic Substances Control Act) inventory

PINENES (127-91-3)

Not subject to reporting requirements of the United States SARA Section 313
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

SeBreeze 3000 CITRUS BREEZE

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Aerosol 1 H222;H229
Skin Irrit. 2 H315
Eye Irrit. 2 H319
Skin Sens. 1 H317
STOT SE 3 H336
Aquatic Chronic 2 H411
Full text of H-statements: see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

15.2.2. National regulations

15.3. US State regulations

HEXYLENE GLYCOL (107-41-5)

U.S. -New York - RTK list Hazardous Substances

Acetone (67-64-1)

U.S. -New York - RTK list Hazardous Substances
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Other information

: REACH Disclaimer:

This information is based on current knowledge. Consistency of data in the SDS with CSR is considered, as far as the information is available at the time of compilation (cfr Revision date and Version number). **DISCLAIMER OF LIABILITY** The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable. None.

Full text of H-statements:

| | |
|-------------------|--|
| Aquatic Acute 1 | Hazardous to the aquatic environment — Acute Hazard, Category 1 |
| Aquatic Chronic 1 | Hazardous to the aquatic environment — Chronic Hazard, Category 1 |
| Asp. Tox. 1 | Aspiration hazard, Category 1 |
| Eye Irrit. 2A | Serious eye damage/eye irritation, Category 2A |
| Flam. Aerosol 1 | Flammable aerosols, Category 1 |
| Flam. Liq. 2 | Flammable liquids, Category 2 |
| Flam. Liq. 3 | Flammable liquids, Category 3 |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| Skin Sens. 1 | Sensitisation — Skin, category 1 |
| STOT SE 3 | Specific target organ toxicity — Single exposure, Category 3, Narcosis |
| H222 | Extremely flammable aerosol |
| H225 | Highly flammable liquid and vapour |
| H226 | Flammable liquid and vapour |
| H304 | May be fatal if swallowed and enters airways |
| H315 | Causes skin irritation |
| H317 | May cause an allergic skin reaction |
| H319 | Causes serious eye irritation |
| H336 | May cause drowsiness or dizziness |
| H400 | Very toxic to aquatic life |
| H410 | Very toxic to aquatic life with long lasting effects |

SeBreeze 3000 CITRUS BREEZE

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product



SAFETY DATA SHEET

1. Product and Company Identification

| | |
|-----------------------------------|--|
| Product Name | SHUT-OUT ASIT |
| Product Number | 3BS |
| Product Type | Mixture |
| Product Use | Anti stain treatment for carpets & upholstery |
| Manufacturer | CFR, A Division of Tacony Corporation 3101 Wichita Court Fort Worth, TX 76140-1710 |
| Company Contact | 1-800-533-2557 or website www.cfrcorp.com |
| Emergency Telephone Number | 1-800-270-5201 |

2. Hazards Identification

GHS Classification in accordance with 29CFR 1910 OSHA HCS

Serious eye damage/eye irritation, (Category 2B) H320

GHS Label elements, including precautionary statements

| | |
|---------------------------------|---|
| Pictogram | None required |
| Signal Word | Warning |
| Hazard Statements | |
| H320 | Causes eye irritation. |
| Precautionary Statements | |
| Prevention | |
| P264 | Wash and rinse hands and exposed skin after handling concentrated product. |
| Response | |
| P305+P351+P338 | IF IN EYES, Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. |
| P337+P313 | If eye irritation persists, get medical attention. |

3. Composition/Information on Ingredients

The criteria for listing components in this section are: Ingredients that meet the criteria for carcinogenic, toxic to reproduction, or specific target organ toxicity and components otherwise considered hazardous according to OSHA which exceed the cut off limits for SDS specified by the criteria for mixtures are listed. Non hazardous components are not listed. This is not a composition disclosure. Exact percentages are considered proprietary and a trade secret.

| Hazardous Components | CAS# | Classification | % |
|----------------------|-------------|----------------|------|
| Anionic polymer | Proprietary | H320 | 2-10 |

4. First Aid Measures

Description of First Aid Procedures

| | |
|-------------------------------|--|
| In case of Eye Contact | Flush with cool running water for 15 minutes. If irritation persists, get medical attention. |
|-------------------------------|--|

**In case of Skin Contact**

Flush with cool water. If irritation persists, get medical Attention.

If Inhaled

If symptoms develop, move to fresh air. If symptoms persist, get medical attention

If Ingested

Rinse mouth with water. Drink one or two glasses of water. **Do not induce vomiting.** Obtain medical attention. Never give anything by mouth to an unconscious person.

Notes to Physician

Symptoms may be delayed.

General advice

Seek medical attention if feeling unwell. Show the SDS to the physician in attendance.

5. Fire-fighting Measures

Flammable properties

Not flammable

Extinguishing media

Treat for surrounding material.

Protection of firefighters

Firefighters should wear protective clothing including self contained breathing apparatus

Hazardous combustion products

May include and not limited to oxides of carbon.

Unusual Fire, Explosion hazards

None known.

6. Accidental Release Measures

Personal precautions

Keep unnecessary personal away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled containers unless wearing protective Clothing. Stay upwind of spills or leaks.

Methods for containment

Stop leak if you can do so without risk. Prevent entry into waterways, sewers.

Methods for cleaning up

Before attempting clean up refer to hazard data given above. Small spills may be absorbed with non reactive absorbent and placed in suitable, covered, labeled containers. Prevent large spills from entering sewers or water ways. Dike spill. Absorb spill with non reactive absorbent and place in a suitable, covered, labeled container for disposal. Never return spill to original container for reuse.

Environmental Precautions

Avoid release to the environment.

7. Handling and Storage

Precautions for Safe Handling

Use good industrial hygiene practices when handling this material

Conditions for Safe Storage

Keep out of reach of children. Keep from freezing, store in a cool dry place away from incompatible materials.

8. Exposure Controls and Personal Protection

Exposure limits**Ingredients**

Anionic polymer

CAS-No

Proprietary

OSHA PEL

Not available

ACGIH TLV

Not available

Engineering controls

General ventilation normally adequate

Personal protective equipment**Eye/Face protection**

Wear safety glasses with side shields if splash conditions exist.

Hand protection

Not required

Skin and body

As required by employer code.



Respiratory protection

General hygiene considerations

Use a NIOSH approved respirator when exposure guidelines are exceeded.

Handle in accordance with good industrial hygiene practices. Do not eat or drink when using product. Wash hands well before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

| | |
|---|--|
| Appearance/form | Clear liquid |
| Color | Light tan to colorless |
| Odor | Acrylic |
| Odor threshold | Not established |
| pH | Not established |
| Melting point/freezing point | Not established |
| Initial Boiling point | > 212° F. (100° C.) |
| Flash point | None |
| Evaporation rate | Not established |
| Flammability | Not flammable |
| Upper/lower flammability or Explosive limits | Not established |
| Vapor pressure | Not established |
| Vapor density | Not established |
| Specific gravity/density | 1.013-1.016 |
| Solubility in water | Dispersible |
| Partition coefficient: | Not established |
| Auto ignition temperature | Not established |
| Decomposition temperature | Not established |
| Stability and Reactivity | Stable and non reactive under normal use and storage conditions. |
| VOC | < 1% |
| % Volatile | Approx. 85% |

Other safety Information

10. Stability and Reactivity

| | |
|---|--|
| Reactivity | Not reactive under normal use and storage. |
| Chemical Stability | Stable under normal storage conditions. |
| Hazardous reactions | None known. |
| Conditions to avoid | Do not mix with other chemicals. |
| Incompatible materials | Caustic materials. |
| Hazardous decomposition products | May include but not limited to oxides of carbon. |
| Hazardous polymerization | Will not occur. |

11. Toxicological Information

| | |
|--------------------|-------------------|
| Ingredients | LC50 |
| Anionic polymer | No data available |

| | |
|--------------------|-------------------|
| Ingredients | LD50 |
| Anionic polymer | No data available |

Effects of acute exposure

| | |
|-------------------|--|
| Eye | Causes eye irritation |
| Skin | Not expected to be a skin irritant. |
| Inhalation | Not normally a route of entry. |
| Ingestion | Not expected to be harmful upon ingestion. |



| | |
|--|---|
| Sensitization | No data available. |
| Chronic effects of short and long term exposure | No data available. |
| Carcinogenicity | Does not contain ingredients considered carcinogenic by NTP, IARC, or OSHA. |
| Mutagenicity | No data available. |
| Reproductive effects | No data available. |
| Teratogenicity | No data available. |

12. Ecological Information

| | |
|--|--------------------|
| Eco-toxicity | No data available |
| Environmental effects | No data available. |
| Aquatic toxicity | No data available |
| Persistence and Degradability | No data available |
| Bioaccumulation/accumulation | No data available. |
| Partition coefficient | No data available. |
| Mobility in environmental media | No data available. |
| Chemical fate information | No data available. |
| Other adverse effects | No data available. |

13. Disposal Considerations

| | |
|--|---|
| Disposal instructions | Dispose in accordance with local, state, and federal regulations |
| Wastes from residues/unused Product | Containerize. Rinse area with water. Keep out of storm sewer/waterways. |
| Contaminated packaging | Dispose in accordance with all applicable regulations. |

14. Transport Information

| | |
|-------------------------------------|-------------------|
| Basic shipping requirements: | Not DOT regulated |
| Proper shipping name | |
| Hazard class | |
| UN number | |
| Packing group | |
| Special provisions | |

15. Regulatory Information

| | |
|---|--|
| U.S federal regulations | This product has been classified in accordance with the Occupational Safety and Health Administration hazard criteria and the SDS contains all of the information required by OSHA HCS 2012. |
| TSCA | All ingredients are listed on the Toxic Substances Control Act or are exempt from listing. |
| CERCLA Super Fund 40CFR117.302 | Product contains a material with a Reportable Quantity (RQ): None |
| SARA Title III Section 311&312 | Immediate (Acute) Health Hazard: None |
| SARA Title III Section 313 | Ingredients subject to the reporting requirements of Section 313: None |
| California Proposition 65 | This product does not contain intentional ingredients known to the State of California to cause cancer, birth defects or reproductive effects. |

**States Right to Know**

Reportable Chemicals: None

**Inventory Status
Countries****Inventory Name****On Inventory (Yes/No)***

U.S.

Chemical Inventory List

Yes

Canada

Domestic substances list

Yes

- A "Yes" indicates that all of the components of this product comply with the inventory requirements administered by the governing country(s) listed.

16. Other Information

HMIS RATING**HMIS LEGEND**

Severe 4
Serious 3
Moderate 2
Slight 1
Minimal

| | |
|---------------------|---|
| Health | 1 |
| Flammability | 0 |
| Reactivity | 0 |
| Personal Protection | B |

Disclaimer

To the best of our knowledge, the information included herein is accurate. However, neither the above named supplier nor any of its subsidiaries assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of the suitability of any material is the responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Issue date

May 8, 2015

Supersedes date

Previous issues.

Reason for update

Conform to GHS OSHA HCS 2012.

Expiration date

May 8, 2018

Safety Data Sheet**Section 1: Identification****Product identifier**

- Product Name** • **Sight Savers brand Anti-Fog Liquid**
- Product Code** • 143060; 25; 68; 69; 8563P; 8565; 8568P; 8569; 8570; FCP 4874
- Product Description** • Dilute solvent and surfactant solution.
- Relevant identified uses of the substance or mixture and uses advised against**
- Recommended use** • Cleaning agent for glass and plastic lenses

Details of the supplier of the safety data sheet

- Manufacturer** • Bausch & Lomb
1400 North Goodman Street
Rochester, NY 14609
United States
bausch.com
- Telephone (General)** • 1-800-553-5340

Emergency telephone number

- Manufacturer** • 1-800-535-5053 - Infotrac

Section 2: Hazard Identification**UN GHS**

According to: UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

Classification of the substance or mixture

- UN GHS** • Acute Toxicity Oral 5
Eye Irritation 2A
Flammable Liquids 3
Skin Irritation 2

Label elements

UN GHS

WARNING

- Hazard statements** • Causes serious eye irritation
May be harmful if swallowed
Flammable liquid and vapour
May cause skin irritation or dryness.

Precautionary statements

Prevention • Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking. Keep cool.

Response • IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

Storage/Disposal • Store in a well-ventilated place. Keep cool. Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Other hazards

UN GHS

- No data available

Other information

- Moist white paper tissue impregnated with a dilute solvent and detergent. May cause serious eye irritation. May cause skin irritation or dryness. Ingestion may cause gastric and intestinal irritation.

Section 3 - Composition/Information on Ingredients

Substances

- Material does not meet the criteria of a substance according to United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

Mixtures

| Composition | | | |
|-------------------------------------|--|----------|--|
| Chemical Name | Identifiers | % | Classifications According to Regulation/Directive |
| Calomine Brilliant Violet | CAS:2586-60-9 | < 0.1% | UN GHS: NDA |
| Dipropylene glycol monomethyl ether | CAS:34590-94-8 EINECS:252-104-2 | 2% | UN GHS: Skin Irrit. 2; Eye Irrit. 2A; Flam. Liq. 4 |
| Isopropyl alcohol | CAS:67-63-0 UN:UN1219 EINECS:200-661-7 | 12% | UN GHS: Eye Irrit. 2A |
| Perfume (Kew Em Balsam Pine) | NDA | < 0.1% | UN GHS: NDA |
| Perfume (Oil Evergreen Bouquet) | NDA | < 0.1% | UN GHS: NDA |
| Silicone | CAS:68037-64-9 | 1% TO 5% | UN GHS: NDA |
| Sodium Lauryl Sulfate | CAS:151-21-3 EINECS:205-788-1 | 1% TO 5% | UN GHS: NDA |
| Water | CAS:7732-18-5 EINECS:231-791-2 | > 80% | UN GHS: Classification criteria not met |

Section 4: First-Aid Measures

Description of first aid measures

Inhalation

- Normal use of this product does not pose an inhalation hazard. However, should respiratory tract irritation develop, discontinue use and remove to fresh air. Get medical attention if irritation or other symptoms develop or persist.

Skin

- Should irritation develop, discontinue use. Wash affected skin thoroughly with soap and water. Get medical attention if irritation or other symptoms develop or persist.

Eye

- Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get

| | |
|---|---|
| | medical attention. |
| Ingestion | <ul style="list-style-type: none"> If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label. |
| Most important symptoms and effects, both acute and delayed | |
| | <ul style="list-style-type: none"> No data available |
| Indication of any immediate medical attention and special treatment needed | |
| Notes to Physician | <ul style="list-style-type: none"> Material if ingested may be aspirated into the lungs and can cause chemical pneumonitis. Treat appropriately. |

Section 5: Fire-Fighting Measures

Extinguishing media

Suitable Extinguishing Media • Carbon dioxide, dry chemical powder, appropriate foam or water fog.

Unsuitable Extinguishing Media • No data available

Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards • No data available

Hazardous Combustion Products • During a fire, thermal decomposition or combustion may generate irritating and highly toxic gases.

Advice for firefighters

- As in any fire, wear self-contained breathing apparatus and full protective gear to prevent contact with skin and eyes.

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions • Wear suitable protective eyewear, clothing, respiratory protection, rubber boots and rubber gloves. Shut off all sources of ignition. Evacuate immediate area. Ensure adequate ventilation. Refer to Sections 7 and 8.

Emergency Procedures • No data available

Environmental precautions

- Prevent spilled material from entering storm sewers or drains, waterways, and contact with soil.

Methods and material for containment and cleaning up

Containment/Clean-up Measures • Isolate hazard area. Prevent from entering drains and sewers. Cover with vermiculite or other suitable inert material, pick up and place in closed containers. Transport outdoors and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete. Refer to Section 13 for appropriate disposal procedures.

Section 7 - Handling and Storage

Precautions for safe handling

Handling • Keep away from heat and sparks.

Conditions for safe storage, including any incompatibilities

Storage • Store product at room temperature, in a well ventilated area away from heat, sparks or flames. Discard appropriately if package integrity is compromised.

Section 8 - Exposure Controls/Personal Protection

Control parameters

Exposure Limits/Guidelines • Refer to the occupational exposure limits / guidelines for the individual product components.

| Exposure Limits/Guidelines | | | | | |
|--|--------|--------------|--------------------------------|-------------------------------|----------------------------|
| | Result | ACGIH | Canada Quebec | NIOSH | OSHA |
| Dipropylene glycol monomethyl ether (34590-94-8) | STELs | 150 ppm STEL | 150 ppm STEV; 909 mg/m3 STEV | 150 ppm STEL; 900 mg/m3 STEL | Not established |
| | TWAs | 100 ppm TWA | 100 ppm TWAEV; 606 mg/m3 TWAEV | 100 ppm TWA; 600 mg/m3 TWA | 100 ppm TWA; 600 mg/m3 TWA |
| Isopropyl alcohol (67-63-0) | STELs | 400 ppm STEL | 500 ppm STEV; 1230 mg/m3 STEV | 500 ppm STEL; 1225 mg/m3 STEL | Not established |
| | TWAs | 200 ppm TWA | 400 ppm TWAEV; 985 mg/m3 TWAEV | 400 ppm TWA; 980 mg/m3 TWA | 400 ppm TWA; 980 mg/m3 TWA |

Exposure Control Notations

Canada Quebec

•Dipropylene glycol monomethyl ether (34590-94-8): **Skin:** (Skin designation)

ACGIH

•Isopropyl alcohol (67-63-0): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen)

•Dipropylene glycol monomethyl ether (34590-94-8): **Skin:** (Skin - potential significant contribution to overall exposure by the cutaneous route)

Exposure controls

Engineering Measures/Controls

- No special controls are required under conditions of intended use.

Personal Protective Equipment

Respiratory

- No special controls or personal protection required under conditions of intended use. In the event of a bulk spill, and where risk assessment shows that air-purifying respirators are appropriate, a NIOSH (US) or CEN (EU) -certified air-purifying respirator equipped with organic vapor cartridges may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits, when adequate oxygen is present and as a backup to engineering controls. Use a positive pressure air-supplied respirator if there is any potential for an uncontrolled release or any other circumstances where air purifying respirators may not provide adequate protection.

Eye/Face

- Avoid contact with the eye. No special controls or personal protection required under conditions of intended use. In the event of a bulk spill, appropriate eye protection should be worn.

Hands

- No special personal protection required under conditions of intended use. In the event of a bulk spill, protective rubber gloves should be worn.

Skin/Body

- No special personal protection required under conditions of intended use. In the event of a bulk spill, wear appropriate protective clothing.

Environmental Exposure Controls

- No data available

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

| Material Description | | | |
|----------------------|--------------------|-------|--------|
| Physical Form | Liquid | Color | Purple |
| Odor | Mild alcohol odor. | | |
| General Properties | | | |

| | | | |
|-------------------------------------|----------------------------------|------------------------------|----------------|
| Boiling Point | 100 C(212 F) | Melting Point/Freezing Point | Not applicable |
| Decomposition Temperature | No data available | pH | 7 |
| Specific Gravity/Relative Density | = 1 Water=1 | Water Solubility | Soluble |
| Viscosity | No data available | | |
| Volatility | | | |
| Vapor Pressure | 30 mmHg (torr) @ 77 F(25 C) | | |
| Flammability | | | |
| Flash Point | 40.6 C(105.08 F) CC (Closed Cup) | | |
| Environmental | | | |
| Octanol/Water Partition coefficient | No data available | | |

Section 10: Stability and Reactivity

Reactivity

- No dangerous reactions known.

Chemical stability

- Stable under normal temperatures and pressures.

Possibility of hazardous reactions

- No data available.

Conditions to avoid

- Heat, sources of ignition.

Incompatible materials

- Caustics, strong acids, alkanolamines, strong oxidizing agents, and chlorinated compounds.

Hazardous decomposition products

- None known.

Section 11 - Toxicological Information

Information on toxicological effects

| Components | | |
|--|------------|---|
| Water (> 80%) | 7732-18-5 | Acute Toxicity: Ingestion/Oral-Rat LD50 • >90 mL/kg |
| Isopropyl alcohol (12%) | 67-63-0 | Acute Toxicity: Ingestion/Oral-Rat LD50 • 5045 mg/kg; Behavioral: Altered sleep time (including change in righting reflex); Behavioral: Somnolence (general depressed activity); Inhalation-Rat LC50 • 16000 ppm 8 Hour(s); Skin-Rabbit LD50 • 12800 mg/kg; Irritation: Eye-Rabbit • 100 mg • Severe irritation; Skin-Rabbit • 500 mg • Mild irritation |
| Dipropylene glycol monomethyl ether (2%) | 34590-94-8 | Acute Toxicity: Ingestion/Oral-Rat LD50 • 5.5 mL/kg; Skin-Rabbit LD50 • 10 mL/kg; Irritation: Eye-Rabbit • 500 mg 24 Hour(s) • Mild irritation |

| GHS Properties | Classification |
|-------------------------------|--|
| Respiratory sensitization | UN GHS • Classification criteria not met |
| Serious eye damage/Irritation | UN GHS • Eye Irritation 2A |

| | |
|----------------------------------|---|
| Acute toxicity | UN GHS • Acute Toxicity - Oral 5 |
| Aspiration Hazard | UN GHS • Classification criteria not met |
| Carcinogenicity | UN GHS • Classification criteria not met |
| Skin corrosion/Irritation | UN GHS • Skin Irritation 2 |
| Skin sensitization | UN GHS • Classification criteria not met |
| STOT-RE | UN GHS • Classification criteria not met |
| STOT-SE | UN GHS • Classification criteria not met |
| Toxicity for Reproduction | UN GHS • Classification criteria not met |
| Germ Cell Mutagenicity | UN GHS • Classification criteria not met |

Potential Health Effects

Inhalation

- Acute (Immediate)** • May cause irritation.
- Chronic (Delayed)** • Under normal conditions of use, no health effects are expected.

Skin

- Acute (Immediate)** • May cause irritation.
- Chronic (Delayed)** • Under normal conditions of use, no health effects are expected.

Eye

- Acute (Immediate)** • Causes serious eye irritation.
- Chronic (Delayed)** • Under normal conditions of use, no health effects are expected.

Ingestion

- Acute (Immediate)** • May cause irritation.
- Chronic (Delayed)** • Under normal conditions of use, no health effects are expected.

| Carcinogenic Effects | | |
|-----------------------------|------------|--------------------------|
| | CAS | IARC |
| Isopropyl alcohol | 67-63-0 | Group 3-Not Classifiable |

Section 12 - Ecological Information

Toxicity

- This material has not been tested for environmental effects.

Persistence and degradability

- No data available

Bioaccumulative potential

- No data available

Mobility in Soil

- No data available

Other adverse effects

Section 13 - Disposal Considerations

Waste treatment methods

Product waste

- Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

| | UN number | UN proper shipping name | Transport hazard class (es) | Packing group | Environmental hazards |
|-----------|-----------|--------------------------------|-----------------------------|---------------|-----------------------|
| DOT | ID8000 | Consumer Commodity | 9 | NDA | NDA |
| TDG | UN1987 | Alcohols, n.o.s. (Isopropanol) | 3 | III | NDA |
| IMO/IMDG | UN1987 | Alcohols, n.o.s. (Isopropanol) | 3 | III | NDA |
| IATA/ICAO | ID8000 | Consumer Commodity | 9 | NDA | NDA |

Special precautions for user

- No data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

- No data available

Other information

DOT • Product code 69 is not packaged for air transport.

TDG • Ship as Limited Quantity.

IMO/IMDG • Ship as Limited Quantity.

IATA/ICAO • Product code 69 is not packaged for air transport.

Section 15 - Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • No data available

| Inventory | | | | |
|-------------------------------------|------------|------------|-----------|------|
| Component | CAS | Canada DSL | EU EINECS | TSCA |
| Calcomine Brilliant Violet | 2586-60-9 | No | No | No |
| Silicone | 68037-64-9 | Yes | No | Yes |
| Dipropylene glycol monomethyl ether | 34590-94-8 | Yes | Yes | Yes |
| Isopropyl alcohol | 67-63-0 | Yes | Yes | Yes |
| Sodium Lauryl Sulfate | 151-21-3 | Yes | Yes | Yes |
| Water | 7732-18-5 | Yes | Yes | Yes |

Canada

Labor**Canada - WHMIS - Classifications of Substances**

| | | |
|---------------------------------------|------------|---|
| • Silicone | 68037-64-9 | Not Listed |
| • Dipropylene glycol monomethyl ether | 34590-94-8 | B3 |
| • Isopropyl alcohol | 67-63-0 | B2, D2B (including 70%) |
| • Water | 7732-18-5 | Uncontrolled product according to WHMIS |

| | | |
|------------------------------|-----------|---------------------------------------|
| • Calcomine Brilliant Violet | 2586-60-9 | classification criteria Not Listed |
| • Sodium Lauryl Sulfate | 151-21-3 | D2B |

Canada - WHMIS - Ingredient Disclosure List

| | | |
|---------------------------------------|------------|------------|
| • Silicone | 68037-64-9 | Not Listed |
| • Dipropylene glycol monomethyl ether | 34590-94-8 | 1 % |
| • Isopropyl alcohol | 67-63-0 | 1 % |
| • Water | 7732-18-5 | Not Listed |
| • Calcomine Brilliant Violet | 2586-60-9 | Not Listed |
| • Sodium Lauryl Sulfate | 151-21-3 | 1 % |

Europe**Other****EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification**

| | | |
|---------------------------------------|------------|--------------------|
| • Silicone | 68037-64-9 | Not Listed |
| • Dipropylene glycol monomethyl ether | 34590-94-8 | Not Listed |
| • Isopropyl alcohol | 67-63-0 | F; R11 Xi; R36 R67 |
| • Water | 7732-18-5 | Not Listed |
| • Calcomine Brilliant Violet | 2586-60-9 | Not Listed |
| • Sodium Lauryl Sulfate | 151-21-3 | Not Listed |

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

| | | |
|---------------------------------------|------------|-------------------------------------|
| • Silicone | 68037-64-9 | Not Listed |
| • Dipropylene glycol monomethyl ether | 34590-94-8 | Not Listed |
| • Isopropyl alcohol | 67-63-0 | F Xi R:11-36-67 S:(2)-7-16-24/25-26 |
| • Water | 7732-18-5 | Not Listed |
| • Calcomine Brilliant Violet | 2586-60-9 | Not Listed |
| • Sodium Lauryl Sulfate | 151-21-3 | Not Listed |

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases

| | | |
|---------------------------------------|------------|---------------------|
| • Silicone | 68037-64-9 | Not Listed |
| • Dipropylene glycol monomethyl ether | 34590-94-8 | Not Listed |
| • Isopropyl alcohol | 67-63-0 | S:(2)-7-16-24/25-26 |
| • Water | 7732-18-5 | Not Listed |
| • Calcomine Brilliant Violet | 2586-60-9 | Not Listed |
| • Sodium Lauryl Sulfate | 151-21-3 | Not Listed |

United States**Environment****U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities**

| | | |
|---------------------------------------|------------|------------|
| • Silicone | 68037-64-9 | Not Listed |
| • Dipropylene glycol monomethyl ether | 34590-94-8 | Not Listed |
| • Isopropyl alcohol | 67-63-0 | Not Listed |
| • Water | 7732-18-5 | Not Listed |
| • Calcomine Brilliant Violet | 2586-60-9 | Not Listed |
| • Sodium Lauryl Sulfate | 151-21-3 | Not Listed |

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

| | | |
|---------------------------------------|------------|------------------|
| • Silicone | 68037-64-9 | Not Listed |
| • Dipropylene glycol monomethyl ether | 34590-94-8 | Not Listed |
| | | 1.0 % de minimis |

| | | |
|------------------------------|-----------|---|
| • Isopropyl alcohol | 67-63-0 | concentration (only if manufactured by the strong acid process, no supplier notification) |
| • Water | 7732-18-5 | Not Listed |
| • Calcomine Brilliant Violet | 2586-60-9 | Not Listed |
| • Sodium Lauryl Sulfate | 151-21-3 | Not Listed |

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

| | | |
|---------------------------------------|------------|------------|
| • Silicone | 68037-64-9 | Not Listed |
| • Dipropylene glycol monomethyl ether | 34590-94-8 | Not Listed |
| • Isopropyl alcohol | 67-63-0 | Not Listed |
| • Water | 7732-18-5 | Not Listed |
| • Calcomine Brilliant Violet | 2586-60-9 | Not Listed |
| • Sodium Lauryl Sulfate | 151-21-3 | Not Listed |

U.S. - California - Proposition 65 - Developmental Toxicity

| | | |
|---------------------------------------|------------|------------|
| • Silicone | 68037-64-9 | Not Listed |
| • Dipropylene glycol monomethyl ether | 34590-94-8 | Not Listed |
| • Isopropyl alcohol | 67-63-0 | Not Listed |
| • Water | 7732-18-5 | Not Listed |
| • Calcomine Brilliant Violet | 2586-60-9 | Not Listed |
| • Sodium Lauryl Sulfate | 151-21-3 | Not Listed |

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

| | | |
|---------------------------------------|------------|------------|
| • Silicone | 68037-64-9 | Not Listed |
| • Dipropylene glycol monomethyl ether | 34590-94-8 | Not Listed |
| • Isopropyl alcohol | 67-63-0 | Not Listed |
| • Water | 7732-18-5 | Not Listed |
| • Calcomine Brilliant Violet | 2586-60-9 | Not Listed |
| • Sodium Lauryl Sulfate | 151-21-3 | Not Listed |

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

| | | |
|---------------------------------------|------------|------------|
| • Silicone | 68037-64-9 | Not Listed |
| • Dipropylene glycol monomethyl ether | 34590-94-8 | Not Listed |
| • Isopropyl alcohol | 67-63-0 | Not Listed |
| • Water | 7732-18-5 | Not Listed |
| • Calcomine Brilliant Violet | 2586-60-9 | Not Listed |
| • Sodium Lauryl Sulfate | 151-21-3 | Not Listed |

Section 16 - Other Information

Revision Date • 11/September/2015

Last Revision Date • 06/May/2015

Preparation Date • 06/May/2015

Disclaimer/Statement of Liability • To the best of our knowledge, the information contained herein is accurate. However, neither Bausch & Lomb Incorporated nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution.

Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. NO WARRANTY, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS OR OTHERWISE IS MADE. In no event shall Bausch & Lomb Incorporated or any of its subsidiaries be liable for any special, incidental or consequential damages.

SAFETY DATA SHEET

DOW AGROSCIENCES LLC

Product name: SNAPSHOT™ 2.5 TG HERBICIDE

Issue Date: 05/15/2015

Print Date: 05/26/2015

DOW AGROSCIENCES LLC encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: SNAPSHOT™ 2.5 TG HERBICIDE

Recommended use of the chemical and restrictions on use

Identified uses: End use herbicide product

COMPANY IDENTIFICATION

DOW AGROSCIENCES LLC
9330 ZIONSVILLE RD
INDIANAPOLIS IN 46268-1053
UNITED STATES

Customer Information Number:

800-992-5994

info@dow.com

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 800-992-5994

Local Emergency Contact: 352-323-3500

2. HAZARDS IDENTIFICATION

Hazard classification

This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Acute toxicity - Category 3 - Inhalation

Carcinogenicity - Category 1A

Specific target organ toxicity - repeated exposure - Category 1

Label elements

Hazard pictograms



Signal word: **DANGER!**

Hazards

Toxic if inhaled.

May cause cancer.

Causes damage to organs through prolonged or repeated exposure.

Precautionary statements**Prevention**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

Wash skin thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Use personal protective equipment as required.

Response

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician.

IF exposed or concerned: Get medical advice/ attention.

Storage

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Disposal

Dispose of contents/ container to an approved waste disposal plant.

Other hazards

no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

| Component | CASRN | Concentration |
|------------------------------|---------------|---------------------|
| Isoxaben | 82558-50-7 | 0.5% |
| Trifluralin | 1582-09-8 | 2.0% |
| Clays, Fuller's earth | 8031-18-3 | >= 78.5 - <= 86.4 % |
| Silica, crystalline (quartz) | 14808-60-7 | >= 0.9 - <= 8.7 % |
| Balance | Not available | >= 2.4 - <= 18.1 % |

4. FIRST AID MEASURES

Description of first aid measures

General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice. If breathing is difficult, oxygen should be administered by qualified personnel.

Skin contact: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Eye contact: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

Ingestion: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: This material does not burn. If exposed to fire from another source, use suitable extinguishing agent for that fire.

Unsuitable extinguishing media: no data available

Special hazards arising from the substance or mixture

Hazardous combustion products: Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Combustion products may include and are not limited to: Nitrogen oxides. Hydrogen fluoride. Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: None known.

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination.

This material does not burn. Fight fire for other material that is burning. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Keep upwind of spill. Spilled material may cause a slipping hazard. Ventilate area of leak or spill. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Small spills: Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact Dow AgroSciences for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe handling: Keep out of reach of children. Do not swallow. Avoid breathing dust or mist. Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Wash thoroughly after handling. Keep container closed. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Conditions for safe storage: Store in a dry place. Store in original container. Do not store near food, foodstuffs, drugs or potable water supplies.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

| Component | Regulation | Type of listing | Value/Notation |
|------------------------------|------------|-------------------------|---|
| Silica, crystalline (quartz) | OSHA Z-1 | | |
| | OSHA Z-3 | TWA total dust | 30 mg/m ³ / %SiO ₂ +2 |
| | OSHA Z-3 | TWA respirable | 10 mg/m ³ / %SiO ₂ +2 |
| | OSHA Z-3 | TWA respirable | 250 mppcf / %SiO ₂ +5 |
| | ACGIH | TWA Respirable fraction | 0.025 mg/m ³ , Silica |

RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

Exposure controls

Engineering controls: Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields). If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.

Skin protection

Hand protection: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Examples of preferred glove barrier materials include: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). **NOTICE:** The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Wear clean, body-covering clothing.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus. In confined or poorly ventilated areas, use an approved self-contained breathing apparatus or positive pressure air line with auxiliary self-contained air supply.

The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

| | |
|---|----------------------------------|
| Physical state | Granules. |
| Color | Yellow |
| Odor | Aromatic |
| Odor Threshold | No test data available |
| pH | 7.5 (50% dispersion) |
| Melting point/range | No test data available |
| Freezing point | Not applicable |
| Boiling point (760 mmHg) | Not applicable |
| Flash point | closed cup Not applicable |
| Evaporation Rate (Butyl Acetate = 1) | Not applicable |
| Flammability (solid, gas) | No |
| Lower explosion limit | Not applicable |
| Upper explosion limit | Not applicable |
| Vapor Pressure | Not applicable |
| Relative Vapor Density (air = 1) | Not applicable |
| Relative Density (water = 1) | Not applicable |

| | |
|---|--|
| Water solubility | No test data available |
| Partition coefficient: n-octanol/water | no data available |
| Auto-ignition temperature | > 537 °C (> 999 °F) |
| Decomposition temperature | No test data available |
| Dynamic Viscosity | Not applicable |
| Kinematic Viscosity | Not applicable |
| Explosive properties | no data available |
| Oxidizing properties | no data available |
| Liquid Density | Not applicable |
| Bulk density | 0.70 g/cm ³ <i>Loose Volumetric</i> |
| Molecular weight | No test data available |

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: no data available

Chemical stability: Stable under recommended storage conditions. See Storage, Section 7.

Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: Active ingredient decomposes at elevated temperatures. Avoid direct sunlight or ultraviolet sources.

Incompatible materials: Avoid contact with: Strong oxidizers. Strong acids.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Nitrogen oxides. Hydrogen fluoride.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

As product:

LD50, Rat, > 2,500 mg/kg

Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product:
LD50, Rabbit, > 5,000 mg/kg

Acute inhalation toxicity

As product:
LC50, Rat, male, 4 Hour, Dust, > 4.6 mg/l
As product:
LC50, Rat, female, 4 Hour, Dust, > 0.5 - < 4.6 mg/l
Excessive exposure may cause irritation to upper respiratory tract (nose and throat).
Prolonged excessive exposure may cause serious adverse effects, even death.

Skin corrosion/irritation

Prolonged contact may cause slight skin irritation with local redness.

Serious eye damage/eye irritation

Solid or dust may cause irritation due to mechanical action.

Sensitization

Did not cause allergic skin reactions when tested in guinea pigs.
Did not demonstrate the potential for contact allergy in mice.

For respiratory sensitization:
No relevant information found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

For the active ingredient(s):
In animals, effects have been reported on the following organs:
Kidney.
Liver.
Blood.
Repeated excessive exposure to crystalline silica may cause silicosis, a progressive and disabling disease of the lungs.

Carcinogenicity

Crystalline silica has been shown to cause cancer in laboratory animals and humans. An increase in nonmalignant liver tumors was observed with isoxaben in one of two species tested. A low incidence of urinary tract tumors was seen in only 1 of 5 chronic studies in rats with trifluralin. Trifluralin is not anticipated to be a carcinogenic risk to man.

Teratogenicity

For the active ingredient(s): Trifluralin. Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Isoxaben. Has caused birth defects in laboratory animals only at doses toxic to the mother.

Reproductive toxicity

For the active ingredient(s): Isoxaben. In animal studies, has been shown to interfere with reproduction in females.

Mutagenicity

For the active ingredient(s): Trifluralin. In vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were negative.

Based on information for component(s): Crystalline Silica. In vitro genetic toxicity studies were negative in some cases and positive in other cases.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

Carcinogenicity**Component****Silica, crystalline (quartz)****List**

IARC

ACGIH

Classification

Group 1: Carcinogenic to humans

A2: Suspected human carcinogen

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity**Acute toxicity to fish**

LC50, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 Hour, 230 mg/l

Material is practically non-toxic to aquatic organisms on an acute basis
(LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Acute toxicity to aquatic invertebrates

EC50, Daphnia pulex (Water flea), 48 Hour, > 1,000 mg/l

Acute toxicity to algae/aquatic plants

ErC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, > 1,000 mg/l

Toxicity to Above Ground Organisms

Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).

oral LD50, Colinus virginianus (Bobwhite quail), > 2000mg/kg bodyweight.

Toxicity to soil-dwelling organisms

LC50, Eisenia fetida (earthworms), 14 d, survival, > 10,000 mg/kg

Persistence and degradability**Isoxaben**

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability. Biodegradation rate may increase in soil and/or water with acclimation.

Theoretical Oxygen Demand: 1.98 mg/mg

Chemical Oxygen Demand: 1.77 mg/g

Stability in Water (1/2-life)

Hydrolysis, half-life, > 5 d, pH 7.0

Photodegradation

Test Type: Half-life (direct photolysis)

Method: Measured

Photodegradation

Test Type: Half-life (direct photolysis)

Photodegradation

Test Type: Half-life (indirect photolysis)

Sensitizer: OH radicals

Atmospheric half-life: 0.628 Hour

Method: Estimated.

Trifluralin

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

10-day Window: Fail

Biodegradation: 5 %

Exposure time: 28 d

Method: OECD Test Guideline 301B or Equivalent

Chemical Oxygen Demand: 1.37 mg/mg

Stability in Water (1/2-life)

Hydrolysis, half-life, > 1 year, pH 3 - 9, Measured

Photolysis, half-life, 0.19 - 3.08 Hour, Measured

Photodegradation

Test Type: Half-life (indirect photolysis)

Sensitizer: OH radicals

Atmospheric half-life: 5.347 Hour

Method: Estimated.

Clays, Fuller's earth

Biodegradability: Biodegradation is not applicable.

Silica, crystalline (quartz)

Biodegradability: Biodegradation is not applicable.

Balance

Biodegradability: No relevant data found.

Bioaccumulative potential

Isoxaben

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 2.64 Measured

Trifluralin

Bioaccumulation: Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

Partition coefficient: n-octanol/water(log Pow): 5.27

Bioconcentration factor (BCF): 1,060 - 6,000 *Pimephales promelas* (fathead minnow) Estimated.

Clays, Fuller's earth

Bioaccumulation: Partitioning from water to n-octanol is not applicable.

Silica, crystalline (quartz)

Bioaccumulation: Partitioning from water to n-octanol is not applicable.

Balance

Bioaccumulation: No relevant data found.

Mobility in soil

Isoxaben

Potential for mobility in soil is low (Koc between 500 and 2000).

Partition coefficient(Koc): 700 - 1290

Clays, Fuller's earth

No relevant data found.

Silica, crystalline (quartz)

No relevant data found.

Balance

No relevant data found.

13. DISPOSAL CONSIDERATIONS

Disposal methods: If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

14. TRANSPORT INFORMATION

DOT

| | |
|-----------------------------|---|
| Proper shipping name | Environmentally hazardous substance, solid, n.o.s.(Trifluralin) |
| UN number | UN 3077 |
| Class | 9 |
| Packing group | III |
| Reportable Quantity | Trifluralin |

Classification for SEA transport (IMO-IMDG):

**Transport in bulk
according to Annex I or II
of MARPOL 73/78 and the
IBC or IGC Code**

Not regulated for transport
Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

OSHA Hazard Communication Standard

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Acute Health Hazard
Chronic Health Hazard

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)

WARNING: This product contains a chemical(s) known to the State of California to cause cancer.

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:

The following product components are cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

Components

Trifluralin
Silica, crystalline (quartz)

CASRN

1582-09-8
14808-60-7

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Special Hazardous Substances List:

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

United States TSCA Inventory (TSCA)

This product contains chemical substance(s) exempt from U.S. EPA TSCA Inventory requirements. It is regulated as a pesticide subject to Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requirements.

Federal Insecticide, Fungicide and Rodenticide Act

EPA Registration Number: 62719-175

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION

Causes moderate eye irritation

Harmful if swallowed or inhaled

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

16. OTHER INFORMATION

Hazard Rating System**NFPA**

| Health | Fire | Reactivity |
|--------|------|------------|
| 2 | 1 | 0 |

Revision

Identification Number: 101204129 / A211 / Issue Date: 05/15/2015 / Version: 3.0

DAS Code: FN-3278

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

| | |
|----------|--|
| ACGIH | USA. ACGIH Threshold Limit Values (TLV) |
| OSHA Z-1 | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| OSHA Z-3 | USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts |
| TWA | 8-hour, time-weighted average |

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

DOW AGROSCIENCES LLC urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is

provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.



SAFETY DATA SHEET

Section 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Regular Dry Chemical Extinguishant
Other Identifiers: Sodium Bicarbonate, SDC
Product Code(s): CH 511, CH512, CH 541
Model Codes for Fire Extinguishers: A620,403,408,409,412,447,451,453,457,459,462,468
471,477,482,489,492,496,568,574,582,721,761,782
Recommended Use: Fire suppression of Class B and C fires
Not for human or animal drug use.
Manufacturer: AMEREX CORPORATION
Internet Address: www.amerex-fire.com
Address: 7595 Gadsden Highway, P.O. Box 81
Trussville, AL 35173-0081
Company Telephone: (205) 655-3271
E-mail Address: info@amerex-fire.com
Emergency Contacts: Chemtrec 1(800) 424-9300 or
(703) 527-3887
Revised: May, 2016

Section 2. HAZARDS IDENTIFICATION

Emergency overview: White fine powder

Adverse health effects and symptoms: Mildly irritating to the respiratory system and eyes.
Symptoms may include coughing, shortness of breath, and irritation of the lungs, eyes, and skin.
Ingestion may cause gastrointestinal irritation and edema (fluid retention).

GHS – Classification

| Health | Environmental | Physical |
|---------------------------------------|---------------|----------|
| Acute Toxicity: Category 5 | None | None |
| Skin Corrosion/Irritation: Category 3 | None | None |
| Skin Sensitization: NO | None | None |
| Eye: Category 2B | None | Warning |
| STOT – Category 3 | None | Warning |
| Carcinogen: Category None | None | None |

GHS – Label Symbol(s):

Exclamation Mark



GHS – Word(s):

Warning

Other Hazards Not Resulting in Classification: None

GHS – Hazard Phrases

| GHS Hazard | GHS Codes(s) | Code Phrase(s) |
|----------------|---|--|
| Physical | None | |
| Health | H303 316 320 335 | May be harmful if swallowed Causes mild skin irritation Causes eye irritation May cause respiratory irritation |
| Environmental | None | |
| Precautionary: | | |
| General | P101 | If medical advice is needed, have product container or label at hand |
| Prevention | 261 264 | Avoid breathing dust Wash hands and face thoroughly after handling |
| Response | P304+340 305+351+313 337+338 312 | If inhaled, remove person to fresh air and keep comfortable for breathing. If in eyes, rinse cautiously with water for several minutes. Get immediate medical advice/attention (as appropriate). If eye irritation persists: remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER/doctor if you feel unwell (as appropriate). |
| Storage | None | |

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | EC No. | REACH Reg. No. | CAS-No. | Weight % |
|--|-----------|----------------|------------|----------|
| Sodium bicarbonate | 205-633-8 | Not Available | 144-55-8 | >92 |
| Fullers earth magnesium aluminum silicate | NA | Not Available | 8031-18-3 | <5 |
| Sericite Potassium aluminum silicate | NA | Not Available | 12001-26-2 | <2.5 |
| Silicone oil methyl hydrogen polysiloxane | NA | Not Available | 63148-57-2 | <0.5 |

Emergency overview:

Adverse health effects and symptoms:

White fine powder, odorless.

Possibly a mild irritant to the respiratory system and eyes; mild irritant to the skin. Symptoms may include coughing, shortness of breath, and irritation of the lungs, eyes, and skin. Ingestion, although unlikely, may cause gastrointestinal irritation and edema (fluid retention).

Cut-off Levels

| Chemical Name | Reproductive Toxicity | Carcinogenicity | Mutagenicity | Other Hazard Classes |
|--|------------------------|-----------------|------------------------|------------------------|
| Sodium bicarbonate | Not enough information | NA | Not enough information | Not enough information |
| Fullers earth magnesium aluminum silicate | NA | NA | NA | NA |
| Sericite Potassium aluminum silicate | NA | NA | NA | NA |
| Silicone oil methyl hydrogen polysiloxane | NA | NA | NA | NA |

Section 4. FIRST AID MEASURES

| | |
|---|--|
| Eye Exposure: | May cause irritation. Irrigate eyes with water and repeat until pain free. Seek medical attention if irritation develops, or if vision changes occur. |
| Skin Exposure: | May cause skin irritation. In case of contact, wash with plenty of soap and water. Seek medical attention if irritation persists. |
| Inhalation: | May cause irritation, along with coughing. If respiratory irritation or distress occurs remove victim to fresh air. Seek medical attention if irritation persists. |
| Ingestion: | Overdose symptoms may include thirst, nausea, and severe diarrhea and vomiting. If victim is conscious and alert, give 2-3 glasses of water to drink. If conscious, do not induce vomiting. Seek immediate medical attention. Do not leave victim unattended. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. |
| Medical conditions possibly aggravated by exposure: | Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema, or bronchitis. Skin contact may aggravate existing skin disease. Chronic overexposure may cause pneumoconiosis ("dusty lung" disease). |

Section 5. FIRE-FIGHTING MEASURES

| | |
|--|---|
| Flammable Properties: | Not flammable |
| Flash Point: | Not determined |
| Suitable Extinguishing Media: | Non-combustible. Use extinguishing media suitable for surrounding conditions. |
| Hazardous Combustion Products: | Carbon oxides |
| <u>Explosion Data:</u> | |
| Sensitivity to Mechanical Impact: | Not sensitive |
| Sensitivity to Static Discharge: | Not sensitive |
| Unusual fire/explosion hazards: | In a fire this material may decompose, releasing oxides of carbon, potassium and nitrogen (see Section 10). |
| Protective Equipment and Precautions for Firefighters: | As in any fire, wear self-contained breathing apparatus pressure-demand. NIOSH (approved or equivalent) and full protective gear. |

Section 6. ACCIDENTAL RELEASE MEASURES

| | |
|--------------------------------|--|
| Personal Precautions: | Avoid contact with skin, eyes, and clothing. |
| Personal Protective Equipment: | Minimum - safety glasses, gloves, and a dust respirator. |
| Emergency Procedures: | NA |
| Methods for Containment: | Prevent further leakage or spillage if safe to do so. |
| Methods for Clean Up: | Avoid dust formation. Clean up released material using vacuum or wet sweep and shovel to minimize generation of dust. Bag and transfer to properly labeled containers. Ventilate area and wash spill site after material pickup is complete. |
| Other: | If product is contaminated, use PPE and containment appropriate to the nature of the most toxic chemical/material in the mixture. |

Section 7. HANDLING AND STORAGE

| | |
|---------------------------------------|--|
| Personal Precautions: | Use appropriate PPE when handling or maintaining equipment, and wash thoroughly after handling (see Section 8). |
| Conditions for Safe Storage/Handling: | Keep product in original container or extinguisher. Prevent falling. Do not allow near heat sources. Contents may be under pressure – inspect extinguisher consistent with product labeling to ensure container integrity. |
| Incompatible Products: | Do not mix with other extinguishing agents, Incompatible with strong oxidizing agents and strong acids. Do not store in high humidity. |
| Hazardous Decomposition Products: | Carbon and sodium oxides. |
| Hazardous Polymerization: | Will not occur. |

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

| Chemical Name | OSHA PEL | ACGIH TLV | DFG MAK * | EU BLV |
|--|--|--|---|--------|
| Sodium bicarbonate | PNOC** Total dust, 15 mg/m ³ Respirable fraction, 5 mg/m ³ | PNOC Total dust, 10 mg/m ³ Respirable fraction, 3 mg/m ³ | PNOC Total dust, 4 mg/m ³ Respirable fraction, 1.5 mg/m ³ | NA |
| Fullers earth magnesium aluminum silicate | PNOC** Total dust, 15 mg/m ³ Respirable fraction, 5 mg/m ³ | PNOC Total dust, 10 mg/m ³ Respirable fraction, 3 mg/m ³ | PNOC Total dust, 4 mg/m ³ Respirable fraction, 1.5 mg/m ³ | NA |
| Sericite Potassium aluminum silicate | PNOC Total dust, 15 mg/m ³ Respirable fraction, 5 mg/m ³ | PNOC Total dust, 10 mg/m ³ Respirable fraction, 3 mg/m ³ | PNOC Total dust, 4 mg/m ³ Respirable fraction, 1.5 mg/m ³ | NA |
| Silicone oil methyl hydrogen polysiloxane | NR*** | NR | NR | NA |

*German regulatory limits **PNOC = Particulates not otherwise classified (ACGIH) also known as Particulates not otherwise regulated (OSHA) *** NR = Not Regulated. All values are 8 hour time weighted average concentrations.

Engineering Controls:

Showers
Eyewash stations
Ventilation systems

Personal Protective Equipment – PPE Code E:

The need for respiratory protection is not probable during short-term exposure. PPE use during production process must be independently evaluated.



Eye/Face Protection:
Skin and Body Protection:
Respiratory Protection:

Tightly fitting chemical goggles
Wear protective gloves/coveralls
If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn. Use P100 respirators for limited exposure, use air-purifying respirator (APR) with high efficiency particulate air (HEPA) filters for prolonged exposure. Positive-pressure supplied air respirators

Hygiene Measures:

may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current safety and health requirements. The need for respiratory protection is not likely for short-term use in well ventilated areas. Good personal hygiene practice is essential, such as avoiding food, tobacco products, or other hand-to-mouth contact when handling. Wash thoroughly after handling.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--------------------------------|---|
| Appearance: | White powder, finely divided odorless solid |
| Molecular Weight: | NaHCO ₃ : 84.01 |
| Odor: | No information available |
| Odor Threshold: | No information available |
| Decomposition Temperature °C: | NaHCO ₃ : 50 |
| Freezing Point °C: | Approximately 50 (decomposes to sodium carbonate) |
| Initial Boiling Point °C: | No information available |
| Physical State: | Crystalline Powder |
| pH: | Approximately 8.3 |
| Flash Point °C: | None |
| Autoignition Temperature °C: | None |
| Boiling Point/Range °C: | Not Applicable. Will decompose |
| Melting Point/Range °C: | Not Applicable |
| Flammability: | Not Flammable |
| Flammability Limits in Air °C: | Upper – Not Flammable; Lower-Not Flammable |
| Explosive Properties: | None |
| Oxidizing Properties: | None |
| Volatile Component (%vol) | Not Applicable |
| Evaporation Rate: | Not Applicable |
| Vapor Density: | Not Applicable |
| Vapor Pressure: | Low; Est 3.73e-09 mmhg |
| Specific gravity: | Approximately 2.2 |
| Solubility: | Product is coated – not immediately soluble in water. |
| Partition Coefficient: | No Information Available |
| Viscosity: | Not Applicable |

NOTE: NaHCO₃ – Sodium bicarbonate

Section 10. STABILITY AND REACTIVITY

| | |
|-------------------------------------|--|
| Stability: | Stable under recommended storage and handling conditions. |
| Reactivity: | Reacts exothermically with acids to generate non-toxic carbon dioxide gas. Dangerous reaction with mono-ammonium phosphate and sodium potassium alloys. |
| Incompatibles: | Avoid contact with oxidizing agents and strong acids. Contact with mono-ammonium phosphate, especially in the presence of water, may cause pressure to build due to the generation of ammonia and carbon dioxide gas; moisture will accelerate this reaction. Sodium potassium alloy can result in a violent reaction with certain extinguishing agents, such as Sodium Bicarbonate. Mixtures of Sodium Bicarbonate with 2-furaldehyde can spontaneously ignite when exposed to air. Sodium Bicarbonate is incompatible with dopamine hydrochloride, pentazocine lactate, aspirin and bismuth salicylate, and many alkali salts. |
| Conditions to Avoid: | Storage or handling near incompatibles. |
| Hazardous Decomposition Products: | Carbon, nitrogen, and potassium oxides. Heat of fire may release carbon monoxide. |
| Possibility of Hazardous Reactions: | None |
| Hazardous Polymerization | Does not occur |

Section 11. TOXICOLOGICAL INFORMATION

| | |
|----------------------------|---|
| Likely Routes of Exposure: | Inhalation, skin and eye contact. |
| Symptoms: | |
| Immediate: | |
| Inhalation: | Irritation, coughing. |
| Eyes: | Irritation. |
| Skin: | Irritation. |
| Delayed: | Symptoms appear to be relatively immediate |
| Acute Toxicity: | Relatively non-toxic. |
| Chronic Toxicity: | |
| Short-term Exposure: | None known. |
| Long-term Exposure: | As with all dusts, pneumoconiosis, or "dusty lung" disease, may result from chronic exposure. |

Acute Toxicity Values - Health

| Chemical Name | LD50 | | LC50 (Inhalation) |
|--|------------------|----------------------|-------------------|
| | Oral | Dermal | |
| Sodium bicarbonate | 4220 mg/kg (rat) | >2000 mg/kg (rabbit) | 900 mg/m3 (rat) |
| Fullers earth magnesium aluminum silicate | None | None | None |
| Sericite Potassium aluminum silicate | None | None | None |
| Silicone oil methyl hydrogen polysiloxane | None | None | None |

Reproductive Toxicity:

This product's ingredients are not known to have reproductive or teratogenic effects.

Target Organs and Effects (TOST):

Respiratory system (mild irritant).

This product is a mild irritant to epithelial tissue, (eyes, mucous membranes, skin) and may aggravate dermatitis. No information was found indicating the product causes sensitization.

Other Toxicity Categories

| Chemical Name | Germ Cell Mutagenicity | Carcinogenicity | Reproductive | TOST Single Exp | TOST Repeated Exp | Aspiration |
|--|------------------------|-----------------|--------------|-----------------|-------------------|------------|
| Sodium bicarbonate | None | None | None | No data | None | None |
| Fullers earth magnesium aluminum silicate | None | None | None | None | None | None |
| Sericite Potassium aluminum silicate | None | None | None | None | None | None |
| Silicone oil methyl hydrogen polysiloxane | None | None | None | None | None | None |

Section 12. ECOLOGICAL INFORMATION

Ecotoxicity:

Low.

Persistence/Degradability:

Soluble in water; NaHCO₃: 96 g/l at 20 °C.

Probability of rapid biodegradation:

NaHCO₃ Est: 0.718 (Rapid)

Anaerobic biodegradation probability:

NaHCO₃ Est: 0.836 (Rapid)

Bioaccumulation potential:

Low.

Bioconcentration factor:

NaHCO₃ Est: 3.16 L/kg

Mobility in soil:

Slow evaporation rate; water soluble, may leach to groundwater

Log Koc:

NaHCO₃ Est: -2.06

NOTE: NaHCO₃ – Sodium bicarbonate

Other Adverse Ecological Effects:

No other known effects at this time

Aquatic Toxicity Values - Environment

| Chemical Name | Acute (LC50) | Chronic (LC50) |
|--|---------------------------|------------------------|
| Sodium bicarbonate | 7700 mg/l (rainbow trout) | 4100 mg/l (water flea) |
| Fullers earth magnesium aluminum silicate | N/A | N/A |
| Sericite Potassium aluminum silicate | N/A | N/A |
| Silicone oil methyl hydrogen polysiloxane | N/A | N/A |

Aquatic Toxicity Values – Calculated Estimates

| Chemical Name | Acute (LC50) | EC50 |
|--|---|---------------------------|
| Sodium bicarbonate | 8259 mg/L Fish 96 hr; 3737 mg/l Daphnid 48 hr; | 1088 mg/L Gr. Algae 96 hr |
| Fullers earth magnesium aluminum silicate | N/A | N/A |
| Sericite Potassium aluminum silicate | N/A | N/A |
| Silicone oil methyl hydrogen polysiloxane | N/A | N/A |

Section 13. DISPOSAL CONSIDERATIONS

Safe Handling

Use appropriate PPE when handling, and wash thoroughly after handling (see Section 8).

Waste Disposal Considerations

Dispose in accordance with federal, state, and local regulations.

Contaminated Packaging

Dispose in accordance with federal, state, and local regulations.

NOTES:

This product is not a RCRA characteristically hazardous or listed hazardous waste. Dispose of according to state or local laws, which may be more restrictive than federal laws or regulations. Used product may be altered or contaminated, creating different disposal considerations.

Section 14. TRANSPORT INFORMATION

UN Number: NA
UN Proper Shipping Name: NA
Transport Hazard Class: NA
Packing Group: NA
Marine Pollutant?: NO

IATA Not regulated
DOT Not regulated

NOTES:

This product is not defined as a hazardous material under U.S. Department of Transportation (DOT) 49 CFR 172, or by Transport Canada "Transportation of Dangerous Goods" regulations.

Special Precautions for Shipping:

If shipped in a stored pressure-type fire extinguisher, and pressurized with a non-flammable, non-toxic inert expellant gas, the fire extinguisher is considered a hazardous material by the US Department of Transportation and Transport Canada. The proper shipping name shall be FIRE EXTINGUISHER and the UN designation is UN 1044. The DOT hazard class is Limited Quantity, when shipped via highway or rail. Use a non-flammable gas label (class 2.2) when shipping via air and under circumstances where Limited quantity does not apply.

Section 15. REGULATORY INFORMATION

International Inventory Status: All ingredients are on the following inventories

| Country(ies) | Agency | Status |
|--------------------------|---------------|--------|
| United States of America | TSCA | Yes |
| Canada | DSL | Yes |
| Europe | EINECS/ELINCS | Yes |
| Australia | AICS | Yes |
| Japan | MITI | Yes |
| South Korea | KECL | Yes |

REACH Title VII Restrictions: No information available

| Chemical Name | Dangerous Substances | Organic Solvents | Harmful Substances Whose Names Are to be Indicated on Label | Pollution Release and Transfer Registry (Class II) | Pollution Release and Transfer Registry (Class I) | Poison and Deleterious Substances Control Law |
|--|----------------------|------------------|---|--|---|---|
| Sodium bicarbonate | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable |
| Fullers earth magnesium aluminum silicate | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable |
| Sericite Potassium aluminum silicate | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable |
| Silicone oil methyl hydrogen polysiloxane | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable |

| Component | ISHA – Harmful Substances Prohibited for Manufacturing, Importing, Transferring, or Supplying | ISHA – Harmful Substances Requiring Permission | Toxic Chemical Classification Listing (TCCL) – Toxic Chemicals | Toxic Release Inventory (TRI) – Group I | Toxic Release Inventory (TRI) – Group II |
|---|---|--|--|---|--|
| Sodium bicarbonate | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable |
| Fullers earth magnesium aluminum silicate | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable |
| Sericite Potassium aluminum silicate | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable |
| Silicone oil methyl hydrogen polysiloxane | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable |

European Risk and Safety phrases:

| | | |
|--------------------|-------|---|
| EU Classification: | XN | Irritant |
| R Phrases: | 20 | Harmful by inhalation. |
| | 36/37 | Irritating to eyes, respiratory system. |
| S Phrases: | 22 | Do not breath dust. |
| | 24/25 | Avoid contact with skin and eyes |
| | 26 | In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. |
| | 36 | Wear suitable protective clothing. |

U.S. Federal Regulatory Information:

SARA 313:

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) - This product does not contain and chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

None of the chemicals in this product are under SARA reporting requirements or have SARA threshold planning quantities (TPQs) or CERCLA reportable quantities (RQs), or are regulated under TSCA 8(d).

SARA 311/312 Hazard Categories:

| | |
|-------------------------------------|-----|
| Acute Health Hazard | No |
| Chronic Health Hazard | No |
| Fire Hazard | No |
| Sudden Release of Pressure Hazard-* | Yes |
| Reactive Hazard | No |

* - Only applicable if material is in a pressurized extinguisher.

Clean Water/Clean Air Acts:

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42) or Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61) and Section 112 of the Clean Air Act Amendments of 1990.

U.S. State Regulatory Information:

Chemicals in this product are covered under specific State regulations, as denoted below:

Alaska - Designated Toxic and Hazardous Substances: None
California – Permissible Exposure Limits for Chemical Contaminants: None
Florida – Substance List: Mica Dust
Illinois – Toxic Substance List: None
Kansas – Section 302/303 List: None
Massachusetts – Substance List: Mica Dust
Minnesota – List of Hazardous Substances: None
Missouri – Employer Information/Toxic Substance List: None
New Jersey – Right to Know Hazardous Substance List: None
North Dakota – List of Hazardous Chemicals, Reportable Quantities: None
Pennsylvania – Hazardous Substance List: None
Rhode Island – Hazardous Substance List: Mica Dust
Texas – Hazardous Substance List: No
West Virginia – Hazardous Substance List: None
Wisconsin – Toxic and Hazardous Substances: None

California Proposition 65: No component is listed on the California Proposition 65 list.

Other:

| | |
|-----------------------------|---------------------|
| Mexico – Grade | No component listed |
| Canada – WHMIS Hazard Class | No component listed |

| |
|--------------------------------------|
| Section 16. OTHER INFORMATION |
|--------------------------------------|

This SDS conforms to requirements under U.S., U.K., Canadian, Australian, and EU regulations or standards, and conforms to the proposed 2003 ANSI Z400.1 format.

| | |
|----------------|--------------|
| Issuing Date | 17-June-2012 |
| Revision Date | 4-May-2016 |
| Revision Notes | None |

The information herein is given in good faith but no warranty, expressed or implied, is made.
Updated by William F. Garvin, CIH.



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SODIUM BICARBONATE Safety Data Sheet

Page 1 of 3

1. IDENTIFICATION

Product name: Sodium bicarbonate

Synonyms: Sodium hydrogen carbonate; Baking soda; Bicarbonate of soda; Sodium acid carbonate; Carbonic acid, monosodium salt.

Manufacturer:

Natrium Products, Inc.
58 Pendleton Street
Cortland, NY 13045
USA

Telephone numbers:

General inquiries: (607) 753-9829
Emergencies (US and Canada):
CHEMTREC (Customer Number 724993)
(800) 424-9300 or 703-527-3887 (collect)

Recommended uses:

Food additive; pharmaceutical ingredient; water treatment; raw material for paper and chemical manufacturing; animal feed additive; pH control.

2. HAZARD IDENTIFICATION

There are no appreciable health or environmental effects associated with this material.

Hazard classification: Not classified

Label elements: No applicable labeling

Other potential health effects:

Eyes: Direct contact may cause irritation due to abrasion.

Skin: Not a skin irritant.

Inhalation: No known effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name: Sodium hydrogen carbonate

Chemical formula: NaHCO_3

Synonyms: Sodium bicarbonate; Baking soda; Bicarbonate of soda; Sodium acid carbonate; Carbonic acid, monosodium salt.

CAS Number: 144-55-8

Concentration (% by Weight): 100%

4. FIRST AID MEASURES

Eye contact: Irrigate with flowing water immediately and continuously for 15 minutes. Consult a physician if necessary.

Skin contact: Wash off in flowing water or shower. If necessary, consult physician.

Ingestion: Do not induce vomiting. Seek medical attention immediately if overdose is taken.

Note to physician: Large doses, particularly in patients with renal insufficiency, have produced systemic alkalosis and/or expansion in the extra-cellular fluid volume with edema.

Inhalation: Remove to fresh air. Seek medical attention if discomfort persists.

5. FIRE-FIGHTING MEASURES

Product is non-combustible. Thermal decomposition products are carbon dioxide and sodium carbonate (soda ash). Carbon dioxide is an asphyxiant, and soda ash is an irritant.

Protective equipment: Self-contained breathing apparatus is necessary if large quantities are involved.

Extinguishing media: Use extinguishing material that is appropriate for fire in the surrounding area.



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SODIUM BICARBONATE Safety Data Sheet

Page 2 of 3

6. ACCIDENTAL RELEASE MEASURES

Sweep up into clean, dry containers for salvage or disposal. Wash away uncontaminated residue with water.

7. HANDLING AND STORAGE

Avoid contact with eyes and skin. Keep separated from acids. Store in a cool, dry place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits: Not established.

Engineering controls: Provide general and/or local exhaust ventilation to control airborne dust.

Personal Protection:

Eyes & Face: Safety glasses for dusty conditions.

Respiratory: NIOSH approved dust mask.

Miscellaneous: Full cover clothing, general purpose gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White crystalline powder or granules.

Flammability: None.

Upper/lower flammability/explosive limits: Not applicable.

Odor: None.

Odor threshold: Not applicable.

Vapor pressure: Not applicable.

Vapor density: Not applicable.

pH of 0.1 M solution (0.84% w/v): 8.3 @ 25°C

Density: 2.2 g/cm³.

Melting point: Not applicable (thermal decomposition occurs on heating).

Solubility in water: 86 g/L @ 20°C.

Boiling point: Not applicable.

Flash point: Not applicable.

Evaporation rate: Not applicable.

Partition coefficient, n-octanol/water: No data available.

Auto-ignition temperature: Not applicable.

Decomposition temperature: Starts to decompose when heated above 50°C (122°F).

Viscosity: Not applicable.

10. STABILITY AND REACTIVITY

Reactivity: Hazardous reactions or polymerization will not occur under normal conditions.

Chemical stability: Stable under recommended handling and storage conditions. (See Section 7.)

Conditions to avoid: Temperatures above 50°C (122°F).

Incompatible materials: Reacts with acids, releasing carbon dioxide.

Hazardous decomposition products: Carbon dioxide and sodium carbonate (soda ash).



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SODIUM BICARBONATE Safety Data Sheet

Page 3 of 3

11. TOXICOLOGICAL INFORMATION

Acute Oral: LD₅₀ (rat) > 4000 mg/kg.

Acute Inhalation: LC₅₀ (rat) > 4.74 mg/L.

Eyes: Minimally irritating (rabbit, EPA TSCA 40 CFR 798.4500); Irritating (rabbit, Draize test, dose of 220 mg).

Skin: Slightly irritating (rabbit).

Carcinogenicity: Not listed as a carcinogen or potential carcinogen by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), or the U.S. Occupational Safety and Health Administration (OSHA).

12. ECOLOGICAL INFORMATION

Aquatic toxicity:

Fish: LC₅₀ = 7700 mg/L (Rainbow trout, 96-hr. exposure).

Fish: LC₅₀ = 7100 mg/L (Bluegill sunfish, 96-hr. exposure).

Invertebrates: EC₅₀ > 1000 mg/L (*Daphnia magna*, 48-hr. exposure).

Persistence/Bioaccumulation potential: Not expected to persist or bioaccumulate in the environment.

Biodegradation: Not applicable.

Mobility: High potential for movement from soil to groundwater is expected based on aqueous solubility.

13. DISPOSAL CONSIDERATIONS

Not a hazardous material. Dispose in a landfill in accordance with pertinent federal, state and local regulations. Empty containers may be incinerated or discarded as ordinary waste.

14. TRANSPORT INFORMATION

Not regulated by the U.S. Department of Transportation.

15. REGULATORY INFORMATION

CERCLA (40 CFR 302.4): Not a hazardous substance.

RCRA (40 CFR 261): Not a hazardous waste.

TSCA (40 CFR 710): Listed.

OSHA (29 CFR 1910.1200): Not hazardous.

SARA, Title III Sections 302 (40 CFR 355), 313 (40 CFR 372): Not a hazardous or toxic chemical.

European Inventory (EINECS): 205-633-8.

Japanese Inventory (MITI): 1-164.

U.S. Food and Drug Administration: Generally recognized as safe (GRAS) direct food additive (21 CFR 184.1736).

16. OTHER INFORMATION

Maximum use level for drinking water corrosion and scale control: 100mg/L per NSF/ANSI 60 – 2014a.

Issue Date: 2/14/2017

Supersedes: 5/1/2015

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DRUMMOND™

A LAWSON BRAND

SAFETY DATA SHEET

1. Identification

Product number DA7141
Product identifier SPITFIRE INSTANT CARPET SPOTTER
Company information Lawson Products, Inc.
8770 W. Bryn Mawr Ave., Suite 900
Chicago, IL 60631

Company phone 1-773-304-4851
Emergency telephone US 1-888-426-5050
Version # 01
Recommended use Cleaner
Recommended restrictions None known.

2. Hazard(s) identification

| | | |
|------------------------------|--|---------------|
| Physical hazards | Flammable aerosols | Category 1 |
| | Gases under pressure | Liquefied gas |
| Health hazards | Skin corrosion/irritation | Category 2 |
| | Sensitization, skin | Category 1 |
| Environmental hazards | Hazardous to the aquatic environment, acute hazard | Category 2 |
| | Hazardous to the aquatic environment, long-term hazard | Category 2 |
| OSHA defined hazards | Not classified. | |

Label elements



Signal word Danger

Hazard statement Extremely flammable aerosol. Contains gas under pressure; may explode if heated. Causes skin irritation. May cause an allergic skin reaction. Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Avoid breathing mist or vapor. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves.

Response If on skin: Wash with plenty of water. Specific treatment (see this label). If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. Collect spillage.

Storage Protect from sunlight. Store in a well-ventilated place. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

SDS US

| Chemical name | Common name and synonyms | CAS number | % |
|--|--------------------------|------------|----------|
| 2-Butoxyethanol | | 111-76-2 | 2.5 - 10 |
| Citrus Terpenes | | 94266-47-4 | 2.5 - 10 |
| Butane | | 106-97-8 | 1 - 2.5 |
| Propane | | 74-98-6 | 1 - 2.5 |
| Sodium Nitrite | | 7632-00-0 | 0.1 - 1 |
| Other components below reportable levels | | | 80 - 90 |

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

| | |
|---|---|
| Inhalation | Move to fresh air. Call a physician if symptoms develop or persist. |
| Skin contact | Remove contaminated clothing immediately and wash skin with soap and water. Remove contaminated clothing. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse. |
| Eye contact | Rinse with water. Get medical attention if irritation develops and persists. |
| Ingestion | In the unlikely event of swallowing contact a physician or poison control center. Rinse mouth. |
| Most important symptoms/effects, acute and delayed | Dermatitis. Rash. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. |
| Indication of immediate medical attention and special treatment needed | Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed. |
| General information | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse. |

5. Fire-fighting measures

| | |
|--|---|
| Suitable extinguishing media | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂). |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | Contents under pressure. Pressurized container may explode when exposed to heat or flame. |
| Special protective equipment and precautions for firefighters | Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. |
| Fire-fighting equipment/instructions | In case of fire: Stop leak if safe to do so. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. In the event of fire and/or explosion do not breathe fumes. |
| General fire hazards | Extremely flammable aerosol. |

6. Accidental release measures

| | |
|--|--|
| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Emergency personnel need self-contained breathing equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. |
| Methods and materials for containment and cleaning up | Refer to attached safety data sheets and/or instructions for use. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS. |

Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage**Precautions for safe handling**

Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Do not re-use empty containers. Do not get in eyes, on skin, or on clothing. Avoid breathing mist or vapor. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Level 1 Aerosol.

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Store in a well-ventilated place. Refrigeration recommended. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection**Occupational exposure limits****US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

| Components | Type | Value |
|--------------------------------|------|----------------------------------|
| 2-Butoxyethanol (CAS 111-76-2) | PEL | 240 mg/m3 |
| Propane (CAS 74-98-6) | PEL | 50 ppm 1800 mg/m3 1000 ppm |

US. ACGIH Threshold Limit Values

| Components | Type | Value |
|--------------------------------|------|----------|
| 2-Butoxyethanol (CAS 111-76-2) | TWA | 20 ppm |
| Butane (CAS 106-97-8) | STEL | 1000 ppm |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value |
|--------------------------------|------|--------------------------------|
| 2-Butoxyethanol (CAS 111-76-2) | TWA | 24 mg/m3 |
| Butane (CAS 106-97-8) | TWA | 5 ppm 1900 mg/m3 800 ppm |
| Propane (CAS 74-98-6) | TWA | 1800 mg/m3 1000 ppm |

Biological limit values**ACGIH Biological Exposure Indices**

| Components | Value | Determinant | Specimen | Sampling Time |
|--------------------------------|----------|--|---------------------|---------------|
| 2-Butoxyethanol (CAS 111-76-2) | 200 mg/g | Butoxyacetic acid (BAA), with hydrolysis | Creatinine in urine | * |

* - For sampling details, please see the source document.

Exposure guidelines**US - California OELs: Skin designation**

2-Butoxyethanol (CAS 111-76-2)

Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

2-Butoxyethanol (CAS 111-76-2)

Skin designation applies.

US - Tennessee OELs: Skin designation

2-Butoxyethanol (CAS 111-76-2)

Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

2-Butoxyethanol (CAS 111-76-2)

Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

2-Butoxyethanol (CAS 111-76-2)

Can be absorbed through the skin.

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection

Face shield is recommended. Wear safety glasses with side shields (or goggles).

Hand protection

Wear appropriate chemical resistant gloves.

Skin protection

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Skin protection

Respiratory protection

If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state

Liquid.

Form

Aerosol. Liquefied gas.

Color

Not available.

Odor

Not available.

Odor threshold

Not available.

pH

Not available.

Melting point/freezing point

Not available.

Initial boiling point and boiling range

212 °F (100 °C) estimated

Flash point

-156.0 °F (-104.4 °C) Propellant estimated

Evaporation rate

Not available.

Flammability (solid, gas)

Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)

Not available.

Flammability limit - upper (%)

Not available.

Explosive limit - lower (%)

Not available.

Explosive limit - upper (%)

Not available.

Vapor pressure

21.28 psig @70F estimated

Vapor density

Not available.

Relative density

0.898 g/cm3 estimated

Solubility(ies)

Solubility (water)

Not available.

Partition coefficient (n-octanol/water)

Not available.

Auto-ignition temperature

446 °F (230 °C) estimated

Decomposition temperature

Not available.

SDS US

| | |
|--------------------------------------|------------------------|
| Viscosity | Not available. |
| Other information | |
| Density | 0.90 g/cm3 estimated |
| Flammability class | Flammable IB estimated |
| Heat of combustion | 3.68 kJ/g estimated |
| Heat of combustion (NFPA 30B) | 3.85 kJ/g estimated |
| Percent volatile | 97.51 % estimated |
| Specific gravity | 0.898 estimated |
| VOC (Weight %) | 16.77 % estimated |

10. Stability and reactivity

| | |
|---|---|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | Hazardous polymerization does not occur. |
| Conditions to avoid | Avoid temperatures exceeding the flash point. Contact with incompatible materials. |
| Incompatible materials | Strong oxidizing agents. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information

Information on likely routes of exposure

| | |
|---------------------|--|
| Ingestion | Expected to be a low ingestion hazard. |
| Inhalation | Prolonged inhalation may be harmful. |
| Skin contact | Causes skin irritation. May cause an allergic skin reaction. 2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged. These effects have not been observed in humans. |

| | |
|--------------------|--|
| Eye contact | Direct contact with eyes may cause temporary irritation. |
|--------------------|--|

| | |
|---|---|
| Symptoms related to the physical, chemical and toxicological characteristics | Dermatitis. Rash. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. |
|---|---|

Information on toxicological effects

| | |
|-----------------------|--------------------------------------|
| Acute toxicity | May cause an allergic skin reaction. |
|-----------------------|--------------------------------------|

| Components | Species | Test Results |
|--------------------------------|------------|------------------------|
| 2-Butoxyethanol (CAS 111-76-2) | | |
| Acute | | |
| Dermal | | |
| LD50 | Guinea pig | 230 ml/kg, 24 Hours |
| | | 7.3 ml/kg, 4 Days |
| | Rabbit | 450 ml/kg, 24 Hours |
| | | 435 mg/kg, 24 Hours |
| | Rat | 0.63 ml/kg |
| | | > 2000 mg/kg, 24 Hours |
| Inhalation | | |
| LC50 | Rabbit | 400 ppm, 7 Hours |
| | Rat | 450 ppm, 4 Hours |
| Oral | | |
| LD100 | Rabbit | 695 mg/kg |
| LD50 | Dog | > 695 mg/kg |
| | Guinea pig | 1200 mg/kg |

SDS US

SDS US

| Components | Species | Test Results |
|---|---------|---|
| Butane (CAS 106-97-8) | Rat | 530 - 2800 mg/kg |
| Acute <i>Inhalation</i> LC50 | Mouse | 1237 mg/l, 120 Minutes 52 %, 120 Minutes |
| | Rat | 1355 mg/l |
| Propane (CAS 74-98-6) | | |
| Acute <i>Inhalation</i> LC50 | Mouse | 1237 mg/l, 120 Minutes 52 %, 120 Minutes |
| | Rat | 1355 mg/l 658 mg/l/4h |
| Sodium Nitrite (CAS 7632-00-0) | | |
| Acute <i>Oral</i> LD50 | Rat | 180 mg/kg |

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Not available.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Risk of cancer cannot be excluded with prolonged exposure.

IARC Monographs. Overall Evaluation of Carcinogenicity

2-Butoxyethanol (CAS 111-76-2)

3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not available.

Chronic effects Prolonged inhalation may be harmful. May be harmful if absorbed through skin.

2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged. These effects have not been observed in humans.

Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

| Components | Species | Test Results |
|--------------------------------|---------|---|
| 2-Butoxyethanol (CAS 111-76-2) | | |
| Aquatic | | |
| Fish | LC50 | Inland silverside (Menidia beryllina) 1250 mg/l, 96 hours |

SDS US

| Components | | Species | Test Results |
|--------------------------------|------|---|------------------------------|
| Sodium Nitrite (CAS 7632-00-0) | | | |
| Aquatic | | | |
| Crustacea | EC50 | Greasyback shrimp (Metapenaeus ensis) | 16.14 - 26.61 mg/l, 48 hours |
| Fish | LC50 | Rainbow trout,donaldson trout (Oncorhynchus mykiss) | 0.15 - 0.25 mg/l, 96 hours |

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

| | |
|-----------------|------|
| 2-Butoxyethanol | 0.83 |
| Butane | 2.89 |
| Propane | 2.36 |

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Consult authorities before disposal. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers.

14. Transport information

DOT

| | |
|-------------------------------------|---|
| UN number | UN1950 |
| UN proper shipping name | Aerosols, flammable |
| Transport hazard class(es) | |
| Class | 2.1 |
| Subsidiary risk | - |
| Label(s) | 2.1 |
| Packing group | Not applicable. |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling. |
| Special provisions | N82 |
| Packaging exceptions | 306 |
| Packaging non bulk | None |
| Packaging bulk | None |

This product meets the exception requirements of section 173.306 as a limited quantity and may be shipped as a limited quantity. Until 12/31/2020, the "Consumer Commodity - ORM-D" marking may still be used in place of the new limited quantity diamond mark for packages of UN 1950 Aerosols. Limited quantities require the limited quantity diamond mark on cartons after 12/31/20 and may be used now in place of the "Consumer Commodity ORM-D" marking and both may be displayed concurrently.

IATA

| | |
|-----------------------------------|---------------------|
| UN number | UN1950 |
| UN proper shipping name | Aerosols, flammable |
| Transport hazard class(es) | |
| Class | 2.1 |
| Subsidiary risk | - |
| Label(s) | 2.1 |

SDS US

| | |
|-------------------------------------|---|
| Packing group | Not applicable. |
| Environmental hazards | Yes |
| ERG Code | 10L |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling. |

Other information

| | |
|-------------------------------------|----------|
| Passenger and cargo aircraft | Allowed. |
|-------------------------------------|----------|

| | |
|----------------------------|----------|
| Cargo aircraft only | Allowed. |
|----------------------------|----------|

| | |
|-----------------------------|---------|
| Packaging Exceptions | LTD QTY |
|-----------------------------|---------|

IMDG

| | |
|--------------------------------|----------|
| UN number | UN1950 |
| UN proper shipping name | AEROSOLS |

Transport hazard class(es)

| | |
|--------------|-----|
| Class | 2.1 |
|--------------|-----|

| | |
|------------------------|---|
| Subsidiary risk | - |
|------------------------|---|

| | |
|-----------------|-----|
| Label(s) | 2.1 |
|-----------------|-----|

| | |
|----------------------|-----------------|
| Packing group | Not applicable. |
|----------------------|-----------------|

Environmental hazards

| | |
|-------------------------|-----|
| Marine pollutant | Yes |
|-------------------------|-----|

| | |
|------------|----------------|
| EmS | Not available. |
|------------|----------------|

| | |
|-------------------------------------|---|
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling. |
|-------------------------------------|---|

| | |
|-----------------------------|---------|
| Packaging Exceptions | LTD QTY |
|-----------------------------|---------|

| | |
|---|-----------------|
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | Not applicable. |
|---|-----------------|

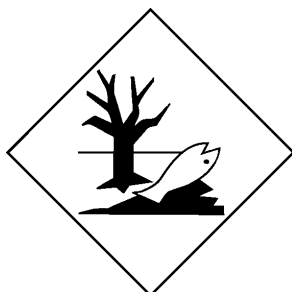
DOT



IATA; IMDG



Marine pollutant



15. Regulatory information**US federal regulations**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sodium Nitrite (CAS 7632-00-0) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**Hazard categories**

Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - Yes
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

| Chemical name | CAS number | Reportable quantity | Threshold planning quantity | Threshold planning quantity, lower value | Threshold planning quantity, upper value |
|---------------|------------|---------------------|-----------------------------|--|--|
|---------------|------------|---------------------|-----------------------------|--|--|

| | | | | | |
|-------------------|-----------|-----|---------|--|--|
| Anhydrous Ammonia | 7664-41-7 | 100 | 500 lbs | | |
|-------------------|-----------|-----|---------|--|--|

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

| Chemical name | CAS number | % by wt. |
|----------------|------------|----------|
| Sodium Nitrite | 7632-00-0 | 0.1 - 1 |

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Butane (CAS 106-97-8)
Propane (CAS 74-98-6)

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations**US. Massachusetts RTK - Substance List**

2-Butoxyethanol (CAS 111-76-2)
Butane (CAS 106-97-8)
Propane (CAS 74-98-6)
Sodium Nitrite (CAS 7632-00-0)

US. New Jersey Worker and Community Right-to-Know Act

2-Butoxyethanol (CAS 111-76-2)
Butane (CAS 106-97-8)
Propane (CAS 74-98-6)
Sodium Nitrite (CAS 7632-00-0)

US. Pennsylvania Worker and Community Right-to-Know Law

2-Butoxyethanol (CAS 111-76-2)
Butane (CAS 106-97-8)
Propane (CAS 74-98-6)
Sodium Nitrite (CAS 7632-00-0)

US. Rhode Island RTK

Butane (CAS 106-97-8)
Propane (CAS 74-98-6)
Sodium Nitrite (CAS 7632-00-0)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Diethanolamine (CAS 111-42-2)

Listed: June 22, 2012

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|--|------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | Yes |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | Yes |
| Korea | Existing Chemicals List (ECL) | Yes |
| New Zealand | New Zealand Inventory | Yes |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 01-13-2015

Version # 01

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision Information First-aid measures: Skin contact
First-aid measures: Most important symptoms/effects, acute and delayed
Fire-fighting measures: Specific methods
Accidental release measures: Personal precautions, protective equipment and emergency procedures
Accidental release measures: Environmental precautions
Handling and storage: Precautions for safe handling
Exposure controls/personal protection: Appropriate engineering controls
Exposure controls/personal protection: Eye/face protection
Toxicological information: Acute toxicity
Toxicological information: Symptoms related to the physical, chemical and toxicological characteristics
Transport Information: Material Transportation Information
GHS: Classification

Material Safety Data Sheet

Revision Date 06-Jul-2010

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code DL1302T12
Product name Spotlight
Recommended Use Cleaner

Supplier Drummond American
A Lawson Products Company
600 Corporate Woods Parkway
Vernon Hills, IL 60061
(847) 913-9313

Emergency telephone number (888) 426-4851

2. HAZARDS IDENTIFICATION

Emergency Overview

Moderately irritating to the eyes. Moderately irritating to the skin.

Aggravated Medical Conditions

Pre-existing skin conditions may be aggravated by exposure to this product.

Principal Routes of Exposure

Eyes. Skin. Inhalation. Ingestion.

Potential health effects

Eyes Moderately irritating to the eyes.

Skin Moderate irritation.

Inhalation May cause irritation of the nose and throat. May cause irritation of respiratory tract.

Ingestion Irritating to mouth, throat and stomach. Stomach distress. Nausea. Vomiting. Diarrhea. Harmful if swallowed.

3. COMPOSITION / INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | Weight % |
|-------------------------------|-----------|----------|
| Tetrapotassium Pyrophosphate | 7320-34-5 | 1-5 |
| Propylene Glycol Propyl Ether | 1569-01-3 | 1-5 |

4. FIRST AID MEASURES

Eye contact Flood with warm water for at least 15 minutes. Remove contact lenses. Blink as much as possible and continue flooding for 15 minutes.

Skin contact Remove contaminated clothing. Flush area with water for 15 minutes.

Ingestion Do not induce vomiting. Give victim a glass of water or milk. Seek medical attention.

Inhalation Move to fresh air. Administer artificial respiration if not breathing. Immediate medical attention is required.

5. FIRE FIGHTING MEASURES

Flash point °C None
Flash point °F None
Method Not Applicable

Autoignition temperature °C No data available
Autoignition temperature °F No data available

Flammability Limits (% in Air)

Upper No data available
Lower No data available

Suitable extinguishing media

Product is nonflammable. Use extinguishing media appropriate to surrounding fire. Water spray. Dry chemical. Carbon dioxide. Alcohol foam.

Special protective equipment for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Sensitivity to shock

No information available.

Sensitivity to static discharge

No information available.

6. ACCIDENTAL RELEASE MEASURES

Methods for cleaning up

Evacuate area of unprotected and unnecessary personnel. Personnel should wear appropriate protective equipment. Follow all precautions for handling. Please refer to appropriate sections of MSDS for additional information. Ventilate area to maintain exposure below permissible exposure limits. Shut off source of leak if safe to do so. Dike or dam large spills. Do not allow product to reach sewage system, soil, surface or ground water, or any water course. Notify proper authorities if entry occurs. Soak up with noncombustible inert absorbent material. Flush area with water. Use caution as spill may create a slip hazard.

7. HANDLING AND STORAGE

Handling

Use only according to label directions. Avoid contact with skin and eyes. Never taste or swallow product. Handle carefully to avoid damaging. Keep out of reach of children. Remove and wash contaminated clothing before re-use. Handle empty containers as if they were full.

Storage

Keep in properly labelled containers. Rotate stock regularly. Keep container tightly closed. Store at temperatures between 40 degrees F and 120 degrees F. Keep away from direct sunlight. Do not freeze. Keep out of the reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| Chemical Name | OSHA PEL (TWA) | OSHA PEL (Ceiling) | ACGIH OEL (TWA) | ACGIH OEL (STEL) |
|-------------------------------|----------------|--------------------|-----------------|------------------|
| Propylene Glycol Propyl Ether | - | - | - | - |
| Tetrapotassium Pyrophosphate | - | - | - | - |

Ventilation and Environmental Controls

None required. Normal ventilation is adequate.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands after handling the product.

Respiratory protection

None necessary under normal conditions.

Hand Protection

Gloves are recommended to prevent prolonged or repeated contact. Rubber gloves.

Eye protection

Use safety eyewear designed to protect against splash of liquids.

Skin and body protection

None necessary under normal conditions

Other Protective Equipment

Rubber boots.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|-------------------|
| Form | Liquid |
| Color | Colorless |
| Odor | Lemon |
| Odor Threshold | Not Applicable |
| pH | 10.5 |
| Specific Gravity | 1.020 |
| Vapor pressure | Not Applicable |
| Vapor density | Not Applicable |
| Evaporation Rate | Not Applicable |
| Water solubility | Soluble in water |
| VOC Content | 3.0% |
| Partition Coefficient (n-octanol/water) | No data available |
| Boiling point/range °C | Not Applicable |
| Boiling point/range °F | Not Applicable |
| Melting point/range °C | Not Applicable |
| Melting point/range °F | Not Applicable |
| Flash point °C | None |
| Flash point °F | None |

10. STABILITY AND REACTIVITY

Stability

Stable.

Conditions to avoid

Avoid mixing with any other cleaning product. Mix only with water. Keep from freezing.

Incompatibility

Incompatible with oxidizing agents.

Hazardous Decomposition Products

Carbon oxides. Toxic fumes.

Polymerization

Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Component Information

| Chemical Name | LD50 (oral,rat) | LD50 (dermal,rat/rabbit) | LC50 (inhalation,rat) |
|---|-----------------|--------------------------|-----------------------|
| Propylene Glycol Propyl Ether 1569-01-3 | 2504 mg/kg | 3550 mg/kg | - |
| Tetrapotassium Pyrophosphate 7320-34-5 | - | 4640 mg/kg | - |

Synergistic Products

None known

Potential health effects**Sensitization**

None known

Chronic toxicity

None known

Mutagenic effects

None known

Teratogenic effects

None known

Reproductive toxicity

None known

Target Organ Effects

See Section 2

Carcinogenic effects

See table below

| Chemical Name | ACGIH OEL - Carcinogens | IARC | NTP - Known Carcinogens | NTP - Suspected Human Carcinogens | OSHA RTK Carcinogens |
|-------------------------------|-------------------------|------------|-------------------------|-----------------------------------|----------------------|
| Propylene Glycol Propyl Ether | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |

Product code **DL1302T12**Product name **Spotlite**

| Chemical Name | ACGIH OEL - Carcinogens | IARC | NTP - Known Carcinogens | NTP - Suspected Human Carcinogens | OSHA RTK Carcinogens |
|------------------------------|-------------------------|------------|-------------------------|-----------------------------------|----------------------|
| Tetrapotassium Pyrophosphate | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |

12. ECOLOGICAL INFORMATIONTetrapotassium Pyrophosphate**Water Flea Data**water flea hEC50 48 (>100 mg/L)**13. DISPOSAL CONSIDERATIONS****Disposal Information**

Dispose in accordance with federal, state, and local regulations.

Waste from residues / unused products

Do not reuse container. Rinse empty container thoroughly with water before discarding. Please recycle empty container whenever possible.

14. TRANSPORTATION INFORMATION**DOT**

Not Regulated

TDG

Not Regulated

IMDG/IMO

Not Regulated

IATA

Not Regulated

MEX

Not Regulated

15. REGULATORY INFORMATION

| Chemical Name | New Jersey - RTK | Pennsylvania - RTK | California Prop. 65 |
|-------------------------------|------------------|--------------------|---------------------|
| Propylene Glycol Propyl Ether | Not Listed | Not Listed | Not Listed |
| Tetrapotassium Pyrophosphate | Not Listed | Not Listed | Not Listed |

| Chemical Name | EINECS | DSL | NDSL | TSCA |
|-------------------------------|--------|-----|------|------|
| Propylene Glycol Propyl Ether | X | X | - | X |

| | | | | |
|------------------------------|---|---|---|---|
| Tetrapotassium Pyrophosphate | X | X | - | X |
|------------------------------|---|---|---|---|

CPR

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all of the information required by the Controlled Product Regulations

16. OTHER INFORMATION**NFPA****Health** - 2**Flammability** - 0**Reactivity** - 0**HMIS****Health** - 2**Flammability** - 0**Physical Hazard** - 0**Prepared By**

H. Buck, Regulatory Affairs Manager

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

Safety Data Sheet

according to OSHA Hazard Communication
29 CFR Part 1910.1200

SECTION 1. Identification

Product Code DL2131 05, DL2131 20
Product Name: Squeaky Concentrated Drain Opener

24 Hour Emergency:
1-888-426-4851

Supplied by: Lawson Products, Inc.
8770 W. Bryn Mawr Ave., Suite 900
Chicago, IL 60631
1-866-529-7664
www.lawsonproducts.com

SECTION 2. Hazard(s) Identification

*** EMERGENCY OVERVIEW ***: Flammable liquid and vapor.

GHS Classification

Asp. Tox. 1, Flam. Liq. 3, Skin Irrit. 2, Skin Sens. 1

Symbol(s) of Product



Signal Word

Danger

GHS HAZARD STATEMENTS

| | | |
|-------------------------------|------|---|
| Flammable Liquid, category 3 | H226 | Flammable liquid and vapor. |
| Aspiration Hazard, category 1 | H304 | May be fatal if swallowed and enters airways. |
| Skin Irritation, category 2 | H315 | Causes skin irritation. |
| Skin Sensitizer, category 1 | H317 | May cause an allergic skin reaction. |

GHS PRECAUTIONARY STATEMENTS

| | |
|----------------|---|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P233 | Keep container tightly closed. |
| P240 | Ground/bond container and receiving equipment. |
| P241 | Use explosion-proof electrical/ventilating/lighting/equipment. |
| P242 | Use only non-sparking tools. |
| P243 | Take precautionary measures against static discharge. |
| P261 | Avoid breathing dust/fume/gas/mist/vapors/spray. |
| P264 | Wash thoroughly after handling. |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P301+P310 | IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician |
| P302+P352 | IF ON SKIN: Wash with plenty of water |
| P303+P361+P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. |

P305+P351+P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P321

Specific treatment (see first aid section on this label).

P331

Do NOT induce vomiting.

P333+P313

If skin irritation or rash occurs: Get medical advice/attention.

P337+P313

If eye irritation persists: Get medical advice/attention.

P362+P364

Take off contaminated clothing and wash it before reuse.

P370+P378

In case of fire: Use appropriate method to extinguish.

P391

Collect spillage.

P403+P235

Store in a well-ventilated place. Keep cool.

P405

Store locked up.

P501

Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 3. Composition/Information on Ingredients

| <u>Chemical Name</u> | <u>CAS-No.</u> | <u>Wt. %</u> | <u>GHS Symbols</u> | <u>GHS Statements</u> |
|------------------------|----------------|--------------|--------------------|-----------------------|
| Terpene hydrocarbons | 5989-27-5 | 75-100 | GHS02-GHS07-GHS08 | H226-304-315-317 |
| Alkylphenol ethoxylate | 127087-87-0 | 2.5-10 | GHS07 | H315-319 |

The text for GHS Hazard Statements shown above (if any) is given in the "Other information" Section.

SECTION 4. First-Aid Measures



FIRST AID - EYE CONTACT: Immediately flush eyes with water. Flush eyes with water for a minimum of 15 minutes, occasionally lifting and lowering upper lids. Get medical attention promptly.

FIRST AID - SKIN CONTACT: Wash with soap and water. Get medical attention if irritation develops or persists. Remove contaminated shoes and clothes and clean before reuse.

FIRST AID - INHALATION: Rescuers should put on appropriate protective gear. Remove from area of exposure. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Keep victim warm. Get immediate medical attention.

FIRST AID - INGESTION: If swallowed, do NOT induce vomiting. Give victim a glass of water. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

SECTION 5. Fire-Fighting Measures

UNUSUAL FIRE AND EXPLOSION HAZARDS: Flammable liquid and vapor. Empty containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. Also, do not reuse container without commercial cleaning or reconditioning.

SPECIAL FIREFIGHTING PROCEDURES: As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent) and full protective gear. Do not use water. Water spray to cool containers or protect personnel. Use with caution. Water spray and foam must be applied carefully to avoid frothing.

EXTINGUISHING MEDIA: Carbon Dioxide, Dry Chemical, Foam, Water Fog

SECTION 6. Accidental Release Measures

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Wear appropriate personal protective equipment. (See Exposure Controls / Personal Protection Section.) Eliminate all ignition sources. Prevent additional discharge of material if able to do so safely. Do not touch or walk through spilled material. Avoid runoff into storm sewers and ditches which lead to waterways. Ventilate spill area. Stay upwind of spill. Collect spilled materials for disposal. Use only non-combustible material for clean-up. Use clean, non-sparking tools to collect absorbed materials. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

SECTION 7. Handling and Storage



HANDLING: Use only in a well ventilated area. Avoid breathing vapor, fumes or mist. Avoid contact with eyes, skin, and clothing. Always open containers slowly to allow any excess pressure to vent. Follow all MSDS/label precautions even after containers are emptied because they may retain product residues.

STORAGE: Keep away from heat, sparks, and flame. Store containers in a cool, well ventilated place. Keep container closed when not in use.

SECTION 8. Exposure Controls/Personal Protection

Ingredients with Occupational Exposure Limits

| <u>Chemical Name</u> | <u>ACGIH TLV-TWA</u> | <u>ACGIH-TLV STEL</u> | <u>OSHA PEL-TWA</u> | <u>OSHA PEL-CEILING</u> |
|------------------------|----------------------|-----------------------|---------------------|-------------------------|
| Terpene hydrocarbons | N.D. | N.D. | N.D. | N.D. |
| Alkylphenol ethoxylate | N.D. | N.D. | N.D. | N.D. |

Personal Protection



RESPIRATORY PROTECTION: NIOSH/MSHA approved respirators may be necessary if airborne concentrations are expected to exceed exposure limits.



SKIN PROTECTION: Wear impervious gloves to prevent contact with the skin. Wear protective gear as needed - apron, suit, boots.



EYE PROTECTION: Do not wear contact lenses. Wear safety glasses with side shields (or goggles) and a face shield.



OTHER PROTECTIVE EQUIPMENT: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.



HYGENIC PRACTICES: Do not eat, drink, or smoke in areas where this material is used. Avoid breathing vapors. Remove contaminated clothing and wash before reuse. Wash thoroughly after handling. Wash hands before eating.

SECTION 9. Physical and Chemical Properties

| | | | |
|-----------------------------------|----------------------|---------------------------------|------------------|
| Appearance: | Clear, orange liquid | Physical State: | Liquid |
| Odor: | Citrus | Odor Threshold: | N.D. |
| Density, g/cm³: | 0.860 | pH: | N.D. |
| Freeze Point, °F: | N.D. | Viscosity: | N.D. |
| Solubility in Water: | Partial | Explosive Limits, vol%: | N.D. |
| Boiling Range, °F: | 131 - 349 | Flash Point, °F: | 115 |
| Evaporation Rate: | N.D. | Auto-ignition Temp., °F: | N.D. |
| Vapor Density: | N.D. | Vapor Pressure: | < 2 mm Hg @ 20 C |

(See "Other information" Section for abbreviation legend)

SECTION 10. Stability and Reactivity

STABILITY: No Information

CONDITIONS TO AVOID: Avoid impact, friction, heat, sparks, flame and source of ignition. Minimize exposure to air.

INCOMPATIBILITY: Keep separate from alkalis. Avoid contact with moisture and/or water. Prevent contact with strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: Toxic gases/fumes are given off during burning or thermal decomposition. During combustion carbon monoxide may be formed. During combustion carbon dioxide may be formed.

HAZARDOUS POLYMERIZATION: No Information

SECTION 11. Toxicological Information



Information on Toxicological Effects

EFFECTS OF OVEREXPOSURE - INHALATION: Excessive amounts can cause suffocation. May be irritating to the respiratory system.

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: Causes skin irritation. Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).

EFFECTS OF OVEREXPOSURE - EYE CONTACT: Contact and/or vapors or mists can be severely irritating to the ocular tissue. Causes eye irritation.

EFFECTS OF OVEREXPOSURE - INGESTION: Aspiration hazard if swallowed - can enter lungs and cause damage. Overexposure may cause nausea, diarrhea, and/or vomiting.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: No Information

Primary Route(s) of Entry: Eye Contact, Ingestion, Inhalation, Skin Absorption, Skin Contact

Acute Toxicity Values

The acute effects of this product have not been tested. Data on individual components are tabulated below:

| <u>CAS-No.</u> | <u>Name according to EEC</u> | <u>Oral LD50, mg/kg</u> | <u>Dermal LD50, mg/kg</u> | <u>Vapor LC50, mg/L</u> |
|----------------|------------------------------|-------------------------|---------------------------|-------------------------|
| 5989-27-5 | Terpene hydrocarbons | 4400.0 | 5000.0 | N.D. |
| 127087-87-0 | Alkylphenol ethoxylate | >4290 | 2500 | >21.3 |

SECTION 12. Ecological Information

ECOLOGICAL INFORMATION: No Information

SECTION 13. Disposal Considerations



For more guidance and information contact our Waste Services Division at (262) 658-4000.

Always dispose of any waste in accordance with all local, state, and federal regulations.

DISPOSAL METHOD: Dispose of waste in accordance with all local, state and federal regulations.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Wear appropriate personal protective equipment. (See Exposure Controls / Personal Protection Section.) Eliminate all ignition sources. Prevent additional discharge of material if able to do so safely. Do not touch or walk through spilled material. Avoid runoff into storm sewers and ditches which lead to waterways. Ventilate spill area. Stay upwind of spill. Collect spilled materials for disposal. Use only non-combustible material for clean-up. Use clean, non-sparking tools to collect absorbed materials. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

SECTION 14. Transport Information

DOT Proper Shipping Name: Terpene hydrocarbons mixtures, n.o.s. - Combustible liquids

Packing Group: III

DOT Hazard Class: No Information
DOT UN/NA Number: UN2319

Hazard SubClass: No Information
Resp. Guide Page: 128

SECTION 15. Regulatory Information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire Hazard, Reactive Hazard, Acute Health Hazard, Chronic Health Hazard

SARA SECTION 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

| <u>Chemical Name</u> | <u>CAS-No.</u> |
|----------------------|----------------|
| glycol ethers | 111-76-2 |
| dioxane | 123-91-1 |

TOXIC SUBSTANCES CONTROL ACT:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

| <u>Chemical Name</u> | <u>CAS-No.</u> |
|----------------------|----------------|
| Dye | 842-07-9 |

U.S. State Regulations:

NEW JERSEY RIGHT-TO-KNOW:

The following materials are non-hazardous, but are among the top five components in this product.

| <u>Chemical Name</u> | <u>CAS-No.</u> |
|----------------------|----------------|
| Fragrance | MIXTURE |

PENNSYLVANIA RIGHT-TO-KNOW

The following non-hazardous ingredients are present in the product are at or greater than 3%.

| <u>Chemical Name</u> | <u>CAS-No.</u> |
|----------------------|----------------|
| Fragrance | MIXTURE |

CALIFORNIA PROPOSITION 65 CARCINOGENS

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

| <u>Chemical Name</u> | <u>CAS-No.</u> |
|----------------------|----------------|
| dioxane | 123-91-1 |
| ethylene oxide | 75-21-8 |

CALIFORNIA PROPOSITION 65 REPRODUCTIVE TOXINS

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards.

| <u>Chemical Name</u> | <u>CAS-No.</u> |
|----------------------|----------------|
| ethylene oxide | 75-21-8 |

International Regulations: As follows -

CANADIAN WHMIS:

This SDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

WHMIS Class: No Information

SECTION 16. Other Information

Revision Date: 10/5/2015

Supersedes Date: 8/25/2015

Datasheet produced by: Regulatory Department

HMIS Ratings:

| | | | | | | | |
|----------------|---|----------------------|---|--------------------|---|-----------------------------|---|
| Health: | 1 | Flammability: | 2 | Reactivity: | 0 | Personal Protection: | X |
|----------------|---|----------------------|---|--------------------|---|-----------------------------|---|

Volatile Organic Compounds, gr/ltr: 791

DISCLAIMER: THE VOLATILE ORGANIC COMPOUND (VOC) CONTENT REPORTED HEREIN, IF ANY, IS BASED ON A MATERIAL VOC CALCULATION. NOTE THAT SEVERAL METHODS ARE USED FOR CALCULATING VOC CONTENT AND THAT STANDARDS/ REQUIREMENTS REGARDING VOC CONTENT VARY BY LOCATION/JURISDICTION. ACCORDINGLY, EMCO MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, REGARDING THIS MATERIAL'S COMPLIANCE WITH VOC STANDARDS/ REQUIREMENTS APPLICABLE IN LOCATIONS/JURISDICTIONS WHERE THIS MATERIAL MAY BE SOLD OR USED.

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

| | |
|------|---|
| H226 | Flammable liquid and vapor. |
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |

Icons for GHS Pictograms shown in Section 3 describing each ingredient:

GHS02



GHS07



GHS08



Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined, N.I. - No Information

The information on this SDS was obtained from sources which we believe to be reliable. However, the information provided is without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information and recommendations are offered for the user's consideration and examination and should be used to make an independent determination of the methods to safeguard workers and the environment. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For these reasons we do not assume responsibility and expressly disclaim any liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this SDS may not be applicable. It is the responsibility of the user to comply with all Federal, State, and Local laws and regulations.

SAFETY DATA SHEET

1. Identification

Product number 21224
Product identifier **SSS Chewing Gum Remover**
Company information Triple S
2 Executive Park Dr
Billerica, MA 01862 United States
Company phone 1-800-323-2251; Emergency Phone: 1-888-779-1339
Version # 01
Recommended use Not available.
Recommended restrictions None known.

2. Hazard(s) identification

Physical hazards Flammable aerosols Category 1
Health hazards Not classified.
Environmental hazards Not classified.
OSHA defined hazards Not classified.

Label elements



Signal word Danger
Hazard statement Extremely flammable aerosol.
Precautionary statement
Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use.
Response Wash hands after handling.
Storage Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
Disposal Dispose of waste and residues in accordance with local authority requirements.
Hazard(s) not otherwise classified (HNOC) None known.
Supplemental information None.

3. Composition/information on ingredients

Mixtures

| Chemical name | Common name and synonyms | CAS number | % |
|--|--------------------------|------------|------------|
| Butane | | 106-97-8 | 60 - 80 |
| Propane | | 74-98-6 | 20 - 40 |
| Ethyl Alcohol | | 64-17-5 | 2.5 - 10 |
| Other components below reportable levels | | | 0.01 - 0.1 |

#: This substance has workplace exposure limit(s).

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation Move to fresh air. Get medical attention if symptoms persist.
Skin contact Rinse skin with water/shower.
Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do.

| | |
|--|---|
| Ingestion | In the unlikely event of swallowing contact a physician or poison control center. |
| Most important symptoms/effects, acute and delayed | Direct contact with eyes may cause temporary irritation. |
| Indication of immediate medical attention and special treatment needed | Provide general supportive measures and treat symptomatically. |
| General information | Take off all contaminated clothing immediately. |
| 5. Fire-fighting measures | |
| Suitable extinguishing media | Water fog. Dry chemical powder. |
| Unsuitable extinguishing media | None known. |
| Specific hazards arising from the chemical | Contents under pressure. Pressurized container may explode when exposed to heat or flame. |
| Special protective equipment and precautions for firefighters | Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. |
| Fire-fighting equipment/instructions | Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. Move container from fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. In the event of fire and/or explosion do not breathe fumes. |
| General fire hazards | Extremely flammable aerosol. |
| 6. Accidental release measures | |
| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. |
| Methods and materials for containment and cleaning up | Refer to attached safety data sheets and/or instructions for use. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Isolate area until gas has dispersed. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS. |
| Environmental precautions | Avoid discharge into drains, water courses or onto the ground. |
| 7. Handling and storage | |
| Precautions for safe handling | Do not handle or store near an open flame, heat or other sources of ignition. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not re-use empty containers. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. |
| Conditions for safe storage, including any incompatibilities | Level 3 Aerosol. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Store in a well-ventilated place. Refrigeration recommended. Store away from incompatible materials (see Section 10 of the SDS). Level 3 Aerosol. |

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| Components | Type | Value |
|-----------------------------|------|------------------------|
| Ethyl Alcohol (CAS 64-17-5) | PEL | 1900 mg/m3 1000 ppm |
| Propane (CAS 74-98-6) | PEL | 1800 mg/m3 1000 ppm |

US. ACGIH Threshold Limit Values

| Components | Type | Value |
|-----------------------------|------|----------|
| Butane (CAS 106-97-8) | STEL | 1000 ppm |
| Ethyl Alcohol (CAS 64-17-5) | STEL | 1000 ppm |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value |
|-----------------------------|------|------------------------|
| Butane (CAS 106-97-8) | TWA | 1900 mg/m3 800 ppm |
| Ethyl Alcohol (CAS 64-17-5) | TWA | 1900 mg/m3 1000 ppm |
| Propane (CAS 74-98-6) | TWA | 1800 mg/m3 1000 ppm |

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Explosion-proof general and local exhaust ventilation.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Hand protection Wear protective gloves.

Skin protection

Other Wear appropriate chemical resistant clothing.

Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Gas.

Form Aerosol.

Color clear colorless

Odor fruity

Odor threshold Not available.

pH Not applicable estimated

Melting point/freezing point Not available.

Initial boiling point and boiling range 22.1 °F (-5.5 °C) estimated

Flash point -156.0 °F (-104.4 °C) Propellant estimated

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

| | |
|---|------------------------------|
| Flammability limit - lower (%) | 2.6 % estimated |
| Flammability limit - upper (%) | 12.8 % estimated |
| Explosive limit - lower (%) | Not available. |
| Explosive limit - upper (%) | Not available. |
| Vapor pressure | 60 - 70 psig @ 70F estimated |
| Vapor density | Not available. |
| Relative density | Not available. |
| Solubility(ies) | |
| Solubility (water) | Not available. |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | 856.4 °F (458 °C) estimated |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |
| Other information | |
| Specific gravity | 0.57 estimated estimated |

10. Stability and reactivity

| | |
|------------------------------------|---|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | Hazardous polymerization does not occur. |
| Conditions to avoid | Avoid temperatures exceeding the flash point. |
| Incompatible materials | Fluorine. Chlorine. Nitrates. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information

Information on likely routes of exposure

| | |
|-------------|--|
| Ingestion | Expected to be a low ingestion hazard. |
| Inhalation | No adverse effects due to inhalation are expected. Skin |
| contact | No adverse effects due to skin contact are expected. |
| Eye contact | Direct contact with eyes may cause temporary irritation. |

Symptoms related to the physical, chemical and toxicological characteristics
Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity Expected to be a low hazard for usual industrial or commercial handling by trained personnel.

| Product | Species | Test Results |
|--|---------|------------------------|
| TRIPLE S Chewing Gum Remover (CAS Mixture) | | |
| Acute | | |
| Inhalation | | |
| LC50 | Rat | 489 mg/l/4h |
| Oral | | |
| LD50 | Rat | |
| Components | Species | Test Results |
| Butane (CAS 106-97-8) | | |
| Acute | | |
| Inhalation | | |
| LC50 | Mouse | 1237 mg/l, 120 Minutes |

| Components | Species | Test Results |
|--|---------|-------------------------|
| Ethyl Alcohol (CAS 64-17-5) Acute Inhalation LC50 | Rat | 52 %, 120 Minutes |
| | | 1355 mg/l |
| | Cat | 85.41 mg/l, 4.5 Hours |
| | | 43.68 mg/l, 6 Hours |
| | Mouse | > 60000 ppm |
| | | 79.43 mg/l, 134 Minutes |
| | Rat | > 115.9 mg/l, 4 Hours |
| | | 51.3 mg/l, 6 Hours |
| | Monkey | 6000 mg/kg |
| | | 10500 ml/kg |
| Oral LD50 | Rat | 1187 - 2769 mg/kg |
| | | 7800 ml/kg |
| | Mouse | 1237 mg/l, 120 Minutes |
| | | 52 %, 120 Minutes |
| Propane (CAS 74-98-6) Acute Inhalation LC50 | Rat | 1355 mg/l |
| | | 658 mg/l/4h |
| | Mouse | 1237 mg/l, 120 Minutes |
| | | 52 %, 120 Minutes |

* Estimates for product may be based on additional component data not shown.

| | |
|--|--|
| Skin corrosion/irritation | Prolonged skin contact may cause temporary irritation. |
| Serious eye damage/eye irritation | Direct contact with eyes may cause temporary irritation. |
| Respiratory or skin sensitization | |
| Respiratory sensitization | Not a respiratory sensitizer. |
| Skin sensitization | This product is not expected to cause skin sensitization. |
| Germ cell mutagenicity | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
| Carcinogenicity | This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. |
| OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) | |
| Not listed. | |
| Reproductive toxicity | Possible reproductive hazard. |
| Specific target organ toxicity - single exposure | Not classified. |
| Specific target organ toxicity - repeated exposure | Not classified. |
| Aspiration hazard | Not likely, due to the form of the product. |

12. Ecological information

| | | | |
|-----------------------------|--|----------------------------|-----------------------------|
| Ecotoxicity | Harmful to aquatic life with long lasting effects. | | |
| Components | Species | | Test Results |
| Ethyl Alcohol (CAS 64-17-5) | | | |
| Aquatic | | | |
| Crustacea | EC50 | Water flea (Daphnia magna) | 7700 - 11200 mg/l, 48 hours |

| Components | Species | Test Results |
|------------|---------|--|
| Fish | LC50 | Fathead minnow (<i>Pimephales promelas</i>) > 100.1 mg/l, 96 hours |

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

| | |
|---------------|-------|
| Butane | 2.89 |
| Ethyl Alcohol | -0.31 |
| Propane | 2.36 |

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

| | |
|---------------------------------------|---|
| Disposal instructions | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations. |
| Local disposal regulations | Dispose in accordance with all applicable regulations. |
| Hazardous waste code | The waste code should be assigned in discussion between the user, the producer and the waste disposal company. |
| Waste from residues / unused products | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). |
| Contaminated packaging | Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers. |

14. Transport information

| | |
|---|---|
| DOT | |
| UN number | UN1950 |
| UN proper shipping name | Aerosols, flammable |
| Transport hazard class(es) | |
| Class | 2.1 |
| Subsidiary risk | - |
| Label(s) | 2.1 |
| Packing group | Not applicable. |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling. |
| Special provisions | N82 |
| Packaging exceptions | 306 |
| Packaging non bulk | None |
| Packaging bulk | None |
| This product meets the exception requirements of section 173.306 as a limited quantity and may be shipped as a limited quantity. Until 12/31/2020, the "Consumer Commodity - ORM-D" marking may still be used in place of the new limited quantity diamond mark for packages of UN 1950 Aerosols. Limited quantities require the limited quantity diamond mark on cartons after 12/31/20 and may be used now in place of the "Consumer Commodity ORM-D" marking and both may be displayed concurrently. | |

IATA

| | |
|------------------------------|---|
| UN number | UN1950 |
| UN proper shipping name | Aerosols, flammable |
| Transport hazard class(es) | |
| Class | 2.1 |
| Subsidiary risk | - |
| Label(s) | 2.1 |
| Packing group | Not applicable. |
| Environmental hazards | No. |
| ERG Code | 10L |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling. |

| | |
|--|---|
| Other information | |
| Passenger and cargo aircraft | Allowed. |
| Cargo aircraft only | Allowed. |
| Packaging Exceptions | LTD QTY |
| IMDG | |
| UN number | UN1950 |
| UN proper shipping name | AEROSOLS |
| Transport hazard class(es) | |
| Class | 2.1 |
| Subsidiary risk | - |
| Label(s) Packing group | 2.1 |
| Environmental hazards | Not applicable. |
| Marine pollutant | No. |
| EmS | Not available. |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling. |
| Packaging Exceptions | LTD QTY |
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | Not applicable. |
| DOT | |



IATA; IMDG



15. Regulatory information

| | |
|---|---|
| US federal regulations | <p>OSHA Process Safety Standard: This material is not known to be hazardous by the OSHA Highly Hazardous Process Safety Standard, 29 CFR 1910.119.</p> <p>This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.</p> <p>All components are on the U.S. EPA TSCA Inventory List.</p> <p>CERCLA/SARA Hazardous Substances - Not applicable.</p> |
| TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D) | Not regulated. |
| CERCLA Hazardous Substance List (40 CFR 302.4) | Not listed. |
| SARA 304 Emergency release notification | Not regulated. |

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
 Delayed Hazard - No
 Fire Hazard - Yes
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous No
 chemical

SARA 313 (TRI reporting)
 Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Butane (CAS 106-97-8)

Propane (CAS 74-98-6)

Safe Drinking Water Act Not regulated.
 (SDWA)

US state regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

Butane (CAS 106-97-8)

Ethyl Alcohol (CAS 64-17-5)

Propane (CAS 74-98-6)

US. New Jersey Worker and Community Right-to-Know Act

Butane (CAS 106-97-8)

Ethyl Alcohol (CAS 64-17-5)

Propane (CAS 74-98-6)

US. Pennsylvania Worker and Community Right-to-Know Law

Butane (CAS 106-97-8)

Ethyl Alcohol (CAS 64-17-5)

Propane (CAS 74-98-6)

US. Rhode Island RTK

Butane (CAS 106-97-8)

Propane (CAS 74-98-6)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|----------------------|--|------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | Yes |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | Yes |
| Korea | Existing Chemicals List (ECL) | No |
| New Zealand | New Zealand Inventory | No |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | No |

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|---|------------------------|
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 03-24-2015

Version # 01

Disclaimer The information in the sheet was written based on the best knowledge and experience currently available. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Stainless Steel and Alloys of Stainless Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations
Revision Date: 12/15/2014 Date of issue: 10/30/2014

Version: 1.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Stainless Steel and Alloys of Stainless Steel

Synonyms: Alloy #200; Alloy #900; Alloy #STAGCG57; Alloy #342; Alloy #2SA

1.2. Intended Use of the Product

Use of the Substance/Mixture: No use is specified.

1.3. Name, Address, and Telephone of the Responsible Party

Distributor

ThyssenKrupp Materials NA, Inc.
22355 W. Eleven Mile Road
Southfield, Michigan 48034
TEL: 248-233-5713

1.4. Emergency Telephone Number

Emergency Number : 248-233-5713

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Not classified

2.2. Label Elements

GHS-US Labeling No labeling applicable

2.3. Other Hazards

This product is present in a massive form as an alloy. It does not present the same hazards when the individual components are in their powdered forms. The materials present in this product in their powdered forms present aquatic toxicity to the environment, pyrophoricity, flammability, self-heating capabilities, carcinogenicity, water reactivity, and acute toxicity. When processed or where dust is generated a combustible dust hazard may be present. Avoid generating dust, generating sparks, ignition sources, and take all precautions.

Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath.

Under normal use and handling of the solid form of this material there are few health hazards. Cutting, welding, melting, grinding etc. of these materials will produce dust, fume or particulate containing the component elements of these materials. Exposure to the dust, fume or particulate of these materials may present significant health hazards. Exposure to dust or fume may cause irritation of the eyes, skin and respiratory tract. Fine particulates dispersed in air may present an explosion hazard.

2.4. Unknown Acute Toxicity (GHS-US) No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable

| Name | Product Identifier | % (w/w) | Classification (GHS-US) |
|-----------|--------------------|--|--|
| Iron | (CAS No) 7439-89-6 | 66 - 88 | Not classified |
| Chromium | (CAS No) 7440-47-3 | < 0.1, 0.1 - 1, 1 - 5, 5 - 10, 10 - 30 | Comb. Dust |
| Nickel | (CAS No) 7440-02-0 | < 0.1, 0.1 - 1, 1 - 5, 5 - 10, 10 - 27 | Skin Sens. 1, H317 Carc. 2, H351 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 3, H412 |
| Manganese | (CAS No) 7439-96-5 | < 0.1, 0.1 - | Comb. Dust |

Stainless Steel and Alloys of Stainless Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | | | |
|----------------------|--------------------|------------------------------|---|
| | | 1, 1 - 5, 5 - 6 | |
| Molybdenum | (CAS No) 7439-98-7 | < 0.1, 0.1 - 1, 1 - 5, 5 - 6 | Comb. Dust |
| Titanium | (CAS No) 7440-32-6 | < 0.1, 0.1 - 1, 1 - 5, 5 - 6 | Flam. Sol. 1, H228 |
| Copper | (CAS No) 7440-50-8 | < 0.1, 0.1 - 1, 1 - 5, 5 - 6 | Comb. Dust Aquatic Acute 1, H400 Aquatic Chronic 3, H412 |
| Sulfur dioxide | (CAS No) 7446-09-5 | < 0.1, 0.1 - 1, 1 - 2 | Compressed gas, H280 Acute Tox. 3 (Inhalation:gas), H331 Skin Corr. 1B, H314 Eye Dam. 1, H318 |
| Phosphorus elemental | (CAS No) 7723-14-0 | < 0.1, 0.1 - 1, 1 - 2 | Not classified |
| Cobalt | (CAS No) 7440-48-4 | < 0.1, 0.1 - 1, 1 - 2 | Acute Tox. 4 (Oral), H302 Acute Tox. 1 (Inhalation:dust,mist), H330 Eye Irrit. 2A, H319 Resp. Sens. 1B, H334 Skin Sens. 1, H317 Carc. 2, H351 Repr. 2, H361 Aquatic Acute 3, H402 Aquatic Chronic 1, H410 |
| Carbon | (CAS No) 7440-44-0 | < 0.1, 0.1 - 1, 1 - 2 | Comb. Dust |
| Silicon | (CAS No) 7440-21-3 | < 0.1, 0.1 - 1, 1 - 2 | Comb. Dust |
| Tungsten | (CAS No) 7440-33-7 | < 0.1, 0.1 - 1, 1 - 2 | Flam. Sol. 1, H228 Self-heat. 2, H252 |
| Niobium | (CAS No) 7440-03-1 | < 0.1, 0.1 - 1, 1 - 2 | Flam. Sol. 1, H228 |
| Aluminum | (CAS No) 7429-90-5 | < 0.1, 0.1 - 0.5 | Comb. Dust Flam. Sol. 1, H228 Water-react. 2, H261 |
| Tantalum | (CAS No) 7440-25-7 | 0.15 - 0.45 | Flam. Sol. 1, H228 |
| Selenium | (CAS No) 7782-49-2 | < 0.1, 0.1 - 0.35 | Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Inhalation:dust,mist), H331 STOT RE 2, H373 Aquatic Chronic 4, H413 |

Full text of H-phrases: see section 16

More than one of the ranges of concentration prescribed by Controlled Products Regulations has been used where necessary due to varying composition.

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

General: IF exposed or concerned: Get medical advice/attention. Never give anything by mouth to an unconscious person.

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Keep at rest and in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

Stainless Steel and Alloys of Stainless Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

Skin Contact: Cool skin rapidly with cold water after contact with molten product. Removal of solidified molten material from skin requires medical assistance. Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Wash with plenty of soap and water. Wash contaminated clothing before reuse. Obtain medical attention if irritation persists.

Eye Contact: Removal of solidified molten material from the eyes requires medical assistance. Immediately rinse with water for a prolonged period (at least 15 minutes) while holding the eyelids wide open. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.

Ingestion: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER/doctor/physician if you feel unwell.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

General: Welding, cutting, or processing this material may release dust or fumes that are hazardous.

Inhalation: Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath.

Skin Contact: May cause an allergic skin reaction. Dust from physical alteration of this product causes skin irritation. Causes severe skin burns. Contact with fumes or metal powder will irritate skin. Contact with hot, molten metal will cause thermal burns. Dust may cause irritation in skin folds or by contact in combination with tight clothing. Mechanical damage via flying particles and chipped slag is possible.

Eye Contact: Dust may cause mechanical irritation to eyes, nose, throat, and lungs.

Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: In massive form, no hazard exists. If physically altered to present slivers, ribbons, dusts or fumes from molten material: Aluminum: Inhalation of finely divided aluminum powder may cause pulmonary fibrosis. Inhalation of iron oxide fumes undergoing decomposition may cause irritation and flu-like symptoms, otherwise iron oxide is not hazardous. Inhalation of Nickel compounds has been shown in studies to provide an increased incidence of cancer of the nasal cavity, lung and possibly larynx in nickel refinery workers. Nickel: May cause a form of dermatitis known as nickel itch and intestinal irritation, which may cause disorders, convulsions and asphyxia. Chromium: Certain hexavalent chromium compounds have been demonstrated to be carcinogenic on the basis of epidemiological investigations on workers and experimental studies in animals. Increased incidences of respiratory cancer have been found in chromium (VI) workers. There is an increased incidence of lung cancer in industrial workers exposed to chromium (VI) compounds. Please refer to IARC volume 23 for a more detailed discussion. Manganese: Chronic exposure can cause inflammation of the lung tissue, scarring the lungs (pulmonary fibrosis). Copper: Overexposure to fumes may cause metal fume fever (chills, muscle aches, nausea, fever, dry throat, cough, weakness, lassitude); metallic or sweet taste; discoloration of skin and hair. Tissue damage of mucous membranes may follow chronic dust exposure. Silicon: Can cause chronic bronchitis and narrowing of the airways.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire. Dry sand; Class D Extinguishing Agent (for metal powder fires).

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire. Do not use water when molten material is involved, may react violently or explosively on contact with water.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: A non-combustible material, not considered flammable but will melt above 1300 °C (2372 °F).

Explosion Hazard: In molten state: reacts violently with water (moisture).

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Under fire conditions, hazardous fumes will be present.

Firefighting Instructions: Exercise caution when fighting any chemical fire.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Oxides of nickel. Oxides of copper. Chromium oxides. Oxides of silicone and carbon. Oxides of aluminum. Phosphorus oxides. Molybdenum oxides. Sulfur compounds. Cobalt oxide. Oxides of Tantalum.

Stainless Steel and Alloys of Stainless Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not handle until all safety precautions have been read and understood. Do not breathe vapors from molten product.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain and collect as any solid.

Methods for Cleaning Up: Clear up spills immediately and dispose of waste safely. For particulates and dust: Avoid actions that cause dust to become airborne during clean-up such as dry sweeping or using compressed air. Use HEPA vacuum or thoroughly wet with water to clean-up dust. Use PPE described in Section 8. Vacuum must be fitted with HEPA filter to prevent release of particulates during clean-up.

6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection. Concerning disposal elimination after cleaning, see item 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: May generate flammable/explosive dusts or turnings when brushed, machined or ground. Use care during processing to minimize generation of dust. Where excessive dust may result, use approved respiratory protection equipment. Heating of product can release toxic or irritating fumes; ensure proper ventilation is employed, proper precautions are enforced, and applicable regulations are followed. Inhalation of fumes may cause metal fume fever.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store in a dry, cool and well-ventilated place.

Incompatible Materials: Strong acids, strong bases, strong oxidizers. Alkalis. Metal oxides. Water, humidity. Corrosive substances in contact with metals may produce flammable hydrogen gas.

7.3. Specific End Use(s)

No use is specified.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

| Chromium (7440-47-3) | | |
|----------------------|--------------------------------------|-----------------------|
| Mexico | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.5 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 1 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 0.5 mg/m ³ |
| USA IDLH | US IDLH (mg/m ³) | 250 mg/m ³ |
| Alberta | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Manitoba | OEL TWA (mg/m ³) | 0.5 mg/m ³ |

Stainless Steel and Alloys of Stainless Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | | |
|------------------------------------|-------------------------------|-----------------------|
| New Brunswick | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Nova Scotia | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Nunavut | OEL STEL (mg/m ³) | 1.5 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Northwest Territories | OEL STEL (mg/m ³) | 1.5 mg/m ³ |
| Northwest Territories | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Ontario | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Prince Edward Island | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Québec | VEMP (mg/m ³) | 0.5 mg/m ³ |
| Saskatchewan | OEL STEL (mg/m ³) | 1.5 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 0.5 mg/m ³ |
| Yukon | OEL STEL (mg/m ³) | 3.0 mg/m ³ |
| Yukon | OEL TWA (mg/m ³) | 0.1 mg/m ³ |

| | | |
|------------------------------------|--------------------------------------|--|
| Nickel (7440-02-0) | | |
| Mexico | OEL TWA (mg/m ³) | 1 mg/m ³ |
| USA ACGIH | ACGIH TWA (mg/m ³) | 1.5 mg/m ³ (inhalable fraction) |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 1 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 0.015 mg/m ³ |
| USA IDLH | US IDLH (mg/m ³) | 10 mg/m ³ |
| Alberta | OEL TWA (mg/m ³) | 1.5 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 0.05 mg/m ³ |
| Manitoba | OEL TWA (mg/m ³) | 1.5 mg/m ³ (inhalable fraction) |
| New Brunswick | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 1.5 mg/m ³ (inhalable fraction) |
| Nova Scotia | OEL TWA (mg/m ³) | 1.5 mg/m ³ (inhalable fraction) |
| Nunavut | OEL STEL (mg/m ³) | 2 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Northwest Territories | OEL STEL (mg/m ³) | 2 mg/m ³ |
| Northwest Territories | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Ontario | OEL TWA (mg/m ³) | 1 mg/m ³ (inhalable) |
| Prince Edward Island | OEL TWA (mg/m ³) | 1.5 mg/m ³ (inhalable fraction) |
| Québec | VEMP (mg/m ³) | 1 mg/m ³ |
| Saskatchewan | OEL STEL (mg/m ³) | 3 mg/m ³ (inhalable fraction) |
| Saskatchewan | OEL TWA (mg/m ³) | 1.5 mg/m ³ (inhalable fraction) |
| Yukon | OEL STEL (mg/m ³) | 3 mg/m ³ |
| Yukon | OEL TWA (mg/m ³) | 1 mg/m ³ |

| | | |
|------------------------------|---|--|
| Manganese (7439-96-5) | | |
| Mexico | OEL TWA (mg/m ³) | 0.2 mg/m ³ 1 mg/m ³ (fume) |
| Mexico | OEL STEL (mg/m ³) | 3 mg/m ³ (fume) |
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.02 mg/m ³ (respirable fraction) 0.1 mg/m ³ (inhalable fraction) |
| USA OSHA | OSHA PEL (Ceiling) (mg/m ³) | 5 mg/m ³ (fume) |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 1 mg/m ³ (fume) |
| USA NIOSH | NIOSH REL (STEL) (mg/m ³) | 3 mg/m ³ |
| USA IDLH | US IDLH (mg/m ³) | 500 mg/m ³ |
| Alberta | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| Manitoba | OEL TWA (mg/m ³) | 0.02 mg/m ³ (respirable fraction) |
| New Brunswick | OEL TWA (mg/m ³) | 0.2 mg/m ³ |

Stainless Steel and Alloys of Stainless Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | | |
|------------------------------------|----------------------------------|--|
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 0.02 mg/m ³ (respirable fraction) |
| Nova Scotia | OEL TWA (mg/m ³) | 0.02 mg/m ³ (respirable fraction) |
| Nunavut | OEL Ceiling (mg/m ³) | 5 mg/m ³ |
| Nunavut | OEL STEL (mg/m ³) | 3 mg/m ³ (fume) |
| Nunavut | OEL TWA (mg/m ³) | 1 mg/m ³ (fume) |
| Northwest Territories | OEL Ceiling (mg/m ³) | 5 mg/m ³ |
| Northwest Territories | OEL STEL (mg/m ³) | 3 mg/m ³ (fume) |
| Northwest Territories | OEL TWA (mg/m ³) | 1 mg/m ³ (fume) |
| Ontario | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| Prince Edward Island | OEL TWA (mg/m ³) | 0.02 mg/m ³ (respirable fraction) |
| Québec | VEMP (mg/m ³) | 0.2 mg/m ³ (total dust and fume) |
| Saskatchewan | OEL STEL (mg/m ³) | 0.6 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| Yukon | OEL Ceiling (mg/m ³) | 5 mg/m ³ |

| | | |
|------------------------------------|--------------------------------|--|
| Molybdenum (7439-98-7) | | |
| USA ACGIH | ACGIH TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) 3 mg/m ³ (respirable fraction) |
| USA IDLH | US IDLH (mg/m ³) | 5000 mg/m ³ |
| Alberta | OEL TWA (mg/m ³) | 10 mg/m ³ (total) |
| British Columbia | OEL TWA (mg/m ³) | 3 mg/m ³ (respirable) |
| Manitoba | OEL TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) |
| Nova Scotia | OEL TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) |
| Ontario | OEL TWA (mg/m ³) | 10 mg/m ³ (metal-inhalable) |
| Prince Edward Island | OEL TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) |
| Saskatchewan | OEL STEL (mg/m ³) | 20 mg/m ³ (inhalable fraction) |
| Saskatchewan | OEL TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) |

| | | |
|------------------------------------|--------------------------------------|---|
| Copper (7440-50-8) | | |
| Mexico | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) 1 mg/m ³ (dust and mist) |
| Mexico | OEL STEL (mg/m ³) | 2 mg/m ³ (fume) 2 mg/m ³ (dust and mist) |
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 0.1 mg/m ³ (fume) 1 mg/m ³ (dust and mist) |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 1 mg/m ³ (dust and mist) 0.1 mg/m ³ (fume) |
| USA IDLH | US IDLH (mg/m ³) | 100 mg/m ³ (dust, fume and mist) |
| Alberta | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| British Columbia | OEL TWA (mg/m ³) | 1 mg/m ³ (dust and mist) |
| Manitoba | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| New Brunswick | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Nova Scotia | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Nunavut | OEL STEL (mg/m ³) | 0.6 mg/m ³ (fume) |
| Nunavut | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Northwest Territories | OEL STEL (mg/m ³) | 0.6 mg/m ³ (fume) |
| Northwest Territories | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Ontario | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Prince Edward Island | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Québec | VEMP (mg/m ³) | 0.2 mg/m ³ (fume) |

Stainless Steel and Alloys of Stainless Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | | |
|------------------------------------|---------------------------------------|------------------------------|
| Saskatchewan | OEL STEL (mg/m ³) | 0.6 mg/m ³ (fume) |
| Saskatchewan | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Yukon | OEL STEL (mg/m ³) | 0.2 mg/m ³ (fume) |
| Yukon | OEL TWA (mg/m ³) | 0.2 mg/m ³ (fume) |
| Sulfur dioxide (7446-09-5) | | |
| Mexico | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Mexico | OEL TWA (ppm) | 2 ppm |
| Mexico | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Mexico | OEL STEL (ppm) | 5 ppm |
| USA ACGIH | ACGIH STEL (ppm) | 0.25 ppm |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 13 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (ppm) | 5 ppm |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 5 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (ppm) | 2 ppm |
| USA NIOSH | NIOSH REL (STEL) (mg/m ³) | 13 mg/m ³ |
| USA NIOSH | NIOSH REL (STEL) (ppm) | 5 ppm |
| USA IDLH | US IDLH (ppm) | 100 ppm |
| Alberta | OEL STEL (mg/m ³) | 13 mg/m ³ |
| Alberta | OEL STEL (ppm) | 5 ppm |
| Alberta | OEL TWA (mg/m ³) | 5.2 mg/m ³ |
| Alberta | OEL TWA (ppm) | 2 ppm |
| British Columbia | OEL STEL (ppm) | 5 ppm |
| British Columbia | OEL TWA (ppm) | 2 ppm |
| Manitoba | OEL STEL (ppm) | 0.25 ppm |
| New Brunswick | OEL STEL (mg/m ³) | 13 mg/m ³ |
| New Brunswick | OEL STEL (ppm) | 5 ppm |
| New Brunswick | OEL TWA (mg/m ³) | 5.2 mg/m ³ |
| New Brunswick | OEL TWA (ppm) | 2 ppm |
| Newfoundland & Labrador | OEL STEL (ppm) | 0.25 ppm |
| Nova Scotia | OEL STEL (ppm) | 0.25 ppm |
| Nunavut | OEL STEL (mg/m ³) | 13 mg/m ³ |
| Nunavut | OEL STEL (ppm) | 5 ppm |
| Nunavut | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Nunavut | OEL TWA (ppm) | 2 ppm |
| Northwest Territories | OEL STEL (mg/m ³) | 13 mg/m ³ |
| Northwest Territories | OEL STEL (ppm) | 5 ppm |
| Northwest Territories | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Northwest Territories | OEL TWA (ppm) | 2 ppm |
| Ontario | OEL STEL (mg/m ³) | 10.4 mg/m ³ |
| Ontario | OEL STEL (ppm) | 5 ppm |
| Ontario | OEL TWA (mg/m ³) | 5.2 mg/m ³ |
| Ontario | OEL TWA (ppm) | 2 ppm |
| Prince Edward Island | OEL STEL (ppm) | 0.25 ppm |
| Québec | VECD (mg/m ³) | 13 mg/m ³ |
| Québec | VECD (ppm) | 5 ppm |
| Québec | VEMP (mg/m ³) | 5.2 mg/m ³ |
| Québec | VEMP (ppm) | 2 ppm |
| Saskatchewan | OEL STEL (ppm) | 5 ppm |
| Saskatchewan | OEL TWA (ppm) | 2 ppm |
| Yukon | OEL STEL (mg/m ³) | 13 mg/m ³ |
| Yukon | OEL STEL (ppm) | 5 ppm |

Stainless Steel and Alloys of Stainless Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | | |
|---|--------------------------------------|---|
| Yukon | OEL TWA (mg/m ³) | 13 mg/m ³ |
| Yukon | OEL TWA (ppm) | 5 ppm |
| Phosphorus elemental (7723-14-0) | | |
| Alberta | OEL TWA (mg/m ³) | 0.1 mg/m ³ (yellow) |
| New Brunswick | OEL TWA (mg/m ³) | 0.1 mg/m ³ (yellow) |
| New Brunswick | OEL TWA (ppm) | 0.02 ppm (yellow) |
| Québec | VEMP (mg/m ³) | 0.1 mg/m ³ (yellow) |
| Cobalt (7440-48-4) | | |
| Mexico | OEL TWA (mg/m ³) | 0.1 mg/m ³ (dust and fume) |
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.02 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 0.1 mg/m ³ (dust and fume) |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 0.05 mg/m ³ (dust and fume) |
| USA IDLH | US IDLH (mg/m ³) | 20 mg/m ³ (dust and fume) |
| Alberta | OEL TWA (mg/m ³) | 0.02 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 0.02 mg/m ³ |
| Manitoba | OEL TWA (mg/m ³) | 0.02 mg/m ³ |
| New Brunswick | OEL TWA (mg/m ³) | 0.02 mg/m ³ |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 0.02 mg/m ³ |
| Nova Scotia | OEL TWA (mg/m ³) | 0.02 mg/m ³ |
| Nunavut | OEL STEL (mg/m ³) | 0.3 mg/m ³ (dust and fume) |
| Nunavut | OEL TWA (mg/m ³) | 0.1 mg/m ³ (metal-dust and fume) |
| Northwest Territories | OEL STEL (mg/m ³) | 0.3 mg/m ³ (dust and fume) |
| Northwest Territories | OEL TWA (mg/m ³) | 0.1 mg/m ³ (dust and fume) |
| Ontario | OEL TWA (mg/m ³) | 0.02 mg/m ³ |
| Prince Edward Island | OEL TWA (mg/m ³) | 0.02 mg/m ³ |
| Québec | VEMP (mg/m ³) | 0.02 mg/m ³ |
| Saskatchewan | OEL STEL (mg/m ³) | 0.06 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 0.02 mg/m ³ |
| Yukon | OEL STEL (mg/m ³) | 0.15 mg/m ³ (dust and fume) |
| Yukon | OEL TWA (mg/m ³) | 0.05 mg/m ³ (dust and fume) |
| Carbon (7440-44-0) | | |
| Mexico | OEL TWA (mg/m ³) | 2 mg/m ³ (dust) |
| Silicon (7440-21-3) | | |
| Mexico | OEL TWA (mg/m ³) | 10 mg/m ³ (inhalable fraction) |
| Mexico | OEL STEL (mg/m ³) | 20 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction) |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust) |
| British Columbia | OEL TWA (mg/m ³) | 10 mg/m ³ (total dust) |
| New Brunswick | OEL TWA (mg/m ³) | 10 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 5 mg/m ³ (respirable mass) |
| Northwest Territories | OEL TWA (mg/m ³) | 5 mg/m ³ (respirable mass) |
| Ontario | OEL TWA (mg/m ³) | 10 mg/m ³ (total dust) |
| Québec | VEMP (mg/m ³) | 10 mg/m ³ (containing no Asbestos and <1% Crystalline silica-total dust) |
| Saskatchewan | OEL STEL (mg/m ³) | 20 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 10 mg/m ³ |
| Yukon | OEL STEL (mg/m ³) | 20 mg/m ³ |
| Yukon | OEL TWA (mg/m ³) | 30 mppcf |

Stainless Steel and Alloys of Stainless Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | | |
|------------------------------------|---------------------------------------|--|
| Tungsten (7440-33-7) | | |
| USA ACGIH | ACGIH TWA (mg/m ³) | 5 mg/m ³ |
| USA ACGIH | ACGIH STEL (mg/m ³) | 10 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 5 mg/m ³ |
| USA NIOSH | NIOSH REL (STEL) (mg/m ³) | 10 mg/m ³ |
| Alberta | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Alberta | OEL TWA (mg/m ³) | 5 mg/m ³ |
| British Columbia | OEL STEL (mg/m ³) | 10 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Manitoba | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Manitoba | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Newfoundland & Labrador | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Nova Scotia | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Nova Scotia | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Nunavut | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Northwest Territories | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Northwest Territories | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Ontario | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Ontario | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Prince Edward Island | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Prince Edward Island | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Saskatchewan | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Yukon | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Yukon | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Aluminum (7429-90-5) | | |
| Mexico | OEL TWA (mg/m ³) | 10 mg/m ³ (dust) |
| USA ACGIH | ACGIH TWA (mg/m ³) | 1 mg/m ³ (respirable fraction) |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction) |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust) |
| Alberta | OEL TWA (mg/m ³) | 10 mg/m ³ (dust) |
| British Columbia | OEL TWA (mg/m ³) | 1.0 mg/m ³ (respirable) |
| Manitoba | OEL TWA (mg/m ³) | 1 mg/m ³ (respirable fraction) |
| New Brunswick | OEL TWA (mg/m ³) | 10 mg/m ³ (metal dust) |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 1 mg/m ³ (respirable fraction) |
| Nova Scotia | OEL TWA (mg/m ³) | 1 mg/m ³ (respirable fraction) |
| Nunavut | OEL STEL (mg/m ³) | 20 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 10 mg/m ³ |
| Northwest Territories | OEL STEL (mg/m ³) | 20 mg/m ³ |
| Northwest Territories | OEL TWA (mg/m ³) | 10 mg/m ³ |
| Ontario | OEL TWA (mg/m ³) | 1 mg/m ³ (respirable) |
| Prince Edward Island | OEL TWA (mg/m ³) | 1 mg/m ³ (respirable fraction) |
| Québec | VEMP (mg/m ³) | 10 mg/m ³ |
| Saskatchewan | OEL STEL (mg/m ³) | 20 mg/m ³ (dust) |
| Saskatchewan | OEL TWA (mg/m ³) | 10 mg/m ³ (dust) |
| Tantalum (7440-25-7) | | |
| Mexico | OEL TWA (mg/m ³) | 5 mg/m ³ |

Stainless Steel and Alloys of Stainless Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | | |
|------------------------------|---------------------------------------|-------------------------------|
| Mexico | OEL STEL (mg/m ³) | 10 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 5 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 5 mg/m ³ (dust) |
| USA NIOSH | NIOSH REL (STEL) (mg/m ³) | 10 mg/m ³ (dust) |
| USA IDLH | US IDLH (mg/m ³) | 2500 mg/m ³ (dust) |
| Alberta | OEL TWA (mg/m ³) | 5 mg/m ³ (dust) |
| British Columbia | OEL TWA (mg/m ³) | 5 mg/m ³ |
| New Brunswick | OEL TWA (mg/m ³) | 5 mg/m ³ (dust) |
| Nunavut | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Northwest Territories | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Northwest Territories | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Québec | VEMP (mg/m ³) | 5 mg/m ³ (dust) |
| Saskatchewan | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Yukon | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Yukon | OEL TWA (mg/m ³) | 5 mg/m ³ |

| | | |
|------------------------------------|--------------------------------------|-----------------------|
| Selenium (7782-49-2) | | |
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.2 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 0.2 mg/m ³ |
| USA IDLH | US IDLH (mg/m ³) | 1 mg/m ³ |
| Alberta | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 0.1 mg/m ³ |
| Manitoba | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| New Brunswick | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| Nova Scotia | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| Ontario | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| Prince Edward Island | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| Québec | VEMP (mg/m ³) | 0.2 mg/m ³ |
| Saskatchewan | OEL STEL (mg/m ³) | 0.6 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 0.2 mg/m ³ |

8.2. Exposure Controls

Appropriate Engineering Controls: Use local exhaust or general dilution ventilation or other suppression methods to maintain dust levels below exposure limits. Power equipment should be equipped with proper dust collection devices. Ensure all national/local regulations are observed.

Personal Protective Equipment: Protective clothing. Gloves. Safety glasses. Dust formation: dust mask. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing: Chemically resistant materials and fabrics. With molten material wear thermally protective clothing.

Hand Protection: Wear chemically resistant protective gloves. If material is hot, wear thermally resistant protective gloves.

Eye Protection: Chemical goggles or safety glasses.

Skin and Body Protection: Wear suitable protective clothing. Wash contaminated clothing before reuse.

Respiratory Protection: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

Stainless Steel and Alloys of Stainless Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

| | |
|---|---|
| Physical State | : Solid |
| Appearance | : Metallic |
| Odor | : Odorless |
| Odor Threshold | : Not available |
| pH | : Not available |
| Evaporation Rate | : Not available |
| Melting Point | : 1300 °C (2372 °F) |
| Freezing Point | : Not available |
| Boiling Point | : Not available |
| Flash Point | : Not applicable |
| Auto-ignition Temperature | : Not available |
| Decomposition Temperature | : Not available |
| Flammability (solid, gas) | : Not available |
| Lower Flammable Limit | : Not available |
| Upper Flammable Limit | : Not available |
| Vapor Pressure | : Not available |
| Relative Vapor Density at 20 °C | : Not available |
| Relative Density | : Not available |
| Specific Gravity | : 7.9 |
| Solubility | : Insoluble in water |
| Partition Coefficient: N-octanol/water | : Not available |
| Viscosity | : Not available |
| Explosion Data – Sensitivity to Mechanical Impact | : Not expected to present an explosion hazard due to mechanical impact. |
| Explosion Data – Sensitivity to Static Discharge | : Not expected to present an explosion hazard due to static discharge. |

SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Hazardous reactions will not occur under normal conditions.
- 10.2. Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid:** Avoid creating or spreading dust. Sparks, heat, open flame and other sources of ignition.
- 10.5. Incompatible Materials:** When molten: water. Strong acids, strong bases, strong oxidizers. Alkalis. Metal oxides. Moisture. Corrosive substances in contact with metals may produce flammable hydrogen gas.
- 10.6. Hazardous Decomposition Products:** Oxides of iron and carbon. Organic acid vapors. Chromium (VI) compounds. Sulfur compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects - Product

Acute Toxicity: Not classified. Not classified.

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Not classified.

Serious Eye Damage/Irritation: Not classified.

Respiratory or Skin Sensitization: Not classified. Not classified.

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not classified

Carcinogenicity: Not classified.

Specific Target Organ Toxicity (Repeated Exposure): Not classified.

Reproductive Toxicity: Not classified.

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Stainless Steel and Alloys of Stainless Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

Symptoms/Injuries After Inhalation: Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath.

Symptoms/Injuries After Skin Contact: May cause an allergic skin reaction. Dust from physical alteration of this product causes skin irritation. Causes severe skin burns. Contact with fumes or metal powder will irritate skin. Contact with hot, molten metal will cause thermal burns. Dust may cause irritation in skin folds or by contact in combination with tight clothing. Mechanical damage via flying particles and chipped slag is possible.

Symptoms/Injuries After Eye Contact: Dust may cause mechanical irritation to eyes, nose, throat, and lungs.

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: In massive form, no hazard exists. If physically altered to present slivers, ribbons, dusts or fumes from molten material: Aluminum: Inhalation of finely divided aluminum powder may cause pulmonary fibrosis. Inhalation of iron oxide fumes undergoing decomposition may cause irritation and flu-like symptoms, otherwise iron oxide is not hazardous. Inhalation of Nickel compounds has been shown in studies to provide an increased incidence of cancer of the nasal cavity, lung and possibly larynx in nickel refinery workers. Nickel: May cause a form of dermatitis known as nickel itch and intestinal irritation, which may cause disorders, convulsions and asphyxia. Chromium: Certain hexavalent chromium compounds have been demonstrated to be carcinogenic on the basis of epidemiological investigations on workers and experimental studies in animals. Increased incidences of respiratory cancer have been found in chromium (VI) workers. There is an increased incidence of lung cancer in industrial workers exposed to chromium (VI) compounds. Please refer to IARC volume 23 for a more detailed discussion. Manganese: Chronic exposure can cause inflammation of the lung tissue, scarring the lungs (pulmonary fibrosis). Copper: Overexposure to fumes may cause metal fume fever (chills, muscle aches, nausea, fever, dry throat, cough, weakness, lassitude); metallic or sweet taste; discoloration of skin and hair. Tissue damage of mucous membranes may follow chronic dust exposure. Silicon: Can cause chronic bronchitis and narrowing of the airways.

11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

| | |
|---|--------------------------------|
| Chromium (7440-47-3) | |
| LD50 Oral Rat | > 5000 mg/kg |
| Nickel (7440-02-0) | |
| LD50 Oral Rat | > 9000 mg/kg |
| Manganese (7439-96-5) | |
| LD50 Oral Rat | > 2000 mg/kg |
| Molybdenum (7439-98-7) | |
| LD50 Oral Rat | > 2000 mg/kg |
| LD50 Dermal Rat | > 2000 mg/kg |
| Sulfur dioxide (7446-09-5) | |
| LC50 Inhalation Rat | 2500 ppm/1h |
| ATE US (gases) | 1,250.00 ppmV/4h |
| Phosphorus elemental (7723-14-0) | |
| LD50 Oral Rat | 3.03 mg/kg |
| LD50 Dermal Rat | 100 mg/kg |
| LC50 Inhalation Rat | 4.3 mg/l (Exposure time: 1 h) |
| Cobalt (7440-48-4) | |
| LD50 Oral Rat | 215.9 - 1140 mg/kg |
| LC50 Inhalation Rat | > 10 mg/l (Exposure time: 1 h) |
| ATE US (dust, mist) | 0.01 mg/l/4h |
| Carbon (7440-44-0) | |
| LD50 Oral Rat | > 10000 mg/kg |
| Niobium (7440-03-1) | |
| LD50 Oral Rat | > 10 g/kg |

Stainless Steel and Alloys of Stainless Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | |
|--|--|
| Selenium (7782-49-2) | |
| ATE US (oral) | 100.00 mg/kg body weight |
| ATE US (dust, mist) | 0.50 mg/l/4h |
| Chromium (7440-47-3) | |
| IARC Group | 3 |
| Nickel (7440-02-0) | |
| IARC Group | 2B |
| National Toxicity Program (NTP) Status | Reasonably anticipated to be Human Carcinogen. |
| Sulfur dioxide (7446-09-5) | |
| IARC Group | 3 |
| Cobalt (7440-48-4) | |
| IARC Group | 2B |
| Selenium (7782-49-2) | |
| IARC Group | 3 |

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity No additional information available

| | |
|--------------------------------|---|
| Nickel (7440-02-0) | |
| LC50 Fish 1 | 100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio) |
| EC50 Daphnia 1 | 13 (13 - 200) µg/l (Exposure time: 48h - Species: Ceriodaphnia dubia [static]) |
| LC 50 Fish 2 | 1.3 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static]) |
| EC50 Daphnia 2 | 1 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static]) |
| EC50 Other Aquatic Organisms 2 | 0.174 (0.174 - 0.311) mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata [static]) |
| Manganese (7439-96-5) | |
| NOEC chronic fish | 3.6 mg/l (Exposure time: 96h; Species: Oncorhynchus mykiss) |
| Copper (7440-50-8) | |
| LC50 Fish 1 | <= 0.0068 (0.0068 - 0.0156) mg/l (Exposure time: 96 h - Species: Pimephales promelas) |
| EC50 Daphnia 1 | 0.03 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static]) |
| EC50 Other Aquatic Organisms 1 | 0.0426 (0.0426 - 0.0535) mg/l (Exposure time: 72 h - Species: Pseudokirchneriella subcapitata [static]) |
| LC 50 Fish 2 | 0.3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static]) |
| EC50 Other Aquatic Organisms 2 | 0.031 (0.031 - 0.054) mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata [static]) |
| Cobalt (7440-48-4) | |
| LC50 Fish 1 | 100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static]) |

Persistence and Degradability

| | |
|--|----------------------------|
| Stainless Steel and Alloys of Stainless Steel | |
| Persistence and Degradability | Not established. |
| Copper (7440-50-8) | |
| Persistence and Degradability | Not readily biodegradable. |

12.3. Bioaccumulative Potential

| | |
|--|-------------------------------|
| Stainless Steel and Alloys of Stainless Steel | |
| Bioaccumulative Potential | Not established. |
| Sulfur dioxide (7446-09-5) | |
| BCF Fish 1 | (no bioaccumulation expected) |
| Cobalt (7440-48-4) | |
| BCF Fish 1 | (no bioaccumulation) |

12.4. Mobility in Soil Not available

Stainless Steel and Alloys of Stainless Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

12.5. Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Treatment Methods: Recycle product or dispose properly.

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT Not regulated for transport

14.2. In Accordance with IMDG Not regulated for transport

14.3. In Accordance with IATA Not regulated for transport

14.4. In Accordance with TDG Not regulated for transport

SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

| | |
|---|---|
| Stainless Steel and Alloys of Stainless Steel | |
| SARA Section 311/312 Hazard Classes | Delayed (chronic) health hazard |
| Iron (7439-89-6) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Chromium (7440-47-3) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| SARA Section 313 - Emission Reporting | 1.0 % |
| Nickel (7440-02-0) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| RQ (Reportable Quantity, Section 304 of EPA's List of Lists): | 100 lb (only applicable if particles are < 100 µm) |
| SARA Section 313 - Emission Reporting | 0.1 % |
| Manganese (7439-96-5) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| SARA Section 313 - Emission Reporting | 1.0 % |
| Molybdenum (7439-98-7) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Titanium (7440-32-6) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Copper (7440-50-8) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on United States SARA Section 313 | |
| SARA Section 313 - Emission Reporting | 1.0 % |
| Sulfur dioxide (7446-09-5) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on the United States SARA Section 302 | |
| SARA Section 302 Threshold Planning Quantity (TPQ) | 500 |
| Phosphorus elemental (7723-14-0) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on the United States SARA Section 302 | |
| Listed on United States SARA Section 313 | |
| SARA Section 302 Threshold Planning Quantity (TPQ) | 100 (This material is a reactive solid. The TPQ does not default to 10000 pounds for non-powder, non-molten, non-solution form) |

Stainless Steel and Alloys of Stainless Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | |
|---|---------------------------|
| SARA Section 313 - Emission Reporting | 1.0 % (yellow or white) |
| Cobalt (7440-48-4) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313 | |
| SARA Section 313 - Emission Reporting | 0.1 % |
| Carbon (7440-44-0) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Silicon (7440-21-3) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Tungsten (7440-33-7) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Niobium (7440-03-1) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Aluminum (7429-90-5) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313 | |
| SARA Section 313 - Emission Reporting | 1.0 % (dust or fume only) |
| Tantalum (7440-25-7) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Selenium (7782-49-2) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313 | |
| SARA Section 313 - Emission Reporting | 1.0 % |

15.2. US State Regulations

| | |
|--|---|
| Nickel (7440-02-0) | |
| U.S. - California - Proposition 65 - Carcinogens List | WARNING: This product contains chemicals known to the State of California to cause cancer. |
| Sulfur dioxide (7446-09-5) | |
| U.S. - California - Proposition 65 - Developmental Toxicity | WARNING: This product contains chemicals known to the State of California to cause birth defects. |
| Cobalt (7440-48-4) | |
| U.S. - California - Proposition 65 - Carcinogens List | WARNING: This product contains chemicals known to the State of California to cause cancer. |
| Chromium (7440-47-3) | |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances U.S. - Pennsylvania - RTK (Right to Know) List | |
| Nickel (7440-02-0) | |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances U.S. - Pennsylvania - RTK (Right to Know) List | |
| Manganese (7439-96-5) | |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List | |

Stainless Steel and Alloys of Stainless Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| |
|--|
| U.S. - Pennsylvania - RTK (Right to Know) List |
| Molybdenum (7439-98-7) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List |
| Titanium (7440-32-6) |
| U.S. - New Jersey - Right to Know Hazardous Substance List |
| Copper (7440-50-8) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List |
| Sulfur dioxide (7446-09-5) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List |
| Phosphorus elemental (7723-14-0) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List |
| Cobalt (7440-48-4) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List |
| Silicon (7440-21-3) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List |
| Tungsten (7440-33-7) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List |
| Aluminum (7429-90-5) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List |
| Tantalum (7440-25-7) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List |
| Selenium (7782-49-2) |
| U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List |

15.3. Canadian Regulations

Stainless Steel and Alloys of Stainless Steel

Stainless Steel and Alloys of Stainless Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | |
|---|---|
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Iron (7439-89-6) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| WHMIS Classification | Class B Division 4 - Flammable Solid |
| Chromium (7440-47-3) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 0.1 % | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Nickel (7440-02-0) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 0.1 % | |
| WHMIS Classification | Class D Division 2 Subdivision B - Toxic material causing other toxic effects |
| Manganese (7439-96-5) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Molybdenum (7439-98-7) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Titanium (7440-32-6) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Copper (7440-50-8) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
| Sulfur dioxide (7446-09-5) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Class A - Compressed Gas Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects Class E - Corrosive Material |
| Phosphorus elemental (7723-14-0) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Class B Division 4 - Flammable Solid Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class E - Corrosive Material |
| Cobalt (7440-48-4) | |
| Listed on the Canadian DSL (Domestic Substances List) | |

Stainless Steel and Alloys of Stainless Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | |
|---|---|
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 0.1 % | |
| WHMIS Classification | Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects |

Carbon (7440-44-0)

| | |
|---|---|
| Listed on the Canadian DSL (Domestic Substances List) | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |

Silicon (7440-21-3)

| | |
|---|---|
| Listed on the Canadian DSL (Domestic Substances List) | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |

Tungsten (7440-33-7)

| | |
|---|---|
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |

Niobium (7440-03-1)

| | |
|---|---|
| Listed on the Canadian DSL (Domestic Substances List) | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |

Aluminum (7429-90-5)

| | |
|---|--|
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Class B Division 6 - Reactive Flammable Material Class B Division 4 - Flammable Solid |

Tantalum (7440-25-7)

| | |
|---|---|
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 1 % | |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |

Selenium (7782-49-2)

| | |
|---|--|
| Listed on the Canadian DSL (Domestic Substances List) | |
| Listed on the Canadian IDL (Ingredient Disclosure List) | |
| IDL Concentration 0.1 % | |
| WHMIS Classification | Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects |

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 12/15/2014
Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

| | |
|--|--|
| Acute Tox. 1 (Inhalation:dust,mist) | Acute toxicity (inhalation:dust,mist) Category 1 |
| Acute Tox. 3 (Inhalation:dust,mist) | Acute toxicity (inhalation:dust,mist) Category 3 |
| Acute Tox. 3 (Inhalation:gas) | Acute toxicity (inhalation:gas) Category 3 |
| Acute Tox. 3 (Oral) | Acute toxicity (oral) Category 3 |

Stainless Steel and Alloys of Stainless Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

| | |
|---------------------|---|
| Acute Tox. 4 (Oral) | Acute toxicity (oral) Category 4 |
| Aquatic Acute 1 | Hazardous to the aquatic environment - Acute Hazard Category 1 |
| Aquatic Acute 3 | Hazardous to the aquatic environment - Acute Hazard Category 3 |
| Aquatic Chronic 1 | Hazardous to the aquatic environment - Chronic Hazard Category 1 |
| Aquatic Chronic 3 | Hazardous to the aquatic environment - Chronic Hazard Category 3 |
| Aquatic Chronic 4 | Hazardous to the aquatic environment - Chronic Hazard Category 4 |
| Carc. 2 | Carcinogenicity Category 2 |
| Comb. Dust | Combustible Dust |
| Compressed gas | Gases under pressure Compressed gas |
| Eye Dam. 1 | Serious eye damage/eye irritation Category 1 |
| Eye Irrit. 2A | Serious eye damage/eye irritation Category 2A |
| Flam. Sol. 1 | Flammable solids Category 1 |
| Repr. 2 | Reproductive toxicity Category 2 |
| Resp. Sens. 1B | Respiratory sensitisation Category 1B |
| Self-heat. 2 | Self-heating substances and mixtures Category 2 |
| Skin Corr. 1B | Skin corrosion/irritation Category 1B |
| Skin Sens. 1 | Skin sensitization Category 1 |
| STOT RE 1 | Specific target organ toxicity (repeated exposure) Category 1 |
| STOT RE 2 | Specific target organ toxicity (repeated exposure) Category 2 |
| Water-react. 2 | Substances and mixtures which in contact with water emit flammable gases Category 2 |
| H228 | Flammable solid |
| | May form combustible dust concentrations in air |
| H252 | Self-heating in large quantities; may catch fire |
| H261 | In contact with water releases flammable gases |
| H280 | Contains gas under pressure; may explode if heated |
| H301 | Toxic if swallowed |
| H302 | Harmful if swallowed |
| H314 | Causes severe skin burns and eye damage |
| H317 | May cause an allergic skin reaction |
| H318 | Causes serious eye damage |
| H319 | Causes serious eye irritation |
| H330 | Fatal if inhaled |
| H331 | Toxic if inhaled |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled |
| H351 | Suspected of causing cancer |
| H361 | Suspected of damaging fertility or the unborn child |
| H372 | Causes damage to organs through prolonged or repeated exposure |
| H373 | May cause damage to organs through prolonged or repeated exposure |
| H400 | Very toxic to aquatic life |
| H402 | Harmful to aquatic life |
| H410 | Very toxic to aquatic life with long lasting effects |
| H412 | Harmful to aquatic life with long lasting effects |
| H413 | May cause long lasting harmful effects to aquatic life |

Party Responsible for the Preparation of This Document

ThyssenKrupp Materials NA, Inc.
 22355 W. Eleven Mile Road
 Southfield, Michigan 48034
 TEL: 248-233-5681

Stainless Steel and Alloys of Stainless Steel

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

North America GHS US 2012 & WHMIS 2

5



STANDARD CERAMIC SUPPLY COMPANY
P.O. Box 16240
Pittsburgh, PA 15242-0240

SAFETY DATA SHEET

Section 1: IDENTIFICATION

Name, address, telephone number and emergency telephone number of the manufacturer:

Standard Ceramic Supply Company
24 Chestnut Street / P.O. Box 16240
Carnegie, PA 15106-2028
Telephone / Emergency Telephone Number: 412-276-6333

Product Identifier used on the label: Standard Moist and Dry Clays 100, 105, 528, 100G, and 105G, and Clay Lady Clay

Recommended use of product: Ceramic ware

Section 2: HAZARDS IDENTIFICATION

Hazard classification of chemical: Miscellaneous

Hazard Statement(s): Contains silica dust.

Precautionary statement(s): Not harmful in moist form.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

| INGREDIENTS | CAS NUMBER | % OF FORMULA |
|-------------------|------------|--------------|
| Kaolin/Clay | 1332-58-7 | 0% - 50% |
| Mullite | 1302-93-8 | 0% - 5% |
| Calcium Carbonate | 1317-65-3 | 0% - 10% |
| Talc | 14807-96-6 | 0%- 40% |
| Umber | 1217-03-0 | Confidential |
| Bentonite | 1302-78-9 | 0% - 2% |
| Water | 7732-18-5 | |

Section 4: FIRST-AID MEASURES**DESCRIPTION OF FIRST-AID MEASURES**

Ingestion: Contact a physician immediately.

Inhalation: May cause irritation; remove from exposure.

Skin Contact: May cause irritation; rinse skin with soap and water.

Eye Contact: May cause irritation; flush eyes with water for at least 15 minutes. If irritation continues afterwards, contact a physician.

Section 5: FIRE-FIGHTING MEASURES**EXTINGUISHING MEDIA**

Suitable extinguishing media: None

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS

Protective equipment for firefighters: None

Special firefighting procedures: None

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and/or Emergency Procedures: None

Environmental Precautions: None

Methods and Materials for Containment and Clean up: Clean up any wet spills or clap slop with a damp sponge. For dry spills, spray with water and use a damp sponge to clean up.

Special Spill Response Procedures: None

Section 7: HANDLING AND STORAGE

Precautions for Safe Handling and Use: None

Conditions for Safe Storage: None

Incompatible Materials: None

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**EXPOSURE LIMITS**

| Ingredients | OSHA PEL | ACGIH TLV |
|-------------------|----------|-----------|
| Kaolin/Clay | N/A | N/A |
| Mullite | 15mg/m3 | 10mg/m3 |
| Calcium Carbonate | 15mg/m3 | N/A |
| Talc | 15mg/m3 | 2mg/m3 |
| Umber | N/A | N/A |
| Bentonite | 30mg/m3 | 0.1mg/m3 |
| Water | N/A | N/A |

EXPOSURE CONTROLS

Ventilation and engineering measures: None

Respiratory protection: Use a NIOSH approved respirator.

Skin protection: Wear appropriate protective clothing such as overalls, smocks, and aprons.

Eye/face protection: None

Hygienic Practices: Food, beverages, and smoking materials should not be in work area. Employees should wash hands thoroughly before eating, drinking, or smoking.

Section 9: PHYSICAL/CHEMICAL PROPERTIES

| | |
|---|------------|
| Appearance (physical state, color, etc.): | Solid |
| Upper/lower flammability or explosive limits: | None |
| Odor: | None |
| Vapor pressure: | N/A |
| Odor threshold : | Negligible |

| | |
|--|------|
| Vapor density: | N/A |
| pH: | N/A |
| Relative density: | N/A |
| Freezing point: | N/A |
| Solubility(ies) | N/A |
| Initial boiling point and boiling range: | N/A |
| Flash Point: | N/A |
| Evaporation rate: | N/A |
| Flammability (solid gas) | N/A |
| Partition coefficient: n-octanol/water: | None |
| Auto-ignition temperature: | N/A |
| Decomposition temperature: | None |
| Viscosity : | N/A |

Section 10 : STABILITY /REACTIVITY

Reactivity: N/A

Chemical stability: Stable

Possibility of hazardous reactions: None

Conditions to avoid: None

Incompatible materials: None

Hazardous decomposition products: N/A

Section 11: TOXICOLGICAL INFORMATION

INFORMATION ON LIKELY ROUTES OF EXPOSURE

Routes of Entry: Inhalation is the most important during excessive handling of clay.

POTENTIAL HEALTH EFFECTS, Signs and symptoms of short-term (acute) exposure:

Sign and symptoms inhalation: Coughing or irritation may occur.

Sign and symptoms ingestion: Sickness or irritation may occur.

Sign and symptoms skin: Redness or irritation may occur.

Sign and symptoms eyes: Redness or irritation may occur.

Potential chronic health effects: These mixtures contain silica, which can cause Silicosis through inhalation over an extended period of time. Overexposure to silica may also result in injury to the lungs.

Carcinogenicity: Silica (Quartz) is a human carcinogen.

Toxicological data: These products conform to 16 CFR 1500.14 (LHAMA) and ASTM-4236. They have been certified by an independent, 3rd party toxicologist to be NON-TOXIC.

Section 12: ECOLOGICAL INFORMATION (non-mandatory)

Eco toxicity: None

Persistence and degradability: Yes

Bioaccumulation potential: No

Mobility in soil: No

Other adverse environmental effects: None

Section 13: DISPOSAL CONSIDERATIONS (non-mandatory)

Handling for Disposal: None

Methods of Disposal: None

Section 14: TRANSPORT INFORMATION (non-mandatory)

UN Shipping Name: N/A

UN Number: N/A

Environmental Hazard: None

Packing Group: None

Transportation Hazard Class: N/A

Special Precautions: None

NOT DANGEROUS FOR TRANSPORT

Section 15: REGULATORY INFORMATION (non-mandatory)

Silica (Quartz) is listed by California, Proposition 65, as a carcinogen.

Silica (Quartz) is listed on the IARC, OSHA, and NTP carcinogen list.

All ingredients are on U.S. TSCA Inventory.

All products listed in this SDS conform to ASTM-4236 standards. Materials have been evaluated under the provisions of 16 CFR 1500.14 of the Labeling of Hazardous Art Material Act. These products have been listed as non-toxic and non-flammable under proposed use conditions. No specific warning is required.

Section 16: OTHER INFORMATION

This information is furnished with out warranty, representation, inducement or license of any kind, except that it is accurate to the best of knowledge of Standard Ceramic Supply Company or obtained from other references and sources believed to be accurate.

Standard Ceramic Supply Company does not assume any legal responsibility for use or reliance on our products. Customers are encouraged to conduct their own tests before using any product. Read all product labels prior to handling.

Preparation date: 05/22/2014



SAFETY DATA SHEET

1. Product and Company Identification

| | |
|-----------------------------------|--|
| Product Name | SUPER SOLV |
| Product Number | 3AC |
| Product Type | Mixture |
| Product Use | Spot remover for carpets & upholstery |
| Manufacturer | CFR, A Division of Tacony Corporation 3101 Wichita Court Fort Worth, TX 76140-1710 |
| Company Contact | 1-800-533-2557 or website www.cfrcorp.com |
| Emergency Telephone Number | 1-800-270-5201 |

2. Hazards Identification

GHS Classification in accordance with 29CFR 1910 OSHA HCS

Skin corrosion/irritation, (Category 3) H316
Serious eye damage/eye irritation, (Category 2B) H320
Acute Aquatic toxicity (Category 3) H402
Chronic aquatic toxicity, (Category 3) H412

GHS Label elements, including precautionary statements

| | |
|---------------------------------|---|
| Pictogram | None required |
| Signal Word | Warning |
| Hazard Statements | |
| H316 | Causes mild skin irritation. |
| H320 | Causes eye irritation. |
| H402 | Harmful to aquatic life |
| H413 | Harmful to aquatic life with long lasting effects. |
| Precautionary Statements | |
| Prevention | |
| P264 | Wash and rinse hands and exposed skin after handling concentrated product. |
| P273 | Avoid release to the environment. |
| Response | |
| P332+P313 | If skin irritation occurs, get medical attention. |
| P305+P351+P338 | IF IN EYES, Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. |
| P337+P313 | If eye irritation persists, get medical attention. |
| Storage/Disposal | |
| P501 | Dispose of contents/container in accordance with local, regional and federal regulations |

3. Composition/Information on Ingredients

The criteria for listing components in this section are: Ingredients that meet the criteria for carcinogenic, toxic to reproduction, or specific target organ toxicity and components otherwise considered hazardous according to OSHA which exceed the cut off limits for SDS specified by the criteria for mixtures are listed. Non hazardous components are not listed. This is not a composition disclosure. Exact percentages are considered proprietary and a trade secret.



| Hazardous Components | CAS# | Classification | % |
|---|-------------|------------------------|------|
| Alcohols,C6-C10, ethoxylated propoxylated | 168987-81-5 | H319, H402 | 1-5% |
| Alcohols, C9-C11, ethoxylated | 68439-46-3 | H302, H316, H320, H412 | 1-5% |
| Terpene hydrocarbons | 5989-27-5 | H226, H303,H314 | 1-4% |
| Dipropylene glycol methyl ether | 34590-94-8 | H227 | 1-4% |
| Propylene glycol n butyl ether | 5131-66-8 | H227, H319 | 1-3% |

4. First Aid Measures

Description of First Aid Procedures

| | |
|--------------------------------|--|
| In case of Eye Contact | Flush with cool running water for 15 minutes. If irritation persists, get medical attention. |
| In case of Skin Contact | Flush with cool water, Wash with soap and water, If irritation persists, get medical Attention. |
| If Inhaled | If symptoms develop, move to fresh air. If symptoms persist, get medical attention |
| If Ingested | Rinse mouth with water. Drink one or two glasses of water. Do not induce vomiting. Obtain medical attention. Never give anything by mouth to an unconscious person. |
| .Notes to Physician | Symptoms may be delayed. |

| | |
|-----------------------|--|
| General advice | Seek medical attention if feeling unwell. Show the SDS to the physician in attendance. |
|-----------------------|--|

5. Fire-fighting Measures

| | |
|--|---|
| Flammable properties | Not flammable |
| Extinguishing media | Treat for surrounding material. |
| Protection of firefighters | Firefighters should wear protective clothing including self contained breathing apparatus |
| Hazardous combustion products | May include and not limited to oxides of carbon, nitrogen, and oxides of sulfur. |
| Unusual Fire, Explosion hazards | None known. |

6. Accidental Release Measures

| | |
|----------------------------------|--|
| Personal precautions | Keep unnecessary personal away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled containers unless wearing protective Clothing. Stay upwind of spills or leaks. |
| Methods for containment | Stop leak if you can do so without risk. Prevent entry into waterways, sewers. |
| Methods for cleaning up | Before attempting clean up refer to hazard data given above. Small spills may be absorbed with non reactive absorbent and placed in suitable, covered, labeled containers. Prevent large spills from entering sewers or water ways. Dike spill. Absorb spill with non reactive absorbent and place in a suitable, covered, labeled container for disposal. Never return spill to original container for reuse. |
| Environmental Precautions | Avoid release to the environment. |

7. Handling and Storage

| | |
|--------------------------------------|--|
| Precautions for Safe Handling | Use good industrial hygiene practices when handling this material |
| Conditions for Safe Storage | Keep out of reach of children. Keep from freezing, store in a cool dry place away from incompatible materials. |



8. Exposure Controls and Personal Protection

Exposure limits

| Ingredients | CAS-No | OSHA PEL | ACGIH TLV |
|--|-------------|---------------|---------------|
| Alcohols, C6-C10, ethoxylated propoxylated | 168987-81-5 | Not available | Not available |
| Alcohols, C9-C11, ethoxylated | 68439-46-3 | Not available | Not available |
| Terpene hydrocarbons | 5989-27-5 | Not available | Not available |
| Dipropylene glycol methyl ether | 34590-94-8 | 100 ppm TWA | 150ppm STEL |
| Propylene glycol n butyl ether | 5131-66-8 | 50 ppm TWA | Not available |

Engineering controls

General ventilation normally adequate

Personal protective equipment

Eye/Face protection

Wear safety glasses with side shields if splash conditions exist.

Hand protection

Rubber or nitrile gloves.

Skin and body

As required by employer code.

Respiratory protection

Use a NIOSH approved respirator when exposure guidelines are exceeded.

General hygiene considerations

Handle in accordance with good industrial hygiene practices. Do not eat or drink when using product. Wash hands well before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

| | |
|--|--|
| Appearance/form | Clear liquid |
| Color | Colorless |
| Odor | Solvent |
| Odor threshold | Not established |
| pH | 3.1-33 (Concentrate) |
| Melting point/freezing point | Not established |
| Initial Boiling point | > 212° F. (100° C.) |
| Flash point | > 200° F. (93° C.) EPA 1010 closed cup |
| Evaporation rate | Not established |
| Flammability | Not flammable |
| Upper/lower flammability or Explosive limits | Not established |
| Vapor pressure | Not established |
| Vapor density | Not established |
| Specific gravity/density | 0.990-1.002 |
| Solubility in water | Complete |
| Partition coefficient: | Not established |
| Auto ignition temperature | Not established |
| Decomposition temperature | Not established |
| Stability and Reactivity | Stable and non reactive under normal use and storage conditions. |
| VOC | < 8% |
| % Volatile | Approx. 92% |

Other safety Information

10. Stability and Reactivity

| | |
|----------------------------------|--|
| Reactivity | Not reactive under normal use and storage. |
| Chemical Stability | Stable under normal storage conditions. |
| Hazardous reactions | None known. |
| Conditions to avoid | Do not mix with other chemicals. |
| Incompatible materials | Strong oxidizers. |
| Hazardous decomposition products | May include but not limited to oxides of carbon, and oxides of sulfur. |
| Hazardous polymerization | Will not occur. |

11. Toxicological Information

| | |
|--|--|
| Ingredients | LC50 |
| Alcohols,C6-C10, ethoxylated, propoxylated | > 50mg/l (Inhalation-rat) 4 hours estimated |
| Alcohols,C9-C11, ethoxylated | No data available |
| Terpene hydrocarbons | No data available |
| Dipropylene glycol methyl ether | No data available |
| Propylene glycol n butyl ether | No data available |
| Ingredients | LD50 |
| Alcohols,C6-C10, ethoxylated propoxylated | 2745 mg/kg (Oral-rat), > 2000mg/kg (dermal-rat) estimated |
| Alcohols,C9-C11, ethoxylated | 1400 mg/kg (Oral-rat), > 5000mg/kg (Dermal-rat) |
| Terpene hydrocarbons | 4400mg/kg)Oral-rat), > 5000 mg/kg (Dermal-rat) |
| | Draize test, rabbit, eye: No eye irritation -168 hours |
| Dipropylene glycol methyl ether | 5152 mg/kg (Oral-rat), Dermal no data available |
| Propylene glycol n butyl ether | 5500 mg/kg (Oral-rat), > 2000mg/kg (Dermal-rat) |
| Effects of acute exposure | |
| Eye | Causes eye irritation |
| Skin | Causes mild irritation. May be absorbed through skin. Dipropylene glycol methyl ether, ACGIH skin notations. Potential for dermal absorption. |
| Inhalation | Not normally a route of entry. |
| Ingestion | May be harmful if swallowed. May cause stomach distress, nausea, or vomiting. |
| Sensitization | Contains a potential skin sensitizer. |
| Chronic effects of short and long term exposure | Prolonged exposure to skin may cause drying, defatting and irritation. May cause allergic reaction in some individuals. |
| Carcinogenicity | Does not contain ingredients considered carcinogenic by NTP, IARC, or OSHA. |
| Mutagenicity | No data available. |
| Reproductive effects | No data available. |
| Teratogenicity | No data available. |

12. Ecological Information

| | |
|---|---|
| Eco-toxicity | Components of this product have been identified as toxic with long lasting effects to the aquatic environment. |
| Environmental effects | No data available. |
| Aquatic toxicity | |
| Alcohols,C6-C10, ethoxylated propoxylated | LC50 Fish (primephales promelas): 1-10mg/l 96 hours EC50 Algae: 1-10 mg/l 48 hours EC50 Aquatic plants: 1-10 mg/l 120 hours |
| Alcohols,C9-C11, ethoxylated | LC50 Fish (fathead minnow): 6mg/l 96 hours EC50 Daphnia: 2.5mg/l 48 hours EC50 Algae: 0.95 mg/l |
| Terpene hydrocarbons | LC50 Fish (pimephales promelas): 0.702 mg/l 96 hours EC50 Daphnia: 0.421 mg/l 48 hours EC50 Algae: 1.81 mg/l |
| Dipropylene glycol methyl ether | LC50 Fish (pimephales promelas): > 10000 mg/l 96 hours EC50 Daphnia magna: 1919 mg/l 48 hours |
| Propylene glycol n butyl ether | LC50 Fish (Poecilia reticulata): 560-1000 mg/l 96 hours LC50 Water flea (Daphnia magna): > 1000 mg/l 48 hours |
| Persistence and Degradability | No data available |
| Bioaccumulation/accumulation | No data available. |
| Partition coefficient | No data available. |
| Mobility in environmental media | No data available. |



| | |
|---------------------------|--------------------|
| Chemical fate information | No data available. |
| Other adverse effects | No data available. |

13. Disposal Considerations

| | |
|-------------------------------------|---|
| Disposal instructions | Dispose in accordance with local, state, and federal regulations |
| Wastes from residues/unused Product | Containerize. Rinse area with water. Keep out of storm sewer/waterways. |
| Contaminated packaging | Dispose in accordance with all applicable regulations. |

14. Transport Information

| | |
|------------------------------|-------------------|
| Basic shipping requirements: | Not DOT regulated |
| Proper shipping name | |
| Hazard class | |
| UN number | |
| Packing group | |
| Special provisions | |

15. Regulatory Information

| | | |
|--|--|------------------------|
| U.S federal regulations | This product has been classified in accordance with the Occupational Safety and Health Administration hazard criteria and the SDS contains all of the information required by OSHA HCS 2012. | |
| TSCA | All ingredients are listed on the Toxic Substances Control Act or are exempt from listing. | |
| CERCLA Super Fund 40CFR117.302 | Product contains a material with a Reportable Quantity (RQ): None | |
| SARA Title III Section 311&312 | Immediate (Acute) Health Hazard Alcohols, C6-C10, ethoxylated propoxylated CAS#168987-81-5 Alcohols, C9-C11, ethoxylated CAS# 68439-46-3 Propylene glycol n butyl ether (CAS#5131-66-8) | |
| SARA Title III Section 313 | Ingredients subject to the reporting requirements of Section 313: None | |
| California Proposition 65 | This product does not contain intentional ingredients known to the State of California to cause cancer, birth defects or reproductive effects. However trace amounts of Ethylene oxide (CAS#71-25-8) and Propylene oxide (CAS#75-56-9) may be present and are listed as possible carcinogens in the state of California. | |
| States Right to Know | Reportable Chemicals: | |
| Inventory Status | Inventory Name | On Inventory (Yes/No)* |
| Countries | | |
| U.S. | Chemical Inventory List | Yes |
| Canada | Domestic substances list | Yes |
| • A öYesö indicates that all of the components of this product comply with the inventory requirements administered by the governing country(s) listed. | | |



16. Other Information

HMIS RATING

HMIS LEGEND

Severe 4
Serious 3
Moderate 2
Slight 1
Minimal

| | |
|---------------------|---|
| Health | 1 |
| Flammability | 0 |
| Reactivity | 0 |
| Personal Protection | B |

Disclaimer

To the best of our knowledge, the information included herein is accurate. However, neither the above named supplier nor any of its subsidiaries assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of the suitability of any material is the responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Issue date

May 1, 2015

Supersedes date

Previous issues.

Reason for update

Conform to GHS OSHA HCS 2012.

Expiration date

May 1, 2018

Material Safety Data Sheet

Revision Date 14-Oct-2013

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code DA6310
Product name TAKE-CHARGE
Recommended Use Battery Cleaner

Supplier Drummond, A Lawson Brand
Lawson Products, Inc.
8770 W.Bryn Mawr Ave.- Suite 900
Chicago, IL 60631
1-866-529-7664

Emergency telephone number (888) 426-4851

2. HAZARDS IDENTIFICATION

Emergency Overview

Irritating to respiratory system. Irritating to eyes. Vapors may cause flash fire or explosion.

Aggravated Medical Conditions

None Known

Principal Routes of Exposure

Eyes. Skin contact. Inhalation. Ingestion.

Potential health effects

Eyes May cause the following effects: Irritation. Pain. Tearing. Reddening. Swelling. Stinging sensation. Feeling like that of fine dust in the eye.

Skin Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product. Defatting. Chronic exposure causes drying effect on the skin.

Inhalation Harmful by inhalation. Long-term exposure may cause the following effects: Headaches. Dizziness. Nausea. Decreased blood pressure. Changes in heart rate. Cyanosis. Extreme overexposure may cause. Central nervous system damage. Lung damage. Liver damage. Kidney damage.

Ingestion May be harmful if swallowed. Can burn mouth, throat, and stomach. Tissue destruction.

3. COMPOSITION / INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | Weight % |
|----------------------------|-------------|----------|
| Hexane | 64742-49-0 | 30-40 |
| Propane/Isobutane/N-Butane | 68476-86-8 | 10-20 |
| Stoddard solvent | 8052-41-3 | 10-20 |
| Corrosion Inhibitors | Proprietary | 10-20 |

| | | |
|---|------------|-------|
| Petroleum distillates, hydrotreated light | 64742-47-8 | 10-20 |
| Propylene glycol monomethyl ether | 107-98-2 | 1-10 |

4. FIRST AID MEASURES

Eye contact Flush eyes with plenty of water. Seek medical attention if irritation persists.

Skin contact Wash area thoroughly with soap and water. Seek medical attention if irritation persists.

Ingestion Immediate medical attention is required. Do Not induce vomiting. Give victim a glass of water or milk. Call a physician or Poison Control Center immediately. Never give anything by mouth to an unconscious person.

Inhalation Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Immediate medical attention is required.

5. FIRE FIGHTING MEASURES

Flash point °C -96.11
Flash point °F -141
Method Pensky-Martens C.C.

Autoignition temperature °C Not Applicable
Autoignition temperature °F Not Applicable

Flammability Limits (% in Air)

Upper 12.0
Lower 0.7

Suitable extinguishing media

Carbon dioxide (CO2). Dry chemical powder. Foam. Water fog.

Special protective equipment for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Fire and Explosion Hazards

Keep product and empty container away from heat and sources of ignition. Vapors are heavier than air and may travel along the ground to an ignition source distant from material handling area. Possible ignition sources include pilot lights, flames, lighted cigarettes, heating elements, electric motors, sparks from electrical switches. Flash back possible over considerable distance. Water should be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat. Empty containers contain residue and/or vapors. Do not weld, cut, pressurize, braze, solder, drill, grind, or expose such containers to heat, sparks, flame, static electricity, or other sources of ignition. They may explode and cause injury or death.

Sensitivity to shock

No information available.

Product code **DA6310**

Product name **TAKE-CHARGE**

Sensitivity to static discharge

No information available.

6. ACCIDENTAL RELEASE MEASURES

Methods for cleaning up

Dam and contain spill using sand or other inert material. Place in suitable container for disposal as hazardous waste.

7. HANDLING AND STORAGE

Handling

Thoroughly wash hands and exposed skin after handling. Keep in a well-ventilated place. Use only according to label directions. Handle empty containers as if they were full. Minimize skin contact. Avoid breathing vapors. Avoid contact with skin, eyes and clothing.

Storage

Keep away from open flames, hot surfaces and sources of ignition. Do not freeze.

NFPA Storage Code

Store as Level 3 Aerosol (NFPA 30B)

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| Chemical Name | OSHA PEL (TWA) | OSHA PEL (Ceiling) | ACGIH OEL (TWA) | ACGIH OEL (STEL) |
|---|-----------------------------------|--------------------|-----------------|------------------|
| Hexane | - | - | - | - |
| Propane/Isobutane/N-Butane | - | - | - | N/D |
| Corrosion Inhibitors | - | - | - | - |
| Petroleum distillates, hydrotreated light | - | - | - | - |
| Stoddard solvent | 500 ppm 2900 mg/m ³ | - | 100 ppm | - |
| Propylene glycol monomethyl ether | - | - | 50 ppm | 100 ppm |

Ventilation and Environmental Controls

Use enough ventilation, local exhaust at the work area, general, or both, to keep below the TLV's in the worker's breathing zone and the general area.

Hygiene measures

Wash hands before eating or using the washroom. Avoid contact with skin, eyes and clothing.

Respiratory protection

If the exposure limits are exceeded, a NIOSH/MSHA approved respirator is recommended. Wear a positive-pressure supplied-air respirator. Seek professional advice prior to respirator selection and use.

Hand Protection

For prolonged or repeated skin contact, use a chemically resistant glove such as nitrile or neoprene. Wash hands with soap and water after removing gloves. Dry hands thoroughly before re-applying gloves. .

Eye protection

Use safety eyewear designed to protect against splash of liquids.

Skin and body protection

Impervious clothing.

Other Protective Equipment

The following items should be worn when using this product:. Rubber boots.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|------------------------|
| Form | Aerosol |
| Color | Orange / Brown |
| Odor | Solvent |
| Odor Threshold | Not Applicable |
| pH | Not Applicable |
| Specific Gravity | 0.7727 |
| Vapor pressure | No data available |
| Vapor density | >Air |
| Evaporation Rate | >1 (Butyl Acetate = 1) |
| Water solubility | Negligible |
| VOC Content | 86.7% |
| Partition Coefficient (n-octanol/water) | Not Applicable |
| Boiling point/range °C | -30.6 - 197 |
| Boiling point/range °F | -23 - 387 |
| Melting point/range °C | No data available |
| Melting point/range °F | No data available |
| Flash point °C | -96.11 |
| Flash point °F | -141 |

10. STABILITY AND REACTIVITY

Stability

Stable under normal conditions.

Conditions to avoid

Contact with ignition sources, hot-glowing surfaces, electrical arcs, sparks, and open flame. Do not use near welding arcs.

Incompatibility

Strong acids. Alkalies. Oxidizers.

Product code **DA6310**Product name **TAKE-CHARGE****Hazardous Decomposition Products**

Carbon oxides. Sulfur oxides. Hydrocarbons.

Polymerization

Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION**Component Information**

| Chemical Name | LD50 (oral, rat) | LD50 (dermal, rat/rabbit) | LC50 (inhalation, rat) |
|---|------------------|---------------------------|------------------------|
| Hexane 64742-49-0 | 5000 mg/kg | 3160 mg/kg | 73680 ppm |
| Propane/Isobutane/N-Butane 68476-86-8 | - | - | - |
| Corrosion Inhibitors Proprietary | - | - | - |
| Petroleum distillates, hydrotreated light 64742-47-8 | 5000 mg/kg | 2000 mg/kg | 5.2 mg/L |
| Stoddard solvent 8052-41-3 | - | - | - |
| Propylene glycol monomethyl ether 107-98-2 | 5200 mg/kg | 13 g/kg | 54.6 mg/L 24 mg/L |

Synergistic Products None known**Potential health effects****Sensitization** None known**Chronic toxicity** None known**Mutagenic effects** None known**Teratogenic effects** None known**Reproductive toxicity** None known**Target Organ Effects** Long term exposure to vapor may cause kidney damage. Long term exposure to vapor may cause lung damage.**Carcinogenic effects** See table below

| Chemical Name | ACGIH OEL - Carcinogens | IARC | NTP - Known Carcinogens | NTP - Suspected Human Carcinogens | OSHA RTK Carcinogens |
|----------------------------|-------------------------|------------|-------------------------|-----------------------------------|----------------------|
| Hexane | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Propane/Isobutane/N-Butane | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |

| | | | | | |
|---|------------|------------|------------|------------|------------|
| Corrosion Inhibitors | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Petroleum distillates, hydrotreated light | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Stoddard solvent | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |
| Propylene glycol monomethyl ether | A4 | Not Listed | Not Listed | Not Listed | Not Listed |

12. ECOLOGICAL INFORMATION

Hexane

Water Flea Data*Chaetogammarus marinus* LC50=2.6 mg/L (96 h)

Petroleum distillates, hydrotreated light

Water Flea Data*Den-dronereides heteropoda* LC50=4720 mg/L (96 h)

Propylene glycol monomethyl ether

Water Flea Data*Daphnia magna* EC50=23300 mg/L (48 h)**13. DISPOSAL CONSIDERATIONS****Waste from residues / unused products**

Dispose in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION**DOT**

Consumer commodity, ORM-D.

TDG

Consumer commodity, ORM-D.

15. REGULATORY INFORMATION

| Chemical Name | US EPA SARA 313 Emission Reporting |
|----------------------------|------------------------------------|
| Propane/Isobutane/N-Butane | Listed |

State Regulations

| Chemical Name | New Jersey - RTK | Pennsylvania - RTK | California Prop. 65 |
|---|------------------|--------------------|---------------------|
| Hexane | Not Listed | Not Listed | Not Listed |
| Propane/Isobutane/N-Butane | Not Listed | Not Listed | Not Listed |
| Corrosion Inhibitors | Not Listed | Not Listed | Not Listed |
| Petroleum distillates, hydrotreated light | Not Listed | Not Listed | Not Listed |
| Stoddard solvent | Listed | Listed | Not Listed |

Product code **DA6310**

Product name **TAKE-
CHARGE**

| Chemical Name | New Jersey - RTK | Pennsylvania - RTK | California Prop. 65 |
|--------------------------------------|---------------------|-----------------------|------------------------|
| Propylene glycol monomethyl ether | Listed | Listed | Not Listed |

International Inventories

| Chemical Name | EINECS | DSL | NDSL | TSCA |
|--|--------|-----|------|------|
| Hexane | X | X | - | X |
| Propane/Isobutane/N- Butane | X | X | - | X |
| Corrosion Inhibitors | - | - | - | - |
| Petroleum distillates, hydrotreated light | X | X | - | X |
| Stoddard solvent | X | X | - | X |
| Propylene glycol monomethyl ether | X | X | - | X |

CPR

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all of the information required by the Controlled Product Regulations

16. OTHER INFORMATION

HMIS

Health - 2

Flammability - 4

Physical Hazard - 0

Prepared By

V. Shargorodsky, Regulatory Affairs
Engineer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.



CANBERRA CORPORATION SAFETY DATA SHEET

1. Identification

Product Identifier: TEPE SANITARY SUPPLY TSS BOWL BRITE BOWL CLEANER

Application or recommended use: Disinfectant Toilet Bowl Cleaner

Restrictions on use: Do not use in any fashion not specified on the product label.

Manufacturer / supplier: Canberra Corporation

3610 N. Holland-Sylvania Rd.

Toledo, Ohio 43615 USA

Telephone: 419-841-6616 **Emergency phone:** 800-832-8992 **National Poison Center:** 800-222-1222

2. Hazards Identification

GHS Classification: Classification of this mixture in accordance with paragraph (d) of §1910.1200.

Skin Corrosion/Irritation - Category 1B

Eye Damage/Irritation - Category 1

Corrosive to Metals - 1

Label Elements:



Symbol:

Signal word:

DANGER

Hazard statements:

Causes severe skin burns and serious eye damage.

May be corrosive to metals.

Precautionary statements: Do not breathe mist/vapors/spray. Wash hands, face and any skin contact thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

Keep only in original container.

Absorb spillage to prevent material damage.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

See 4. First-Aid Measures for specific treatment.

Store locked up in corrosive resistant container.

Dispose of contents/container to an approved disposal facility.

Other Hazards: None known

3. Composition / Information on Ingredients

Chemical characterization: Hydrochloric acid solution, blended with detergents, germicides and auxiliary agents.

Hazardous ingredients: The exact percentage of composition has been withheld as a trade secret.

9.5 - 10% Hydrochloric Acid (Muriatic Acid)

CAS 7647-01-0, EINECS/ELINCS 231-595-7

0.9 - 2.5% Ethanol, 2,2'-iminobis-,n-soya alkyl derivs.,

CAS 73246-96-5, EINECS/ELINCS Not Available

Other ingredients (> 1%):

> 85% Water

CAS 7732-18-5, EINECS/ELINCS 231-791-2

4. First-Aid Measures

Symptoms: Causes irritation or burning sensation. Causes severe skin burns and serious eye damage.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

Skin Contact: Remove contaminated clothing and wash before reuse. Wash contaminated area with soap and water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Eye Contact: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Inhalation: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth to an unconscious person. If respiratory irritation, dizziness, or unconsciousness occurs, seek immediate medical assistance.

4. First-Aid Measures (cont.)

Ingestion: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to a person who is unconscious or convulsing. If vomiting occurs, keep head below hips to reduce risk of aspiration. Probable mucosal damage may contraindicate the use of gastric lavage.

Note to Physician: Treat exposed patients symptomatically.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Not applicable. Product is not a fire hazard.

Unsuitable Extinguishing Media: High pressure water jet.

Specific hazards in case of fire: Hydrogen chloride gas may be generated at high temperatures.

Special Fire Fighting Precautions: Prevent human exposure to fire, smoke, fumes or products of combustion. Fire fighters should wear appropriate protective equipment, including self-contained breathing apparatus and impervious clothing.

6. Accidental Release Measures

Emergency Procedures: Depending on the extent of release, consider the need for emergency responders with adequate personal protective equipment for clean-up, need for evacuation or restriction to access of spill area.

Personal Precautions: Provide adequate ventilation. Do not eat, drink or smoke during clean up. If necessary, use self-contained respirator, or filtered mask. Wear protective clothing, eye protection and impervious gloves (e.g. neoprene). Wash thoroughly after clean up.

Environmental Precautions: Prevent spills from entering storm sewers/drains or contact with soil.

Clean up Methods: Small spills may be wiped up and rinsed with water. For larger spills, neutralize with sodium carbonate or absorb on inert material (e.g. sand). Pick up absorbent and dispose of at an appropriate waste disposal facility.

7. Handling and Storage

Precautions for Safe Handling: Never use with chlorine products. Can react to give chlorine gas. If this occurs, flush toilet to remove chemicals and leave area. Do not return for half hour. Ventilate if possible. Never use or mix with other cleaners or chemicals. Do not use on any surface that can be damaged by acid materials. Do not breathe mist/vapors. Wash hands, face and any skin contact thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves, protective clothing, eye protection, face protection. Use only according to label directions. If unsure about safe use, contact your supervisor. Provide adequate ventilation in use.

Conditions for Safe Storage: Keep out of reach of children. Do not contaminate water, food or feed by storage and disposal. Store locked up in tightly closed, original, corrosive resistant container in a cool (10° - 30°C), dry, well-ventilated area.

Incompatibility: Chlorine bleach, alkali.

8. Exposure Controls / Personal Protection

Components with occupational exposure limits:

| Component | Reference | TWA | PEL |
|-------------------|-----------|-----------|-----------|
| Hydrochloric Acid | ACGIH | 2 ppm (C) | |
| | OSHA | | 5 ppm (C) |

Engineering Controls: Proper ventilation in accordance with good industrial hygiene should be provided.

Personal Protective Equipment

Respiratory: Respiratory protection is not necessary under normal conditions of use. If necessary to prevent exposure above occupational limits, use an approved cartridge style respirator.

Gloves: Use water impervious gloves (latex or neoprene rubber). No breakthrough time has been established.

Eye Protection: Chemical resistant goggles and face protection.

Other: Protective clothing (long sleeves, pants), eyewash, safety shower are always advisable when working with chemicals.

9. Physical and Chemical Properties

| | | | |
|------------------------------------|-------------------|------------------------------------|--------------------------------|
| Physical State - | Liquid | Auto-ignition temperature - | Not applicable |
| Color - | Green | Flash Point - | None |
| Odor - | Floral, acidic | Flammability - | Not applicable |
| Odor Threshold - | No data available | Flammability Limits - | Not applicable |
| Boiling Point - | 212°F | Partition coefficient - | Not applicable |
| Decomposition temperature - | No data available | Solubility (Water) - | Complete |
| Freezing Point - | 0°F | Vapor Density - | No data available |
| pH (Neat) - | < 1 | Vapor Pressure - | No data available |
| Relative Density - | 1.045 | Viscosity - | Slightly viscous |
| Evaporation Rate - | Similar to water | % VOC - | < 0.5 (Excluding LVP material) |

10. Stability and Reactivity

Reactivity: No specific reactivity test data is available. Under normal conditions of storage and use, hazardous reactions are not expected. **Incompatible materials:** Mixing with bleach, alkali, or oxidizers may generate toxic gases.

Chemical stability: This product is stable at ambient temperatures and atmospheric pressures.

Conditions to avoid: Temperatures above 50°C or below 10°C.

Hazardous decomposition products: Hydrogen chloride

11. Toxicological Information

Acute Toxicity: Toxicity data is not available for this mixture. Data below are estimates based on summation methods.

| Test | Results | Classification (A.0.4.1(c)) | Basis (A.1.3.6.1) |
|------------------------|-------------|-----------------------------|--|
| Oral | > 2000mg/kg | Not applicable | Ingredient literature (Additive formula) |
| Dermal | > 2000mg/kg | Not applicable | Ingredient literature (Additive formula) |
| Inhalation | > 20 mg/L | Not applicable | Ingredient literature (Additive formula) |
| Eye Damage/Irritation | Corrosion | Category 1 | Ingredient literature |
| Skin Damage/Irritation | Corrosion | Category 1B | Ingredient literature |

Summary: Skin and eye contact are most likely routes of exposure. Exposure causes skin burns and serious eye damage.

Subchronic/Chronic Toxicity:

| Test | Results | Classification | Basis |
|--------------------|------------------|----------------|------------------------|
| Skin Sensitization | Not a sensitizer | Not applicable | Ingredient literature. |

Summary: Repeated or prolonged contact causes skin burns and eye damage.

Carcinogens - Ingredients are not listed on the NTP Report on Carcinogens, *IARC Monographs or by OSHA

*IARC does list "strong inorganic acid mists" as carcinogenic, but under normal conditions, no exposure to acid mists occurs. Acid solutions are not listed.

Other data - No other toxicological information is available for this mixture.

12. Ecological Information

This material has not been tested for acute environmental effects.

Persistence and degradability: Material is not persistent. All organic components > 1% are readily biodegradable.

Bio-accumulative potential: No evidence to suggest bio-accumulation will occur.

Mobility: Accidental spillage may lead to penetration of soil and groundwater. However, due to degradability, no evidence suggests this would cause adverse ecological effects. Material will lower pH of affected area.

13. Disposal Considerations

RCRA Class - D002. Do not contaminate water, food or feed by disposal. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray, or mixture of rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label directions, contact your State Pesticide or Environmental Control Agency, or the hazardous waste representative at the nearest EPA Regional Office for guidance. **Container Disposal:** Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container promptly after emptying. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill. If container is one gallon or less, wrap empty container in plastic bag and discard in trash.

14. Transport Information

Proper Shipping Name: UN1789 Hydrochloric acid solution

RQ - 5000 Lbs. (Hydrochloric Acid)

Shipping emergency phone: 800-424-9300

Transport hazard class: 8

Hazard Label: Corrosive (When shipped as a Limited Quantity, labeling is not required.)

Packing Group: II

Emergency Guide No.: 154

Marine Pollutant: No

15. Regulatory Information

Inventory status: All components are listed on TSCA(US), EINECS/ELINCS(EU), DSL(Canada), AICS(Australia), ENCS(Japan).

FIFRA: This product is a U.S. EPA Registered pesticide, EPA Reg. No. 8155-6-16791, and is subject to certain labeling requirements under Federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide products. The hazard information required on the pesticide label is reproduced here.

DANGER: Corrosive. Causes irreversible eye damage and skin burns. May be fatal if swallowed. Do not breathe vapor or fumes. Do not get in eyes, on skin or on clothing. Wear protective eyewear (safety goggles or face shield), protective clothing and rubber gloves when handling. Use with adequate ventilation. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Remove and wash contaminated clothing before reuse.

15. Regulatory Information (cont.)

Chemical Hazards: Never use with chlorine products. Can react to give chlorine gas. If this occurs, flush toilet to remove chemicals and leave area. Do not return for half an hour. Ventilate if possible. Never use or mix with other cleaners or chemicals. Clean up any spills or drips immediately. Do not use on any surface that can be damaged by acidic materials. Many surfaces are not resistant to acid. **Do not use on PVD finished surfaces.** The pesticide label also includes other important information, including directions for use.

OSHA Hazard Communication Standard: This product meets the §1910.1200 definition of a "Hazardous Chemical".

Superfund Amendments and Reauthorization Act of 1986 Title III (EPCRA) Sections 311 and 312

| | | | |
|--|-----|--|----|
| Immediate (Acute) Health Hazard | Yes | Delayed (Chronic) Health Hazard | No |
| Fire Hazard | No | Reactive Hazard | No |
| Sudden Release of Pressure Hazard | No | | |

Superfund Amendments and Reauthorization Act of 1986 Title III (EPCRA) Section 313

*Chemicals marked with an asterisk in "**3. Composition/Information on Ingredients**" are subject to reporting requirements for Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40CFR Part 372.

Pennsylvania/New Jersey/Massachusetts Right to Know

See "**3. Composition/Information on Ingredients**" for hazardous and top five ingredients over 1%.

California Proposition 65: This product does not contain a listed substance known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

16. Other information

Date issued: 31. 12. 2014

F302-001 Revision: N/A

Disclaimer: No representation or warranty, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature, is made with respect to information concerning the product referred to in this document. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, it is impossible to foresee every health effect or exposure risk incurred by the use of this product. All chemicals present some degree of hazard and should be used with caution. The information and recommendations contained herein are presented in good faith. The user should review this information in conjunction with their knowledge of the application intended to determine the suitability of this product for such purpose. In no event will the supplier be responsible for any damages of any nature whatsoever, resulting from the use, reliance upon, or the misuse of this information. Furthermore, it is the direct responsibility of the user to comply with all applicable regulations governing the use and disposal of this material. **Prepared by:** R&D, Canberra Corporation



CANBERRA CORPORATION SAFETY DATA SHEET

1. Identification

Product Identifier: TEPE TSS TOTAL BOWL BOWL, TILE & PORCELAIN CLEANER

Application or recommended use: Disinfectant toilet bowl cleaner

Restrictions on use: Do not use in any fashion not specified on the product label.

Manufacturer / supplier: Canberra Corporation

3610 N. Holland-Sylvania Rd.

Toledo, Ohio 43615 USA

Telephone: 419-841-6616 **Emergency phone:** 800-424-9300 **National Poison Center:** 800-222-1222

2. Hazards Identification

GHS Classification: Classification of this mixture in accordance with paragraph (d) of §1910.1200.

Skin Corrosion/Irritation - Category 1C

Eye Damage/Irritation - Category 1

Corrosive to Metals - 1

Label Elements:



Symbol:

Signal word:

DANGER

Hazard statements:

Causes severe skin burns and serious eye damage.

May be corrosive to metals.

Precautionary statements: Do not breathe mist/vapors/spray.

Wash hands, face and any skin contact thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

Keep only in original container.

Absorb spillage to prevent material damage.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

See 4. First-Aid Measures for specific treatment.

Store locked up in corrosive resistant container.

Dispose of contents/container to an approved disposal facility.

Other Hazards: None known

3. Composition / Information on Ingredients

Chemical characterization: Phosphoric acid solution, blended with detergents, germicides and auxiliary agents.

Hazardous ingredients: The exact percentage of composition has been withheld as a trade secret.

20.0 - 20.6% Phosphoric acid CAS 7664-38-2, EINECS/ELINCS 231-633-2

Other ingredients (> 1%):

> 78% Water CAS 7732-18-5, EINECS/ELINCS 231-791-2

4. First-Aid Measures

Symptoms: Causes irritation or burning sensation. Causes severe skin burns and serious eye damage. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

Inhalation: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth to an unconscious person. If respiratory irritation, dizziness, or unconsciousness occurs, seek immediate medical assistance.

Skin Contact: Remove contaminated clothing and wash before reuse. Wash contaminated area with soap and water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Eye Contact: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

4. First-Aid Measures (cont.)

Ingestion: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to a person who is unconscious or convulsing. If vomiting occurs, keep head below hips to reduce risk of aspiration. Probable mucosal damage may contraindicate the use of gastric lavage. **Note to Physician:** Treat exposed patients symptomatically.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Not applicable. Product is not a fire hazard.

Unsuitable Extinguishing Media: High pressure water jet. **Specific hazards in case of fire:** None known.

Special Fire Fighting Precautions: Fire fighters should wear appropriate protective equipment, including self-contained breathing apparatus and impervious clothing.

6. Accidental Release Measures

Emergency Procedures: Depending on the extent of release, consider the need for restriction of access to spill area.

Personal Precautions: Do not eat, drink or smoke during clean-up. Wear protective clothing, eye protection and impervious gloves (e.g. neoprene). Wash thoroughly after clean up.

Environmental Precautions: Prevent spills from entering storm sewers/drains or contact with soil.

Clean up Methods: Small spills may be wiped up and rinsed with water. For larger spills, neutralize with sodium carbonate or absorb on inert material (e.g. sand). Pick up absorbent and dispose of at an appropriate waste disposal facility.

7. Handling and Storage

Precautions for Safe Handling: Do not use on any surface that can be damaged by acid materials. Do not breathe mist/vapors. Wash hands, face and any skin contact thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves, protective clothing, eye protection, face protection. Use product only according to label directions. If unsure about safe use, contact your supervisor.

Conditions for Safe Storage: Keep out of reach of children. Do not contaminate water, food or feed by storage and disposal. Store locked up in tightly closed, original, corrosive resistant container in a cool (10° - 30°C), dry, well-ventilated area.

Incompatibility: Chlorine bleach, alkali.

8. Exposure Controls / Personal Protection

Components with occupational exposure limits:

| Component | Reference | TWA | PEL |
|-----------------|-----------|---------------------|---------------------|
| Phosphoric acid | ACGIH | 1 mg/M ³ | |
| | OSHA | | 1 mg/M ³ |

Engineering Controls: Proper ventilation in accordance with good industrial hygiene should be provided.

Personal Protective Equipment

Respiratory: Respiratory protection is not necessary under normal conditions of use. If necessary to prevent exposure above occupational limits, use an approved cartridge style respirator.

Gloves: Use water impervious gloves (latex or neoprene rubber). No breakthrough time has been established.

Eye Protection: Chemical resistant goggles and face protection.

Other: Protective clothing (long sleeves, pants), eyewash, safety shower are always advisable when working with chemicals.

9. Physical and Chemical Properties

| | | | |
|------------------------------------|-------------------|------------------------------------|--------------------------------|
| Physical State - | Liquid | Auto-ignition temperature - | Not applicable |
| Color - | Pink | Flash Point - | None |
| Odor - | Cherry-almond | Flammability - | Not applicable |
| Odor Threshold - | No data available | Flammability Limits - | Not applicable |
| Boiling Point - | 212°F | Partition coefficient - | Not applicable |
| Decomposition temperature - | No data available | Solubility (Water) - | Complete |
| Freezing Point - | 0°F | Vapor Density - | No data available |
| pH (Neat) - | < 1 | Vapor Pressure - | No data available |
| Relative Density - | 1.118 | Viscosity - | Moderately viscous |
| Evaporation Rate - | Similar to water | % VOC - | < 0.5 (Excluding LVP material) |

10. Stability and Reactivity

Reactivity: No specific reactivity test data is available. Under normal conditions of storage and use, hazardous reactions are not expected. **Incompatible materials:** Mixing with bleach may generate toxic gases (chlorine).

Chemical stability: This product is stable at ambient temperatures and pressures.

Conditions to avoid: Temperatures above 50°C or below 10°C.

Hazardous decomposition products: None known.

11. Toxicological Information

Acute Toxicity: Toxicity data is not available for this mixture. Data below are estimates based on summation methods.

| Test | Results | Classification (A.0.4.1(c)) | Basis (A.1.3.6.1) |
|------------------------|-------------|-----------------------------|--|
| Oral | > 2000mg/kg | Not applicable | Ingredient literature (Additive formula) |
| Dermal | > 2000mg/kg | Not applicable | Ingredient literature (Additive formula) |
| Inhalation | > 20 mg/L | Not applicable | Ingredient literature (Additive formula) |
| Eye Damage/Irritation | Corrosion | Category 1 | Ingredient literature |
| Skin Damage/Irritation | Corrosion | Category 1C | Ingredient literature |

Summary: Skin and eye contact are most likely routes of exposure. Exposure causes skin burns and serious eye damage.

Subchronic/Chronic Toxicity:

| Test | Results | Classification | Basis |
|--------------------|------------------|----------------|------------------------|
| Skin Sensitization | Not a sensitizer | Not applicable | Ingredient literature. |

Summary: Repeated or prolonged contact causes skin burns and eye damage.

Carcinogens - Ingredients are not listed on the NTP Report on Carcinogens, IARC Monographs or by OSHA

Other data - No other toxicological information is available for this mixture.

12. Ecological Information

This material has not been tested for acute environmental effects.

Persistence and degradability: Material is not persistent. All organic components > 1% are readily biodegradable.

Bio-accumulative potential: No evidence to suggest bio-accumulation will occur.

Mobility: Accidental spillage may lead to penetration of soil and groundwater. However, due to degradability, no evidence suggests this would cause adverse ecological effects. Material will lower pH of affected area.

13. Disposal Considerations

RCRA Class - D002. Do not contaminate water, food or feed by disposal. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray, or mixture of rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label directions, contact your State Pesticide or Environmental Control Agency, or the hazardous waste representative at the nearest EPA Regional Office for guidance. **Container Disposal:** Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container promptly after emptying. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill. If container is one gallon or less, wrap empty container in plastic bag and discard in trash.

14. Transport Information

Proper Shipping Name: UN3264 Corrosive liquid, acidic, inorganic, n.o.s. (Phosphoric acid)

RQ - 5000 Lbs. (Phosphoric Acid) **Shipping emergency phone:** 800-424-9300

Transport hazard class: 8 **Hazard Label:** Corrosive (When shipped as a Limited Quantity, labeling is not required.)

Packing Group: III **Emergency Guide No.:** 154 **Marine Pollutant:** No

15. Regulatory Information

Inventory status: All components are listed on TSCA(US), EINECS/ELINCS(EU), DSL(Canada), AICS(Australia), ENCS(Japan).

FIFRA: This product is a U.S. EPA Registered pesticide, EPA Reg. No. 8155-7-16791, and is subject to certain labeling requirements under Federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide products. The hazard information required on the pesticide label is reproduced here.

DANGER: Corrosive. Causes irreversible eye damage or skin burns. Harmful if swallowed or absorbed through skin or inhaled. Do not get in eyes, on skin or on clothing. Avoid breathing spray mist. Wear goggles or face shield. Wear protective clothing and rubber gloves. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse. **Chemical Hazard** - Do not use on any surface that can be damaged by acidic materials. Many surfaces are not resistant to acid. Never use or mix with bleach or other cleaners or chemicals. The pesticide label also includes other important information, including directions for use.

OSHA Hazard Communication Standard: This product meets the §1910.1200 definition of a "Hazardous Chemical".

Superfund Amendments and Reauthorization Act of 1986 Title III (EPCRA) Sections 311 and 312

| | | | |
|--|-----|--|----|
| Immediate (Acute) Health Hazard | Yes | Delayed (Chronic) Health Hazard | No |
| Fire Hazard | No | Reactive Hazard | No |
| Sudden Release of Pressure Hazard | No | | |

15. Regulatory Information (cont.)**Superfund Amendments and Reauthorization Act of 1986 Title III (EPCRA) Section 313**

*Chemicals marked with an asterisk in “**3. Composition/Information on Ingredients**” are subject to reporting requirements for Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40CFR Part 372.

Pennsylvania/New Jersey/Massachusetts Right to Know

See “**3. Composition/Information on Ingredients**” for hazardous and top five ingredients over 1%.

California Proposition 65: This product does not contain a listed substance known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

16. Other information

Date issued: 31. 12. 2014

F305-001 Revision: N/A

Disclaimer: No representation or warranty, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature, is made with respect to information concerning the product referred to in this document. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, it is impossible to foresee every health effect or exposure risk incurred by the use of this product. All chemicals present some degree of hazard and should be used with caution. The information and recommendations contained herein are presented in good faith. The user should review this information in conjunction with their knowledge of the application intended to determine the suitability of this product for such purpose. In no event will the supplier be responsible for any damages of any nature whatsoever, resulting from the use, reliance upon, or the misuse of this information. Furthermore, it is the direct responsibility of the user to comply with all applicable regulations governing the use and disposal of this material. **Prepared by:** R&D, Canberra Corporation

SAFETY DATA SHEET

Section 1. Identification

Supplier

Drummond, A Lawson
Brand
Lawson Products, Inc.
8770 W. Bryn Mawr Ave,
Suite 900
Chicago, IL 60631
773-304-5050

Emergency telephone number

888-426-4851

Product Name/ Code

Nu-Doh Epoxy Compound Titanium Reinforced Hi-Temp
DN5060

Specific uses

Sealants and adhesives

Section 2. Hazards identification

OSHA/HCS status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2B
SKIN SENSITIZATION - Category 1

GHS label elements

Hazard pictograms



Signal word

Warning!

Hazard statements

Causes skin and eye irritation.
May cause an allergic skin reaction.

Precautionary statements

Prevention

Wear protective gloves. Wear eye or face protection. Avoid breathing dust. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Response

IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage

Not applicable.

Disposal

Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified

None known.

Section 3. Composition/information on ingredients

Substance/mixture

Mixture

| Ingredient name | % by weight | CAS number |
|---|-------------|------------|
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin | 10 - 30 | 25068-38-6 |
| crystalline silica non-respirable | 0.1 - 1 | 14808-60-7 |

Canada

| Name | CAS number | % |
|---|------------|---------|
| Talc , not containing asbestiform fibres | 14807-96-6 | 30 - 60 |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin | 25068-38-6 | 10 - 30 |
| calcium carbonate | 471-34-1 | 10 - 30 |
| crystalline silica non-respirable | 14808-60-7 | 0.1 - 1 |

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact

Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Eye contact

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Ingestion

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Inhalation

No known significant effects or critical hazards.

Skin contact

Causes skin irritation. May cause an allergic skin reaction.

Eye contact

Causes serious eye irritation.

Ingestion

Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Inhalation

No specific data.

Skin contact

Adverse symptoms may include the following:
irritation

redness

Section 4. First aid measures

Eye contact

Adverse symptoms may include the following:
pain or irritation

watering
redness

Ingestion

No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments

No specific treatment.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media

None known.

Specific hazards arising from the chemical

No specific fire or explosion hazard.

National Fire Protection Association (U.S.A.)



Hazardous thermal decomposition products

Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
sulfur oxides
halogenated compounds
metal oxide/oxides

Special protective actions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Section 6. Accidental release measures

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill

Move containers from spill area. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill

Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities

Do not store above the following temperature: 35°C (95°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Ingredient name | CAS # | Exposure limits |
|-----------------------------------|------------|--|
| crystalline silica non-respirable | 14808-60-7 | OSHA PEL Z3 (United States, 9/2005). Notes: 250/(%SiO₂+5) TWA: 250 MPPCF / (%SiO ₂ +5) 8 hours. Form: Respirable OSHA PEL Z3 (United States, 9/2005). Notes: 10/(SiO₂+2) TWA: 10 MG/M ³ / (%SiO ₂ +2) 8 hours. Form: Respirable ACGIH TLV (United States, 3/2012). TWA: 0.025 mg/m ³ 8 hours. Form: Respirable fraction NIOSH REL (United States, 1/2013). TWA: 0.05 mg/m ³ 10 hours. Form: respirable dust OSHA PEL Z3 (United States, 9/2005). Notes: 30/(%SiO₂+2) TWA: 30 MG/M ³ / (%SiO ₂ +2) 8 hours. Form: Total dust. |

Section 8. Exposure controls/personal protection

| Occupational exposure limits | | TWA (8 hours) | | | STEL (15 mins) | | | Ceiling | | | Notations |
|--|-----------------|---------------|-----------------------|----------|----------------|-----------------------|-------|---------|-----------------------|-------|-----------|
| Ingredient | List name | ppm | mg/ m ³ | Other | ppm | mg/ m ³ | Other | ppm | mg/ m ³ | Other | |
| Talc , not containing asbestiform fibres | AB 4/2009 | - | 2 | - | - | - | - | - | - | - | [a] |
| | BC 4/2012 | - | 2 | - | - | - | - | - | - | - | [b] |
| | ON 1/2013 | - | - | 0.1 f/cc | - | - | - | - | - | - | [c] |
| | | - | 2 | - | - | - | - | - | - | - | [d] |
| crystalline silica non-respirable | QC 12/2012 | - | - | 2 f/cc | - | - | - | - | - | - | [e] |
| | | - | 3 | - | - | - | - | - | - | - | [f] |
| | US ACGIH 3/2012 | - | 0.025 | - | - | - | - | - | - | - | [g] |
| | BC 4/2012 | - | 0.025 | - | - | - | - | - | - | - | [b] |
| calcium carbonate | ON 1/2013 | - | 0.1 | - | - | - | - | - | - | - | [c] |
| | QC 12/2012 | - | 0.1 | - | - | - | - | - | - | - | [e] |
| | AB 4/2009 | - | 10 | - | - | - | - | - | - | - | [g] |
| | | - | 10 | - | - | - | - | - | - | - | [g] |

Form: [a]Respirable particulate [b]Respirable [c]Respirable fraction: means that size fraction of the airborne particulate deposited in the gas-exchange region of the respiratory tract and collected during air sampling with a particle size-selective device that, (a) meets the ACGIH particle size-selective sampling criteria for airborne particulate matter; and (b) has the cut point of 4 µm at 50 per cent collection efficiency. [d]The value is for particulate matter containing no asbestos and < 1 per cent crystalline silica. [e]Respirable dust. [f]Respirable fraction [g]Total dust.

Appropriate engineering controls

No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection

Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Skin protection Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Section 8. Exposure controls/personal protection

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Section 9. Physical and chemical properties

Physical state

Solid.

Color

Brownish-White.

Odor

Sulfurous. Pungent.

Odor threshold

Not available.

pH

Not available.

Melting point

Not available.

Boiling point

Not available.

Flash point

Closed cup: >93.3°C (>199.9°F) [Setaflash.] [Product does not sustain combustion.]

Evaporation rate

Not available.

Flammability (solid, gas)

Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge.

Lower and upper explosive (flammable) limits

Not available.

Vapor pressure

Not available.

Vapor density

Not available.

Relative density

1.947

Solubility

Not available.

Solubility in water

Not available.

Auto-ignition temperature

Not available.

Decomposition temperature

>200°C (>392°F)

Viscosity

Not available.

Section 10. Stability and reactivity

Reactivity

No specific test data related to reactivity available for this product or its ingredients.

Chemical stability

The product is stable.

Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid

No specific data.

Incompatible materials

No specific data.

Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

No specific data.

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|--------------------------|---------|-------|--------------------------|-------------|
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin | Eyes - Mild irritant | Rabbit | - | 100 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 500 microliters | - |
| | Skin - Severe irritant | Rabbit | - | 24 hours 2 milligrams | - |

Sensitization

No specific data.

Mutagenicity

No specific data.

Carcinogenicity

No specific data.

Classification

| Product/ingredient name | OSHA | IARC | NTP |
|-----------------------------------|------|------|---------------------------------|
| crystalline silica non-respirable | - | 1 | Known to be a human carcinogen. |

Reproductive toxicity

No specific data.

Teratogenicity

No specific data.

Specific target organ toxicity (single exposure)

No specific data.

Specific target organ toxicity (repeated exposure)

No specific data.

Aspiration hazard

No specific data.

Information on the likely routes of exposure

Not available.

Potential acute health effects

Eye contact

Causes serious eye irritation.

Inhalation

No known significant effects or critical hazards.

Skin contact

Causes skin irritation. May cause an allergic skin reaction.

Ingestion

Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Section 11. Toxicological information

| | |
|---------------------|--|
| Eye contact | Adverse symptoms may include the following: pain or irritation watering redness |
| Inhalation | No specific data. |
| Skin contact | Adverse symptoms may include the following: irritation redness |
| Ingestion | No specific data. |

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

| | |
|------------------------------------|----------------|
| Potential immediate effects | Not available. |
| Potential delayed effects | Not available. |

Long term exposure

| | |
|------------------------------------|----------------|
| Potential immediate effects | Not available. |
| Potential delayed effects | Not available. |

Potential chronic health effects

No specific data.

| | |
|------------------------------|---|
| General | Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. |
| Carcinogenicity | No known significant effects or critical hazards. |
| Mutagenicity | No known significant effects or critical hazards. |
| Teratogenicity | No known significant effects or critical hazards. |
| Developmental effects | No known significant effects or critical hazards. |
| Fertility effects | No known significant effects or critical hazards. |

Numerical measures of toxicity

Acute toxicity estimates

No specific data.

Section 12. Ecological information

Toxicity

No specific data.

Persistence and degradability

No specific data.

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|---|--------------------|-----|-----------|
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin | 2.64 to 3.78 | 31 | low |

Section 12. Ecological information

Mobility in soil

Soil/water partition coefficient (K_{oc})

Not available.

Other adverse effects

No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

RCRA classification

Not available.

Section 14. Transport information

| | DOT Classification | TDG Classification | Mexico Classification | IMDG | IATA |
|----------------------------|---|-----------------------|--------------------------|----------------|----------------|
| UN Number | Not regulated. | Not regulated. | Not regulated. | Not regulated. | Not regulated. |
| UN proper shipping name | - | - | - | - | - |
| Transport hazard class(es) | - | - | - | - | - |
| Packing group | - | - | - | - | - |
| Environmental hazards | No. | No. | No. | No. | No. |
| Additional information | Reportable quantity | | | | |
| | 19342.4 lbs / 8781.4 kg Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements. | | | | |

Section 14. Transport information

Special precautions for user

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States

U.S. Federal regulations

TSCA 8(a) PAIR: nonylphenol

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): Not determined.

Clean Water Act (CWA) 307: zinc sulphide

**Clean Air Act Section 112
(b) Hazardous Air
Pollutants (HAPs)**

Not listed

**Clean Air Act Section 602
Class I Substances**

Not listed

**Clean Air Act Section 602
Class II Substances**

Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ

Not applicable.

SARA 311/312

Classification

Immediate (acute) health hazard

Composition/information on ingredients

| Name | % | Fire hazard | Sudden release of pressure | Reactive | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|---|--------------------|-------------|----------------------------|------------|---------------------------------|---------------------------------|
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin crystalline silica non-respirable | 10 - 30 0.1 - 1 | No. No. | No. No. | No. No. | Yes. No. | No. Yes. |

SARA 313

| | Product name | CAS number | % |
|--|---------------|------------|--------|
| Form R - Reporting requirements | zinc sulphide | 1314-98-3 | 5 - 10 |

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts

The following components are listed: SOAPSTONE

New York

None of the components are listed.

New Jersey

The following components are listed: SOAPSTONE; SILICA, QUARTZ; QUARTZ (SiO₂); TITANIUM; ZINC compounds

Pennsylvania

The following components are listed: SOAPSTONE DUST; QUARTZ (SiO₂); ZINC COMPOUNDS

Minnesota Hazardous Substances

None of the components are listed.

Section 15. Regulatory information

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

| Ingredient name | Cancer | Reproductive | No significant risk level | Maximum acceptable dosage level |
|--|---------------|---------------------|----------------------------------|--|
| Talc , not containing asbestiform fibres | Yes. | No. | No. | No. |
| crystalline silica non-respirable | Yes. | No. | No. | No. |
| carbon black non-respirable | Yes. | No. | No. | No. |

Canada

WHMIS (Canada)

Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

Canadian lists

Canadian NPRI

The following components are listed: Zinc (and its compounds)

CEPA Toxic substances

None of the components are listed.

Canada inventory

Not determined.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

International regulations

International lists

Australia inventory (AICS): Not determined.

China inventory (IECSC): Not determined.

Japan inventory: Not determined.

Korea inventory: Not determined.

Malaysia Inventory (EHS Register): Not determined.

New Zealand Inventory of Chemicals (NZIoC): Not determined.

Philippines inventory (PICCS): Not determined.

Taiwan inventory (CSNN): Not determined.

Substances of very high concern

None of the components are listed.

Section 16. Other information

Key to abbreviations

ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References

Not available.

Indicates information that has changed from previously issued version.

Prepared By: Maureen Ruggeberg, Regulatory Affairs Specialist

Notice to reader

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2339



Material Safety Data Sheet

Section 1: Product and Company Identification

| | | | |
|-----------------------|--------------|------------------------------|------------------------|
| Product Name: | Trane Oil 22 | Distributed By: | The Trane Company |
| Part Number: | OIL00022 | | 3600 Pammel Creek Road |
| Trane MSDS #: | 2339 | | La Crosse, WI 54601 |
| Prepared By: | RJL/REM | Phone Number: | 608.787.2000 |
| Date Prepared: | 2/10/00 | For MSDS Information: | 608.787.3307 |
| Supersedes: | N/A | CHEMTREC: | 800.424.9300 |

Section 2: Product Information

| | | | | | |
|--------------------------|---------------------|-----------------------|------------------------|-------------------------|--------------------|
| <u>Ingredient</u> | <u>CASRN</u> | <u>% (wt.)</u> | <u>OSHA PEL</u> | <u>ACGIH TLV</u> | <u>STEL</u> |
| Mineral Oil USP | 8042-47-5 | 100 | 5 mg/m ³ | 5 mg/m ³ | N/A |

Section 3: Hazards Identification

| | | | |
|--------------------------|----------|---------------------|------------------------------|
| Color: | Clear | Toxicity: | Non toxic as defined by OSHA |
| Physical Form: | Liquid | Fire Hazard: | Combustible |
| Distinctive Odor: | Odorless | Reactivity: | Stable |
| Under Pressure: | N/A | | |

Route of Entry: Inhalation, ingestion and skin absorption.

Inhalation Hazard: Slightly irritating if oil mist is inhaled.

Single Exposure: Poses no significant risk unless overexposed to mist.

Special Medical Treatment: None, see Section 4: First Aid Measures.

Potential Health Effects:

Eye: A mild mechanical irritant which will cause eye watering and inflammation of the conjunctivas (inflammation of the lining of the eye). Mist contact may irritate causing discomfort, tearing or blurred vision.

Skin: Prolonged exposure may cause skin irritation. A single prolonged exposure is not likely to result in the material being absorbed through the skin in harmful amounts.

Inhalation: Inhalation of vapors or mists may cause irritation of the mucous membranes and upper respiratory tract. Exposure to excessive mists may cause nasal passage irritation and sneezing.

Ingestion: Ingestion of excessive quantities may cause irritation of the digestive tract resulting in discomfort, nausea, vomiting and diarrhea.

Carcinogen: Material is not listed as a carcinogen by OSHA, NTP or IARC.

Signs & Symptoms: Prolonged skin contact with this product may cause physical irritation resulting in redness and/or cracking of the skin. Eye exposure may lead to redness, excessive blinking and tearing. Respiratory contact, via mist, may result in nasal discomfort causing a runny nose, irritation of the septum, difficult breathing, coughing and chest pains.

Section 4: First Aid Measures

Eye Contact: If irritation or redness from exposure to vapor develops or persists, consult a physician. In case of direct contact, flush eyes with clean water for at least 15 minutes and seek medical attention.

Skin Contact: Remove contaminated clothing. Wash affected area thoroughly with soap and water. Seek medical attention if irritation or redness develops and persists.

Inhalation of Material: Remove affected person from the source of exposure and into fresh air. If breathing difficulties develop, oxygen should be administered by qualified personnel. If breathing has stopped, give artificial respiration. Seek immediate medical attention.

Ingestion of Material: Do not induce vomiting. Aspiration of liquid into the lungs can cause chemical lung irritation (pneumonitis) and swelling (pulmonary edema)/hemorrhage which can be fatal. Seek immediate medical attention.

Other Information: Consumption of food and beverage should be avoided in work areas where hydrocarbons are present. Always wash hands and face with soap and water before eating, drinking or smoking.

Note to Physicians: Treatment of overexposure by inhalation should be directed at the control of symptoms and the clinical condition of the patient. Aspiration of the material may cause lung injury.

Section 5: Fire Fighting Measures

Flammable Properties:

| | | | |
|----------------------------|----------------|-------------------------------|-----|
| Flash Point: | 375°F | Lower Explosive Limit: | N/D |
| Flash Point Method: | Tag Closed Cup | Upper Explosive Limit: | N/D |

Hazardous Products of Combustion: Carbon Monoxide and Carbon Dioxide.

Potential for Dust Explosion: N/A.

Contributes Unusual Hazards: No.

Potential for Release of Flammable Vapors: If material is heated above its flash point it will release flammable vapors. These vapors can burn in the open or be explosive in confined spaces if an ignition source is present. Mists or sprays may be flammable below oil's normal flash point. Keep away from extreme heat or open flame.

Extinguishing Media: Use foam, dry chemical, waterfog, Carbon Dioxide or sand/earth. Water may not be effective to extinguish fire. Use water spray to cool fire exposed containers and to protect personnel.

Fire Fighting Instructions: Do not direct a solid stream of water or foam into hot burning pools; this may cause frothing and increase fire intensity. Use self-contained breathing apparatus and protective clothing.

Section 6: Accidental Release Measures

Containment Technique: Contain spills immediately with inert materials (e.g. sand, earth). Avoid discharge to natural waters. Shut off ignition sources. Contain spill and keep from entering waterways or sewers.

Clean-up Technique: Transfer liquids and solid diking material to suitable containers for recovery or disposal. This product will cause a slip and fall hazard. Caution should be employed to reduce risk of environmental contamination.

Evacuation Procedures: Isolate the hazard area. Deny entry to unnecessary and unprotected personnel in consideration of potential hazards that may develop, such as fire.

Special Instructions:

NFPA Hazard Rating:

| | |
|------------|--------|
| Health | - 1 |
| Fire | - 1 |
| Reactivity | - 0 |
| Special | - None |

HMIS Hazard Rating:

| | |
|--------------|-----|
| Health | - 1 |
| Flammability | - 1 |
| Reactivity | - 0 |
| PPE | - * |

(4 – Extreme; 3 – High; 2 – Moderate; 1 – Slight; 0 – Insignificant).

* - PPE rating should be determined by the end user considering handling techniques and actual use conditions.

Section 7: Handling and Storage

Handling: Avoid contact with skin, eyes or clothing. Do not breath in the material. Wash hands thoroughly after handling. Keep away from flames, sparks or hot surfaces. Never use a torch to cut or weld on or near container.

Storage: Keep product cool, dry and away from sources of ignition. Empty oil containers can contain explosive vapors. NFPA Class IIIB Storage.

Section 8: Exposure Controls / Personal Protection

Engineering Controls: No specific controls are needed for single, short duration exposures. For prolonged or repeated exposures, use personal protective devices for skin, eye and respiratory protection. Local exhaust ventilation may be required in order to minimize exposure if the material is aerosolized or heated to generate vapors.

Personal Protective Equipment:

Eye/Face Protection: Not required under conditions of normal use. Chemical splash goggles or safety glasses, in compliance with ANSI #Z87.1-1989, are advised if the potential for splashing exists.

Skin Protection: The use of oil resistant gloves is advised to prevent skin contact, possible irritation and absorption. Wash hands with soap and water.

Respiratory Protection: Use a NIOSH approved respirator with dual vapor/mist and particulate cartridge if vapor concentration exceeds PEL or TLV. Do not use compressed oxygen in hydrocarbon rich atmospheres.

Section 9: Physical and Chemical Properties

| | | | |
|----------------------------------|-------------------------|--|--------------------|
| Color: | Clear | Distinctive Odor: | Odorless |
| Physical Form: | Liquid | Shape: | N/A |
| pH: | Non-corrosive | Evaporation Rate (Butyl Acetate=1): | <1 |
| Vapor Density (Air=1): | >1 (heavier than air) | Boiling Point: | >600°C/1100°F |
| Freezing / Melting Point: | N/D | Specific Gravity / Density: | 0.892 at 15°C/60°F |
| Solubility in Water: | Negligible at 25°C/77°F | Percent Volatile (wt.): | Nil |

Section 10: Stability and Reactivity

Stability: Stable under normal conditions.

Conditions to Avoid: Keep product away from heat, sparks, pilot lights, static electricity and open flames.

Incompatibility: The product is incompatible with strong oxidizers such as hydrogen peroxide, bromine and chromic acid.

Section 11: Toxicological Information

Background Data: Exposure to a large single dose or repeated small doses of mineral oil by inhalation or aspiration can lead to lipid pneumonia or lipid granuloma. These are low-grade, chronic, localized tissue reactions which are not fatal. Shortness of breath and cough are the most common symptoms. Not listed as carcinogenic or a potential carcinogen by OSHA, NTP or IARC.

Section 12: Ecological Information

Ecotoxicological Information:

Liquid petroleum products are considered as inherently waste like under USEPA regulation 40 CFR Part 260 and must be handled as a regulated waste to prevent environmental exposure.

Notify appropriate authorities of any release to the environment (spill). Contain spill immediately. Do not allow spill to enter sewers or waterways.

Section 13: Disposal Considerations

Recommendations: Disposal must comply with Federal, State and Local Regulations. If material is spilled or discarded, it maybe a regulated waste and must be properly handled to prevent environmental exposure.

Section 14: Transport Information

USDOT Information: Substance is not USDOT regulated. Its Freight Classification is 65 Petroleum Oil n.o.i.b.n.

Section 15: Regulatory Information

TSCA: The chemical components of this product are contained on the Section 8 (B) Chemical Substance Inventory List (40 CFR 710).

SARA Title III Information: This product does not contain substance(s) which are defined as toxic chemical(s) under and subject to the reporting requirements of Section 302, 304, 311 or 313 of Title III of SARA (40 CFR Part 372).

| <u>Chemical Name/Category</u> | <u>Section 313</u> | | <u>Section 302</u> | | <u>Section 311/312</u> |
|-------------------------------|--------------------|----------------|--------------------|-----------|------------------------|
| | <u>CASRN</u> | <u>% (wt.)</u> | <u>TPQ</u> | <u>RQ</u> | <u>Hazard Class</u> |
| N/A | N/A | N/A | N/A | N/A | None |

Section 16: Other Information

Never use pressure to empty drum, it is not a pressure vessel. When empty, the drum may have vapor or product residue. Residual vapors may explode or ignite. Do not puncture, drill, grind or weld on or near container.

Acronyms/Definitions:

| | |
|--------------------------|---|
| ACGIH: | American Conference of Governmental Industrial Hygienists. |
| ANSI: | American National Standards Institute. |
| ASTM: | American Society for Testing and Materials. |
| CASRN: | Chemical Abstract Service Registration Number is a number assigned to identify a material. |
| CFR: | Code of Federal Regulations. |
| GRAS: | Generally Recognized As Safe (per the Food, Drug and Cosmetic Act). |
| HMIS: | Hazardous Materials Identification System (National Paint & Coatings Association). |
| IARC: | International Agency for Research on Cancer. |
| mg/m³: | Milligrams per cubic meter. |
| N/A: | Not Applicable. |
| N/D: | Not Determined. |
| n.o.i.b.n.: | Not otherwise indexed by name. |
| NIOSH: | National Institute for Occupational Safety and Health. |
| NFPA: | National Fire Protection Association. |
| NTP: | National Toxicology Program. |
| OSHA: | Occupational Safety and Health Administration. |
| PEL: | Permissible Exposure Limit. |
| PPE: | Personal Protective Equipment. |
| RQ: | Reportable Quantity. |
| SARA: | Superfund Amendments and Reauthorization Act of 1986. <u>Section 302:</u> Substances and Facilities Covered and Notification. <u>Section 304:</u> Emergency Notification. <u>Section 311:</u> Material Safety Data Sheets. <u>Section 312:</u> Emergency Hazardous Chemical Inventory Forms. <u>Section 313:</u> Toxic Chemical Release Forms. |
| STEL: | Short-Term Exposure Limit. |
| Title III: | Emergency Planning and Community Right to Know Act. |
| TLV: | Threshold Limit Value. |
| TPQ: | Threshold Planning Quantity. |
| TSCA: | Toxic Substances Control Act. |
| USDOT: | United States Department of Transportation. |
| USEPA: | United States Environmental Protection Agency. |

The information and recommendations contained in this Material Safety Data Sheet represent a compilation of information from sources believed to be reliable and correct. However, no warranty, guarantee or representation is made as to the accuracy or completeness of this information related to specific operations in which the substance may be used. It is recommended that the user of this product determine the suitability of this information in relation to the operations in which the substance is used.

Issue Date 06-Apr-2015

Revision Date 01-Dec-2017

Version 5

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name Trimec® Classic Broadleaf Herbicide

Other means of identification

Product Code PBI FP 881-6

EPA Pesticide Registration Number 2217-543

Recommended use of the chemical and restrictions on use

Recommended Use Herbicide.

Uses advised against No information available.

Details of the supplier of the safety data sheet

Supplier

PBI Gordon Corporation
 1217 West 12th Street
 Kansas City, MO 64101

Manufacturer

PBI Gordon Corporation
 1217 West 12th Street
 Kansas City, MO 64101

Company Name

PBI Gordon Corporation
 1217 West 12th Street
 Kansas City, MO 64101

Emergency telephone number

Emergency Telephone Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|-----------------------------------|------------|
| Acute Oral Toxicity | Category 4 |
| Serious eye damage/eye irritation | Category 1 |
| Skin Sensitization | Category 1 |
| Chronic Aquatic Toxicity | Category 2 |
| Flammable liquids | Category 3 |

Label elements

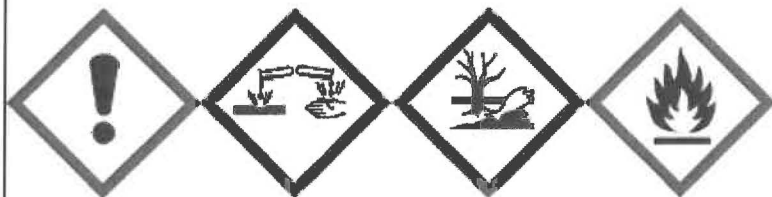
Emergency Overview

Danger

Hazard statements

Harmful if swallowed. Causes serious eye damage. May cause an allergic skin reaction. Toxic to aquatic life with long lasting effects.

Flammable liquid and vapor.



Appearance Liquid

Physical state Liquid

Odor Amines

Precautionary Statements - Prevention

- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product
- Wear protective gloves/protective clothing/eye protection/face protection
- Avoid breathing dust/fume/gas/mist/vapors/spray
- Contaminated work clothing should not be allowed out of the workplace
- Avoid release to the environment
- Keep away from heat/sparks/open flames/hot surfaces. — No smoking
- Keep container tightly closed

Precautionary Statements - Response

- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- If skin irritation or rash occurs: Get medical advice/attention
- Wash contaminated clothing before reuse
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
- IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
- Rinse mouth
- In case of fire: Use CO₂, dry chemical, or foam for extinction
- Collect spillage

Precautionary Statements - Storage

- Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal

- Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Have the product label with you when calling a poison control center or doctor or going in for treatment. You may also contact 1-877-800-5556 for emergency medical treatment advice.

The low flash point of this product is due to a minor component in the mixture. Based on independent laboratory testing of similar products, this product would not sustain combustion as specified in DOT Regulation 49 CFR 173 Appendix H; however OSHA HCS 2012 flammable classifications are solely based on tested mixture flash points and boiling points.

Other Information**3. COMPOSITION/INFORMATION ON INGREDIENTS**

| Chemical Name | CAS. Number | Weight % |
|---------------------------|-------------|----------|
| 2,4-D, dimethylamine salt | 2008-39-1 | 25.93 |
| MCPP-p Dimethylamine Salt | 66423-09-4 | 6.93 |
| Dimethylamine dicamba | 2300-66-5 | 2.76 |

* The exact percentage (concentration) of composition has been withheld as a trade secret

4. FIRST AID MEASURES**First aid measures****General advice**

If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing.

Eye contact

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

Skin Contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. If skin irritation persists, call a physician.

Inhalation

Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration.

Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Move to fresh air in case of accidental inhalation of vapors. If symptoms persist, call a physician.

Ingestion

Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.

Self-protection of the first aider

Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed**Symptoms**

No information available.

Indication of any immediate medical attention and special treatment needed**Note to physicians**

May cause sensitization of susceptible persons. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use. Foam. Carbon dioxide (CO₂). Dry chemical. Water spray (fog).

Specific hazards arising from the chemical

In the event of fire and/or explosion do not breathe fumes. May cause sensitization by inhalation and skin contact. Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures**Personal precautions**

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions**Environmental precautions**

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up**Methods for containment**

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Cover liquid spill with sand, earth or other non-combustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Pick up and transfer to properly labeled containers. Soak up with inert absorbent material. Dam up.

7. HANDLING AND STORAGE

Precautions for safe handling**Advice on safe handling**

Avoid contact with skin, eyes or clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray. Use with local exhaust ventilation.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep in properly labeled containers.

Incompatible materials Acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Exposure Guidelines**

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|--|--|---------------------------|--|
| 2,4-D, dimethylamine salt 2008-39-1 | TWA: 10 mg/m ³ inhalable fraction S* | TWA: 10 mg/m ³ | IDLH: 10 mg/m ³ , TWA: 10 mg/m ³ |

NIOSH IDLH *Immediately Dangerous to Life or Health*

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Local and General Ventilation.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles. Face protection shield.

Skin and body protection Wear protective gloves and protective clothing. Wear long-sleeved shirt, long pants, socks and shoes.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

| | | | |
|-----------------------|--------|-----------------------|--------------------------|
| Physical state | Liquid | Odor | Amines |
| Appearance | Liquid | Odor threshold | No information available |
| Color | Brown | | |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|-------------------------------|--------------------------|-------------------------|
| pH | 7.5-8.5 | |
| Melting point/freezing point | <35 °F | |
| Boiling point / boiling range | 100 °C / 212 °F | |
| Flash point | 58 °C / 137 °F | |
| Evaporation rate | < 1 | |
| Flammability (solid, gas) | No information available | |
| Flammability Limit in Air | | |
| Upper flammability limit: | No information available | |
| Lower flammability limit: | No information available | |
| Vapor pressure | <17 mm Hg @20°C | |
| Vapor density | >1 | |
| Specific Gravity | 1.1213 | |
| Water solubility | Soluble in water | |
| Solubility in other solvents | No information available | |

| | |
|---------------------------|--------------------------|
| Partition coefficient | No information available |
| Autoignition temperature | No information available |
| Decomposition temperature | No information available |
| Oxidizing properties | No information available |

Other Information

| | |
|---------|----------------------|
| Density | 9.3379 pounds/gallon |
|---------|----------------------|

10. STABILITY AND REACTIVITY**Reactivity**

No data available

Chemical stability

Stable.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous polymerization

Will not occur.

Conditions to avoid

Keep from freezing.

Incompatible materials

Acids.

Hazardous Decomposition Products

May emit toxic fumes under fire conditions. Hydrogen chloride. Organochlorides. Nitrogen oxides (NOx). Carbon monoxide.

11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure****Product Information**

| | |
|------------|--------------------|
| Inhalation | No data available. |
|------------|--------------------|

| | |
|-------------|--------------------|
| Eye contact | No data available. |
|-------------|--------------------|

| | |
|--------------|---|
| Skin Contact | See "Numerical measures of toxicity-product information" in this section. |
|--------------|---|

| | |
|-----------|---|
| Ingestion | See "Numerical measures of toxicity-product information" in this section. |
|-----------|---|

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|--|--|-------------------------|-----------------|
| 2,4-D, dimethylamine salt 2008-39-1 | = 625 mg/kg (Rat) | = 2115 mg/kg (Rabbit) | - |
| Dimethylamine dicamba 2300-66-5 | = 1267 mg/kg (Rat) = 2629 mg/kg (Rat) | > 2 g/kg (Rabbit) | - |

Information on toxicological effects

| | |
|----------|---------------------------|
| Symptoms | No information available. |
|----------|---------------------------|

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|------------------------|---|
| Sensitization | No information available. |
| Germ cell mutagenicity | No information available. |
| Carcinogenicity | The International Agency for Research on Cancer (IARC) lists chlorophenoxy herbicides in its Group 2B (limited evidence for Carcinogenicity in humans.) The US EPA has given the chlorophenoxy Herbicides 2,4-D, 2,4-DP, MCPP, and MCPA a Class D classification (not |

classifiable as to human carcinogenicity.) More current 2,4-D lifetime feeding studies in rats and mice did not show carcinogenic effects and a recent World Health Organization (WHO) review of 2,4-D toxicology has concluded that 2,4-D is not a carcinogen. The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Chemical Name | ACGIH | IARC | NTP | OSHA |
|---|-------|----------|-----|------|
| 2,4-D, dimethylamine salt 2008-39-1 | | Group 2B | | |
| MCPP-p Dimethylamine Salt 66423-09-4 | | Group 2B | | |

IARC (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Chronic toxicity Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure.

Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

Unknown Toxicity 7 % of the mixture consists of ingredient(s) of unknown toxicity

Oral LD50 > 2240 1550 mg/kg (male rats) (female rats)

Dermal LD50 > 2010 mg/kg (rabbit)

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 1910 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life with long lasting effects

7% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container, unless specified by the manufacturer.

US EPA Waste Number D001 See Section 2: Hazards not otherwise classified (HNOC)

14. TRANSPORT INFORMATION

DOT

Proper shipping name

For package sizes less than 41.24 gallons: product is non-regulated.

For package sizes 41.24 gallons or greater: UN3082, Environmentally Hazardous

Description

Substances, Liquid, N.O.S., 9, PGIII, RQ (2,4-D)

The following guidelines apply for domestic ground transport. If shipping by air or ocean, please contact our Transportation Dept.

PESTICIDES, NOI, INCLUDING DEFOLIANTS, FUNGICIDES, HERBICIDES, OR INSECTICIDES NMFC 155050-6

If shipped in bulk containers (greater than 119 gallons), this product is a Marine Pollutant.

When shipped as a Hazardous Material, label required is Class 9 (Miscellaneous). Placards required on bulk shipments only.

15. REGULATORY INFORMATION

U.S. EPA Label Information

EPA Pesticide Registration Number 2217-543

Federal Insecticide, Fungicide, Rodenticide Act Regulations

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

EPA Pesticide Label

KEEP OUT OF REACH OF CHILDREN. DANGER. Hazards to Humans and Domestic Animals. DANGER: Corrosive. Causes irreversible eye damage. Causes skin irritation. Do not get into eyes, on skin or clothing. Harmful if absorbed through skin. Harmful if swallowed or inhaled. Avoid exposure to spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Environmental Hazards. This pesticide is toxic to fish and aquatic invertebrates and may adversely affect non-target plants. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment wash waters or rinsate. This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Application around a cistern or well may result in contamination of drinking water or groundwater.

International Inventories

| | |
|----------------------|------------|
| TSCA | Not Listed |
| DSL/NDL | Not Listed |
| EINECS/ELINCS | Not Listed |
| ENCS | Not Listed |
| IECSC | Not Listed |
| KECL | Not Listed |
| PICCS | Not Listed |
| AICS | Not Listed |

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

| Chemical Name | TSCA | DSL | NDL | EINECS | ELINCS | ENCS | IECSC | KECL | PICCS | AICS |
|---------------------------|------|-----|-----|--------|--------|------|-------|------|-------|------|
| 2,4-D, dimethylamine salt | | | | X | | | X | | X | X |
| Dimethylamine dicamba | | | | X | | X | | | | X |

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical

or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

| Chemical Name | SARA 313 - Threshold Values % |
|-----------------------------------|-------------------------------|
| Dimethylamine dicamba - 2300-66-5 | 1.0 |

SARA 311/312 Hazard Categories

| | |
|-----------------------------------|-----|
| Acute health hazard | Yes |
| Chronic Health Hazard | No |
| Fire hazard | Yes |
| Sudden release of pressure hazard | No |
| Reactive Hazard | No |

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Chemical Name | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ) |
|--|--------------------------|----------------|---|
| 2,4-D, dimethylamine salt 2008-39-1 | 100 lb | | RQ 100 lb final RQ RQ 45.4 kg final RQ |

US State Regulations**U.S. State Right-to-Know Regulations**

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|------------------------------------|------------|---------------|--------------|
| Dimethylamine dicamba 2300-66-5 | X | | |

International Regulations

Mexico - Grade

Moderate risk, Grade 2

| |
|------------------------------|
| 16. OTHER INFORMATION |
|------------------------------|

| | | | | |
|-------------|------------------|----------------|--------------------|------------------------------------|
| NFPA | Health hazards 2 | Flammability 1 | Instability 0 | Physical and Chemical Properties - |
| HMIS | Health hazards 2 | Flammability 1 | Physical hazards 0 | Personal protection X |

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of PBI Gordon Corporation's knowledge, information and belief at the date of this publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process, unless specified in the text. PBI GORDON CORPORATION MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. Given the variety of factors that can affect the use and application of this product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the product to determine whether it is fit for a particular purpose and suitable for user's method of use or application. Each user is also responsible for evaluating the conditions of use and designing the appropriate protective mechanisms to prevent employee exposures, property damage, or release to the environment. PBI Gordon Corporation assumes no responsibility for injury to the recipient or third persons, or for any damage to any property resulting from misuse of the product.

End of Safety Data Sheet

1. IDENTIFICATION

PRODUCT NAME: MICROTECH ALL PURPOSE CLEANER DEGREASER
RECOMMENDED USE: GENERAL PURPOSE CLEANER
RESTRICTIONS ON USE: DO NOT USE IN A MANNER INCONSISTENT WITH THE LABEL.
LABEL BRAND: U S CHEMICAL
SDS 100678D CODE 5337999

U S CHEMICAL 316 HART STREET WATERTOWN, WI 53094 USA
MEDICAL EMERGENCY: 1-866-923-4913 USA
SPILL EMERGENCY: 1-800-424-9300 USA
PRODUCT INFORMATION: 1-800-558-9566 USA (8 A.M. TO 5 P.M. CST MONDAY TO FRIDAY)
INTERNET ADDRESS: WWW.USCHEMICAL.COM

2. HAZARD(S) IDENTIFICATION

CLASSIFICATION: SKIN CORROSION (CATEGORY 1C), EYE DAMAGE (CATEGORY 1)
CORROSIVE TO METALS (CATEGORY 1)



LABEL ELEMENTS

SIGNAL WORD: DANGER

PICTOGRAMS: CORROSION

HAZARD STATEMENTS: CAUSES SEVERE SKIN BURNS AND SERIOUS EYE DAMAGE.
MAY BE CORROSIVE TO METALS.

PRECAUTIONARY STATEMENTS: Wear chemical-splash safety goggles, chemical-resistant protective gloves and protective footwear. Avoid contact with eyes, skin and clothing. Do not breathe vapors or mists. Do not eat, drink, or smoke when using this product. Wash hands and affected areas thoroughly after handling. Absorb spillage to prevent material damage.

FIRST AID: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. **IF ON SKIN (OR HAIR):** Take off immediately all contaminated clothing. Rinse skin with water for at least 15 minutes. Wash contaminated clothing before reuse. **IF SWALLOWED:** Rinse mouth. **Do NOT** induce vomiting. If conscious, dilute by drinking up to a cupful of milk or water as tolerated. **IF INHALED:** Remove person to fresh air and keep comfortable for breathing.

START FIRST AID. IMMEDIATELY CALL A POISON CENTER OR PHYSICIAN.

EMERGENCY TELEPHONE: 1-866-923-4913

Storage: Store tightly closed only in original corrosive-resistant plastic container. Store locked up.

Disposal: Dispose of contents in accordance with all federal, state and local applicable laws and regulations.

KEEP OUT OF REACH OF CHILDREN. FOR COMMERCIAL AND INDUSTRIAL USE ONLY.

HAZARDS NOT OTHERWISE CLASSIFIED: Not applicable.

3. COMPOSITION / INFORMATION ON INGREDIENTS

| HAZARDOUS INGREDIENT(S) | CAS # | WEIGHT % |
|---|-----------|----------|
| 2-BUTOXYETHANOL | 111-76-2 | 8.4 |
| SODIUM HYDROXIDE | 1310-73-2 | 2.2 |
| TETRASODIUM EDTA | 64-02-8 | 2.0 |
| STATE RIGHT TO KNOW: SEE SECTION 15 FOR STATE RTK CHEMICAL NAMES IN MIXTURE. | | |

4. FIRST-AID MEASURES

Page 2 of 4

IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. CONTINUE RINSING FOR AT LEAST 15 MINUTES.
IF ON SKIN (OR HAIR): TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER FOR AT LEAST 15 MINUTES. WASH CONTAMINATED CLOTHING BEFORE REUSE.
IF SWALLOWED: RINSE MOUTH. **Do NOT** INDUCE VOMITING. IF CONSCIOUS, DILUTE BY DRINKING UP TO A CUPFUL OF MILK OR WATER AS TOLERATED. **IF INHALED:** REMOVE PERSON TO FRESH AIR AND KEEP COMFORTABLE FOR BREATHING.
START FIRST AID. IMMEDIATELY CALL A POISON CENTER OR PHYSICIAN.
EMERGENCY TELEPHONE: 1-866-923-4913

MOST IMPORTANT SYMPTOMS / EFFECTS: CAUSES SEVERE SKIN BURNS AND SERIOUS EYE DAMAGE. MAY CAUSE BLINDNESS WITHOUT IMMEDIATE FIRST AID. HARMFUL IF SWALLOWED. CAUSES BURNS AND SERIOUS DAMAGE TO MOUTH, THROAT AND STOMACH. CORROSIVE TO ALL BODY TISSUES.

MEDICAL CONDITIONS AGGRAVATED: NONE KNOWN.

NOTE TO PHYSICIAN: CALL 1-866-923-4913 FOR EXPOSURE MANAGEMENT ASSISTANCE.

5. FIRE-FIGHTING MEASURES

CHEMICAL HAZARDS: CORROSIVE. NON-FLAMMABLE.

COMBUSTION PRODUCT HAZARDS: OXIDES OF CARBON AND OTHER FUMES.

METHODS: SELECT EXTINGUISHER AND METHODS BASED ON FIRE SIZE AND TYPE.

EQUIPMENT: WEAR SCBA AND FULL PROTECTIVE GEAR AS CONDITIONS WARRANT.

NFPA RATING: HEALTH-3/FLAMMABILITY-0/ INSTABILITY-0/SPECIAL HAZARD-N.AP.

SUITABLE EXTINGUISHERS: WATER, DRY CHEMICAL, CO2 OR FOAM SUITABLE FOR FIRE.

UNSUITABLE EXTINGUISHERS: NO RESTRICTIONS BASED ON CHEMICAL HAZARDS.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: EVACUATE UNPROTECTED PERSONNEL FROM AREA. WEAR PERSONAL PROTECTION INCLUDING RUBBER BOOTS. SEE SECTION 8. VENTILATE AREA IF NEEDED. BE CAREFUL NOT TO SLIP. WASH THOROUGHLY AFTER CLEAN-UP.

ENVIRONMENTAL PRECAUTIONS: PREVENT SPILL FROM ENTERING DRAIN, STORM SEWER OR SURFACE WATERWAY. PREVENT WATER AND SOIL CONTAMINATION.

CLEAN-UP METHODS: SMALL SPILLS MAY BE WIPED UP AND RINSED WITH WATER. FOR LARGER SPILLS, DIKE TO CONTAIN. PUMP TO LABELED CONTAINER OR ABSORB SPILLAGE AND SCOOP UP WITH INERT ABSORBENT MATERIAL. AFTER SPILL COLLECTION, RINSE AREA WITH WATER AND FOLLOW WITH NORMAL CLEAN-UP PROCEDURES.

7. HANDLING AND STORAGE

HANDLING: FOLLOW ALL LABEL DIRECTIONS. INSTRUCT PERSONNEL ABOUT PROPER USE, HAZARDS, PRECAUTIONS, AND FIRST AID MEASURES. AVOID INHALATION, INGESTION, AND CONTACT WITH SKIN, EYES AND CLOTHING. DO NOT TASTE OR SWALLOW. REMOVE AND WASH CONTAMINATED CLOTHING AND FOOTWEAR BEFORE REUSE. PRODUCT RESIDUE MAY REMAIN IN EMPTY CONTAINERS. HANDLE CAREFULLY TO AVOID DAMAGING CONTAINER.

STORAGE: STORE TIGHTLY CLOSED ONLY IN ORIGINAL CORROSIVE-RESISTANT PLASTIC CONTAINER. STORE LOCKED UP. STORE AT AMBIENT TEMPERATURES IN A DRY AREA OUT OF DIRECT SUNLIGHT. PROTECT FROM FREEZING. ROTATE STOCK REGULARLY. KEEP AWAY FROM FOOD AND DRINK. KEEP OUT OF REACH OF CHILDREN.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Page 3 of 4

EXPOSURE LIMITS: SODIUM HYDROXIDE = 2 MG/M3 CEILING (ACGIH), 2 MG/M3 TWA (OSHA)
2--BUTOXYETHANOL=20 PPM TWA (ACGIH), 50 PPM TWA-SKIN, 240 MG/M3 TWA-SKIN (OSHA)
TETRASODIUM EDTA = NONE

ENGINEERING CONTROLS: NONE REQUIRED. GENERAL ROOM VENTILATION IS TYPICALLY ADEQUATE.

PERSONAL PROTECTION

EYES: SAFETY GOGGLES (INDIRECT-VENTED OR NON-VENTED) AND AN EYE-WASH STATION.

HANDS: CHEMICAL-RESISTANT PROTECTIVE GLOVES (RUBBER OR NEOPRENE).

RESPIRATORY: SUITABLE RESPIRATOR IF MISTS/VAPORS ARE NOT CONTROLLED BY VENTILATION.

FEET: RUBBER BOOTS DURING SPILL CLEAN-UP AND WHEN EXPOSURE IS POSSIBLE.

BODY: RUBBER FULL-COVER PROTECTIVE CLOTHING WHEN EXPOSURE IS POSSIBLE.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: RED LIQUID

ODOR: PINE-FLORAL

pH CONCENTRATE: ABOVE 13.0

pH @ 2500 PPM SOLUTION: N.AV.

pH @ USE DILUTION: N.AV.

PHYSICAL STATE: LIQUID

RELATIVE DENSITY (WATER): 1.043

SOLUBILITY (WATER): COMPLETE

VAPOR PRESSURE: N.AV.

VAPOR DENSITY: N. AV.

VISCOSITY: NON-VISCOUS

AUTO-IGNITION TEMPERATURE: N.AV.

DECOMPOSITION TEMPERATURE: N.AV.

EXPLOSIVE LIMITS (LEL/UEL): NONE

EVAPORATION RATE: N.AV.

FLAMMABILITY (SOLID, GAS): N.AP.

FLASH POINT: NONE

INITIAL BOILING POINT/RANGE: N.AV.

MELTING POINT/FREEZING POINT: N.AV.

ODOR THRESHOLD: N.AV.

PARTITION COEFF. (N-OCTANOL/WATER): N.AV

OTHER: N.AV.

10. STABILITY AND REACTIVITY

REACTIVITY: MIXING WITH INCOMPATIBLES CAN RELEASE HEAT + HAZARDOUS GASES.

CHEMICAL STABILITY: STABLE.

POSSIBILITY OF HAZARDOUS REACTIONS: SEE REACTIVITY. WILL NOT POLYMERIZE.

CONDITIONS TO AVOID: TEMPERATURES BELOW 35°F (1.6°C) OR ABOVE 120°F (49°C).

MATERIALS TO AVOID: ACIDS, METAL AND OTHER CLEANERS. MIX ONLY WITH WATER.

HAZARDOUS DECOMPOSITION PRODUCTS: NONE UNDER NORMAL CONDITIONS.

11. TOXICOLOGICAL INFORMATION

ROUTES OF EXPOSURE: EYES, SKIN, INGESTION, INHALATION.

INFORMATION ON ROUTES OF EXPOSURE: NO LC50/LD50 TEST DATA ON MIXTURE.

ACUTE EFFECTS /SYMPTOMS: CORROSIVE TO ALL BODY TISSUES.

EYES: CAUSES SERIOUS EYE DAMAGE. MAY CAUSE PAIN, REDNESS AND WATERING.

SKIN: CAUSES SEVERE SKIN BURNS. MAY CAUSE DELAYED PAIN, REDNESS AND BLISTERING.

INGESTION: CAUSES BURNS AND SERIOUS DAMAGE TO MOUTH, THROAT AND STOMACH.

INHALATION: MAY CAUSE CORROSIVE EFFECTS TO NOSE, THROAT, AND RESPIRATORY SYSTEM.

CHRONIC / OTHER EFFECTS: NO REPORTABLE GERM CELL MUTAGENS, SKIN SENSITIZERS, RESPIRATORY SENSITIZERS, REPRODUCTIVE TOXINS OR ASPIRATION HAZARDS.

SPECIFIC TARGET ORGANS (SINGLE/REPEATED): NONE KNOWN.

NUMERICAL MEASURES OF TOXICITY: ATEmix (ORAL-RAT) = ABOVE 2000 MG / KG

CARCINOGENS: NO REPORTABLE ACGIH, IARC, NTP, OR OSHA CARCINOGENS.

12. ECOLOGICAL INFORMATION

Page 4 of 4

ECOTOXICITY / CHEMICAL FATE: NOT AVAILABLE.**13. DISPOSAL CONSIDERATIONS**

DISPOSAL METHOD: UNDILUTED PRODUCT IS REGULATED UNDER ENVIRONMENTAL AND TRANSPORTATION LAWS AS A CORROSIVE WASTE (RCRA CLASS D002). DISPOSE OF CONTENTS IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL APPLICABLE LAWS AND REGULATIONS. CONSULT STATE AND LOCAL AUTHORITIES FOR RESTRICTIONS ON DISPOSAL OF CHEMICAL WASTE. MANAGE CHEMICAL WASTES THROUGH AN APPROVED WASTE TREATMENT FACILITY. DO NOT REUSE EMPTY CONTAINER. RINSE EMPTY CONTAINER THOROUGHLY WITH WATER BEFORE DISCARDING CONTAINER IN ACCORDANCE WITH CURRENT LOCAL COMMUNITY CODES. PLEASE RECYCLE EMPTY CONTAINER WHENEVER POSSIBLE.

14. TRANSPORT INFORMATION**DOT / IMDG / TDG:** UN1824, SODIUM HYDROXIDE SOLUTION, 8, III**15. REGULATORY INFORMATION****EPA CERCLA RQ:** SODIUM HYDROXIDE = 1000 LB**EPA REGISTERED:** NO**OSHA HAZARDOUS:** YES**PHOSPHORUS CONTENT:** 0.00%**PROPOSITION 65:** NO**SARA 311/312 HAZARDS:** ACUTE**SARA 313 CHEMICALS:** NO

STATE RIGHT TO KNOW: WATER/7732-18-5, 2-BUTOXYETHANOL/111-76-2, SODIUM HYDROXIDE/1310-73-2, ALCOHOL ETHOXYLATES/68439-46-3, TETRASODIUM EDTA/64-02-8

TSCA INVENTORY STATUS: ALL COMPONENTS ARE LISTED ON THE INVENTORY.**VOC:** 8.60% CALCULATION METHOD USED IS BASED ON CALIFORNIA ARB STANDARD.**16. OTHER INFORMATION****PREPARATION DATE:** 3-7-17 **PREPARED BY:** RC**REVISED SECTION:** 16**ABBREVIATIONS:** N.AV. = NOT AVAILABLE

N.AP. = NOT APPLICABLE

NOTICE TO READER

THIS DOCUMENT HAS BEEN PREPARED USING DATA FROM SOURCES CONSIDERED TECHNICALLY RELIABLE. IT DOES NOT CONSTITUTE A WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY OF THE INFORMATION CONTAINED WITHIN. ACTUAL CONDITIONS OF USE AND HANDLING ARE BEYOND SELLER'S CONTROL. USER IS RESPONSIBLE FOR EVALUATING ALL AVAILABLE INFORMATION WHEN USING PRODUCT FOR ANY PARTICULAR USE AND TO COMPLY WITH ALL FEDERAL, STATE, PROVINCIAL AND LOCAL LAWS AND REGULATIONS.



Safety Data Sheet

Date Issued: 12/21/2016

SECTION 1: IDENTIFICATION OF THE PREPARATION AND THE COMPANY

PRODUCT NAME: Wave 2.0
RECOMMENDED USE: Deodorizer
RESTRICTIONS ON USE: For intended use only
ITEM NUMBER: 2WDS

MANUFACTURER: Fresh Products, LLC, 30600 Oregon Rd. Perrysburg, Ohio 43551 USA
TELEPHONE: +1-419-531-9741
FAX: +1-419-531-8472
EMERGENCY CONTACT (spill/release): 800-424-9300

Section 2: HAZARDS IDENTIFICATION

General: Contains small amounts of chemicals that are hazardous to health and the environment

but in quantities too small to constitute any practical risks to health or the environment.

Classification: **WARNING**

Acute Toxicity Oral 4

Skin Sensitization 1



Hazard Phrases:

H302: Harmful if swallowed.

H317: May cause allergic skin reaction.

Precautionary Phrases:

P102: Keep out of reach of children.

P264: Wash hands thoroughly after handling.

P280: Wear suitable gloves.

P301+310: If swallowed, call physician

P302+P352: If on skin, wash with plenty of water.

P332+P313: If rash occurs, seek medical attention.

P501: Dispose of contents to an approved waste disposal plant.

SECTION 3: INGREDIENT INFORMATION

Chemical Identification: Solid plastic slow-release deodorizing preparation in the form of a urinal air freshener/deodorizer. It is made from pigmented thermoplastic infused with a fragrance composition and color to represent the fragrance. For institutional use only.

Form/Shape: Urinal screen weighs approximately 62g.

CAS Number: Not applicable since the product is a preparation.

EINECS/ELINCS #: Not applicable since the product is a preparation.

The product is a complex mixture of substances of which the following have been classified as presenting a health or environmental hazard or as having an occupational exposure limit within the meaning of the Directive 67/548/EEC or 1999/45/EC

| Level 9%) | CAS NR | EC NR | Substance |
|-----------|------------|-------|----------------------------------|
| 60-80% | 24937-78-8 | N/A | ETHYLENE-VINYL ACETATE COPOLYMER |
| 20-40% | N/A | N/A | FRAGRANCE |
| <.1% | N/A | N/A | Bacteria |

SECTION 4: FIRST AID MEASURES

General: No specific acute effects or symptoms are known.

Inhalation: No acute effects expected. If person is feeling unwell, remove to fresh air.

Ingestion: Possibility of ingestion limited due to product form and difficulty to chew and ingest. In the event of ingestion, rinse mouth thoroughly with water.

Skin: Wash off with soap and water.

Eyes: Possibility of eye contact limited. In the event, wash thoroughly with water or approved eyewash.

SECTION 5: FIRE FIGHTING MEASURES

Extinguishing Media: Use extinguishing media appropriate for the surrounding fire. Water spray, fog or mist. Dry chemicals, sand etc.

Exposure Hazards : Thermal decomposition or burning may release a variety of products ranging from simple hydrocarbons to toxic/irritating gases including carbon monoxide and carbon dioxide. Full protective clothing should be worn before a confined fire space is entered. Self-contained breathing apparatus should be worn.

SECTION 6: ACCIDENTAL RELEASE MEASURES

No special requirements for accidental release required. Apply good housekeeping practices.

SECTION 7: HANDLING AND STORAGE

Usage Precautions: Follow normal good-housekeeping practices. Keep away from direct flames.

Storage Precautions: Keep in cool, dry conditions in original containers at no more than 30° C

SECTION 8: EXPOSURE CONTROL AND PERSONAL PROTECTION

Occupational Exposure limit: Not Established

Respiratory Protection: None required under normal usage

Protection: Although unexpected, avoid prolonged skin contact. Use chemically resistant gloves as needed.

Eye Protection: None required

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Thermoplastic screen with fragrance oil.

Flash pt: Not applicable.

Relative Density: Not determined

Odor: Various

Evaporation Rate: Not applicable.

Solubility in water: Insoluble.

Odor Threshold: Not determined

Flammability: Not determined/applicable

Partition Coefficient: Not determined

Color: Various

UEL: Not determined

Autoignition Temperature: Not applicable

pH value: Not determined/applicable

LEL: Not determined

Decomposition Temperature:

Melting Pt: Estimated 60° C

Vapor Pressure: Not determined/applicable

Not determined/applicable

Boiling Pt: Not applicable.

Vapor Density: Not determined/applicable

SECTION 10: STABILITY AND REACTIVITY

Stability: Normally stable.

Conditions to avoid: Avoid extreme heat and naked flames.

Materials to avoid: Strong oxidizing agents.

Decomposition Products: None under normal storage conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Effects: Ingredients include a small quantity of volatile fragrance chemicals which

Chronic Effects: None are known.

may contain small amounts of substances that are harmful if swallowed and/or irritating to the eyes and skin.

Health Risks: INHALATION: Prolonged exposure to volatile ingredients is unlikely to cause irritation or other adverse health effects.

INGESTION: No practical risk of adverse health effects.

SKIN CONTACT: No practical risk of adverse health effects.

EYE CONTACT: No practical risk of adverse health effects.

SECTION 12: ECOLOGICAL INFORMATION

No specific information has been established regarding the product. However according to the conventional method of Directive 99/45/EC the product is classified as harmful to aquatic organisms, or causing long-term effects in the aquatic environment.

Ecotoxicity: N/A

Bioaccumulative Potential: N/A

Persistence and Degradability: N/A

Mobility in Soil: N/A

Other Adverse Effects: N/A

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of in accordance with Local Authority requirements e.g., for used product, as household waste

SECTION 14: TRANSPORT INFORMATION

Product is not regulated as hazardous

Transport Hazard Class: N/A

DOT Classifications: Non Hazardous

UN-Number: N/A

Packing group: N/A

UN Proper Shipping Name: N/A

Marine Pollutant: N/A

Special Precautions with Transport: N/A

SECTION 15: REGULATORY INFORMATION

Classification, Packaging and Labeling according to Directive 99/45/EC

Signal word:

Pictograms:

WARNING

Exclamation mark

Hazard Phrases:

Precautionary Phrases:

P301+310: If swallowed, call physician

H302: Harmful if swallowed.

P102: Keep out of reach of children.

P302+P352: If on skin, wash with plenty of water.

H317: May cause allergic skin reaction.

P264: Wash hands thoroughly after handling.

P332+P313: If rash occurs, seek medical attention.

P280: Wear suitable gloves.

P501: Dispose of contents to an approved waste disposal plant.

SECTION 16: OTHER INFORMATION

This Safety Data Sheet was prepared to comply with the current OSHA Hazard Communication Standard (HCS) adoption of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)



Safety Data Sheet

1 - Identification

| | |
|---|--|
| Product Name: WD-40 Multi-Use Product Aerosol NOT FOR SALE IN CALIFORNIA | Manufacturer: WD-40 Company Address: 1061 Cudahy Place (92110) P.O. Box 80607 San Diego, California, USA 92138 -0607 |
| Product Use: Lubricant, Penetrant, Drives Out Moisture, Removes and Protects Surfaces From Corrosion | Telephone: Emergency only: 1-888-324-7596 (PROSAR) Information: 1-888-324-7596 Chemical Spills: 1-800-424-9300 (Chemtrec) 1-703-527-3887 (International Calls) |
| Restrictions on Use: None identified | |
| SDS Date Of Preparation: 09/01/2014 | |

2 – Hazards Identification

Hazcom 2012/GHS Classification:

Flammable Aerosol Category 1

Gas Under Pressure: Compressed Gas

Aspiration Toxicity Category 1

Note: This product is a consumer product and is labeled in accordance with the US Consumer Product Safety Commission regulations which take precedence over OSHA Hazard Communication labeling. The actual container label will not include the label elements below. The labeling below applies to industrial/professional products.

Label Elements:**DANGER!**

Extremely Flammable Aerosol.

Contains gas under pressure; may explode if heated.

May be fatal if swallowed and enters airways.

Prevention

Keep away from heat, sparks, open flames, hot surfaces – No smoking.

Do not spray on an open flame or other ignition source.

Pressurized container: Do not pierce or burn, even after use.

Response

IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.

Storage

Store locked up.

Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Store in a well-ventilated place.

Disposal

Dispose of contents and container in accordance with local and national regulations.

3 - Composition/Information on Ingredients

| Ingredient | CAS # | Weight Percent | US Hazcom 2012/ GHS Classification |
|-----------------------|------------|----------------|------------------------------------|
| Aliphatic Hydrocarbon | 64742-47-8 | 45-50 | Flammable Liquid Category 3 |

| | | | |
|---------------------------|--|-------|--|
| | | | Aspiration Toxicity Category 1 |
| Petroleum Base Oil | 64742-56-9 64742-65-0 64742-53-6 64742-54-7 64742-71-8 | <35 | Not Hazardous |
| LVP Aliphatic Hydrocarbon | 64742-47-8 | 12-18 | Aspiration Toxicity Category 1 |
| Carbon Dioxide | 124-38-9 | 2-3 | Simple Asphyxiant Gas Under Pressure, Compressed Gas |

Note: The exact percentages are a trade secret.

4 – First Aid Measures

Ingestion (Swallowed): Aspiration Hazard. DO NOT induce vomiting. Call physician, poison control center or the WD-40 Safety Hotline at 1-888-324-7596 immediately.

Eye Contact: Flush thoroughly with water. Remove contact lenses if present after the first 5 minutes and continue flushing for several more minutes. Get medical attention if irritation persists.

Skin Contact: Wash with soap and water. If irritation develops and persists, get medical attention.

Inhalation (Breathing): If irritation is experienced, move to fresh air. Get medical attention if irritation or other symptoms develop and persist.

Signs and Symptoms of Exposure: May cause eye and respiratory irritation. Inhalation may cause coughing, headache and dizziness. Skin contact may cause drying of the skin.

Indication of Immediate Medical Attention/Special Treatment Needed: Immediate medical attention is needed for ingestion.

5 – Fire Fighting Measures

Suitable (and unsuitable) Extinguishing Media: Use water fog, dry chemical, carbon dioxide or foam. Do not use water jet or flooding amounts of water. Burning product will float on the surface and spread fire.

Specific Hazards Arising from the Chemical: Contents under pressure. Keep away from ignition sources and open flames. Exposure of containers to extreme heat and flames can cause them to rupture often with violent force. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. Combustion will produce oxides of carbon and hydrocarbons.

Special Protective Equipment and Precautions for Fire-Fighters: Firefighters should always wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire-exposed containers with water. Use shielding to protect against bursting containers.

6 – Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate protective clothing (see Section 8). Eliminate all sources of ignition and ventilate area.

Methods and Materials for Containment/Cleanup: Leaking cans should be placed in a plastic bag or open pail until the pressure has dissipated. Contain and collect liquid with an inert absorbent and place in a container for disposal. Clean spill area thoroughly. Report spills to authorities as required.

7 – Handling and Storage

Precautions for Safe Handling: Avoid contact with eyes. Avoid prolonged contact with skin. Avoid breathing vapors or aerosols. Use only with adequate ventilation. Keep away from heat, sparks, pilot lights, hot surfaces and open flames. Unplug electrical tools, motors and appliances before spraying or bringing the can near any source of electricity. Electricity can burn a hole in the can and cause contents to burst into flames. To avoid serious burn injury, do not let the can touch battery terminals, electrical connections on motors or appliances or any other source of electricity. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Keep out of the reach of children. Do not puncture, crush or incinerate containers, even when empty.

Conditions for Safe Storage: Store in a cool, well-ventilated area, away from incompatible materials. Do not store above 120°F or in direct sunlight. U.F.C (NFPA 30B) Level 3 Aerosol. Store away from oxidizers.

8 – Exposure Controls/Personal Protection

| Chemical | Occupational Exposure Limits |
|---------------------------|--|
| Aliphatic Hydrocarbon | 1200 mg/m3 TWA (manufacturer recommended) |
| Petroleum Base Oil | 5 mg/m3 TWA, 10 mg/m3 STEL ACGIH TLV 5 mg/m3 TWA OSHA PEL |
| LVP Aliphatic Hydrocarbon | 1200 mg/m3 TWA (manufacturer recommended) |
| Carbon Dioxide | 5000 ppm TWA (OSHA/ACGIH), 30,000 ppm STEL (ACGIH) |

The Following Controls are Recommended for Normal Consumer Use of this Product

Appropriate Engineering Controls: Use in a well-ventilated area.

Personal Protection:

Eye Protection: Avoid eye contact. Always spray away from your face.

Skin Protection: Avoid prolonged skin contact. Chemical resistant gloves recommended for operations where skin contact is likely.

Respiratory Protection: None needed for normal use with adequate ventilation.

For Bulk Processing or Workplace Use the Following Controls are Recommended

Appropriate Engineering Controls: Use adequate general and local exhaust ventilation to maintain exposure levels below that occupational exposure limits.

Personal Protection:

Eye Protection: Safety goggles recommended where eye contact is possible.

Skin Protection: Wear chemical resistant gloves.

Respiratory Protection: None required if ventilation is adequate. If the occupational exposure limits are exceeded, wear a NIOSH approved respirator. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.

Work/Hygiene Practices: Wash with soap and water after handling.

9 – Physical and Chemical Properties

| | | | |
|---------------------------|---|---|----------------------------|
| Appearance: | Light amber liquid | Flammable Limits: (Solvent Portion) | LEL: 0.6% UEL: 8% |
| Odor: | Mild petroleum odor | Vapor Pressure: | 95-115 PSI @ 70°F |
| Odor Threshold: | Not established | Vapor Density: | Greater than 1 (air=1) |
| pH: | Not Applicable | Relative Density: | 0.8 – 0.82 @ 60°F |
| Melting/Freezing Point | Not established | Solubilities: | Insoluble in water |
| Boiling Point/Range: | 361 - 369°F (183 - 187°C) | Partition Coefficient; n-octanol/water: | Not established |
| Flash Point: | 122°F (49°C) Tag Closed Cup (concentrate) | Autoignition Temperature: | Not established |
| Evaporation Rate: | Not established | Decomposition Temperature: | Not established |
| Flammability (solid, gas) | Flammable Aerosol | Viscosity: | 2.79-2.96 cSt @ 100°F |
| VOC: | 412 grams/liter (49.5%) | Pour Point: | -63°C (-81.4°F) ASTM D-97 |

10 – Stability and Reactivity

Reactivity: Not reactive under normal conditions

Chemical Stability: Stable

Possibility of Hazardous Reactions: May react with strong oxidizers generating heat.

Conditions to Avoid: Avoid heat, sparks, flames and other sources of ignition. Do not puncture or incinerate containers.

Incompatible Materials: Strong oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide and carbon dioxide.

11 – Toxicological Information

Symptoms of Overexposure:

Inhalation: High concentrations may cause nasal and respiratory irritation and central nervous system effects such as headache, dizziness and nausea. Intentional abuse may be harmful or fatal.

Skin Contact: Prolonged and/or repeated contact may produce mild irritation and defatting with possible dermatitis.

Eye Contact: Contact may be irritating to eyes. May cause redness and tearing.

Ingestion: This product has low oral toxicity. Swallowing may cause gastrointestinal irritation, nausea, vomiting and diarrhea. This product is an aspiration hazard. If swallowed, can enter the lungs and may cause chemical pneumonitis, severe lung damage and death.

Chronic Effects: None expected.

Carcinogen Status: None of the components are listed as a carcinogen or suspect carcinogen by IARC, NTP, ACGIH or OSHA.

Reproductive Toxicity: None of the components is considered a reproductive hazard.

Numerical Measures of Toxicity:

The oral toxicity of this product is estimated to be greater than 5,000 mg/kg and the dermal toxicity greater than 2,000 mg/kg based on an assessment of the ingredients. This product is not classified as toxic by established criteria. It is an aspiration hazard.

12 – Ecological Information

Ecotoxicity: No specific aquatic toxicity data is currently available, however components of this product are not expected to be harmful to aquatic organisms

Persistence and Degradability: Component are readily biodegradable.

Bioaccumulative Potential: Bioaccumulation is not expected based on an assessment of the ingredients.

Mobility in Soil: No data available

Other Adverse Effects: None known

13 - Disposal Considerations

If this product becomes a waste, it would be expected to meet the criteria of a RCRA ignitable hazardous waste (D001). However, it is the responsibility of the generator to determine at the time of disposal the proper classification and method of disposal. Do not puncture or incinerate containers, even empty. Dispose in accordance with federal, state, and local regulations.

14 – Transportation Information

DOT Surface Shipping Description:

UN1950, Aerosols, 2.1 Ltd. Qty (Note: Shipping Papers are not required for Limited Quantities unless transported by air or vessel – each package must be marked with the Limited Quantity Mark)

IMDG Shipping Description: UN1950, Aerosols, 2.1, LTD QTY

ICAO Shipping Description: UN1950, Aerosols, flammable, 2.1 NOTE: WD-40 does not test aerosol cans to assure that they meet the pressure and other requirements for transport by air. We do not recommend that our aerosol products be transported by air.

15 – Regulatory Information

U.S. Federal Regulations:

CERCLA 103 Reportable Quantity: This product is not subject to CERCLA reporting requirements, however, oil spills are reportable to the National Response Center under the Clean Water Act and many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA TITLE III:

Hazard Category For Section 311/312: Acute Health, Fire Hazard, Sudden Release of Pressure

Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III

Section 313 Reporting requirements: None

Section 302 Extremely Hazardous Substances (TPQ): None

EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.

VOC Regulations: This product complies with the consumer product VOC limits of the US EPA and states adopting the OTC VOC rules but does not comply with CARB.

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): This product does not contain chemicals regulated under California Proposition 65.

Canadian Environmental Protection Act: One of the components is listed on the NDSL. All of the other ingredients are listed on the Canadian Domestic Substances List or exempt from notification.

Canadian WHMIS Classification: Class A (Compressed gas), Class B-5 (Flammable Aerosol)

This MSDS has been prepared according to the criteria of the Controlled Products Regulation (CPR) and the MSDS contains all of the information required by the CPR.

16 – Other Information:

HMIS Hazard Rating:

Health – 1 (slight hazard), Fire Hazard – 4 (severe hazard), Reactivity – 0 (minimal hazard)

Revision Date: September 1, 2015

Supersedes: July 20, 2014

Prepared by: Industrial Health & Safety Consultants, Inc. Shelton, CT, USA

APPROVED By: I. Kowalski

Regulatory Affairs Dept.