

**Safety Data Sheet**  
**Phosphoric Acid 75 - 85%**

**SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION**

**1.1 Product identifier**

**Product name:** Phosphoric Acid 75 - 85%  
**Synonym(s):** Orthophosphoric Acid; o-Phosphoric Acid; Hydrogen Phosphate

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

**General use:** Industrial applications  
**Uses advised against:** None known

**1.3 Details of the supplier and of the safety data sheet**

**Manufacturer/Distributor**  
Silver Fern Chemical, Inc.  
2226 Queen Anne Avenue North Suite C  
Seattle, WA 98109 USA  
1-866-282-3384  
Website - www.silverfernchemical.com; email address - info@silverfernchemical.com

**1.4 Emergency telephone number**

+1-800-535-5053; Outside USA & Canada +1-352-323-3500

**SECTION 2 - HAZARDS IDENTIFICATION**

**2.1 Classification of substance or mixture**

**Product definition:** Substance  
**Classification in accordance with 29 CFR 1910 (OSHA HCS) and Regulation EC No. 1272/2008**  
Acute toxicity, oral - Category 4 [H302]  
Skin corrosion - Category 1B [H314]

**2.2 Label elements**

**Hazard symbol(s):**



**Signal word:** Danger  
**Hazard statement(s):** H302 - Harmful if swallowed  
H314 - Causes severe skin burns and eye damage

**Precautionary statements:**

- [Prevention]** P260 - Do not breathing mist, fume or vapor.  
P264 - Wash hands and other exposed skin areas thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P280 - Wear protective gloves, protective clothing and eye protection.
- [Response]** P301 + P330 + P331 + P310 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor.  
P303 + P361 + P353 + P310 -IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water or shower. Immediately call a POISON CENTER or doctor.  
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.  
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.  
P321 - Specific treatment: Immediately call a POISON CENTER or doctor. Refer to Section 4 of this SDS.  
P363 - Wash contaminated clothing before reuse
- [Storage]** P405 - Store locked up.
- [Disposal]** P501 - Dispose of contents and containers in accordance with national and local regulations.

**2.3 Hazards not otherwise classified (HNOC) or not covered by GHS**

May be corrosive to metals.

**SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS**

**3.1 Substances**

| % by Weight | Ingredient      | CAS Number | EC Number | Index Number | GHS Classification |
|-------------|-----------------|------------|-----------|--------------|--------------------|
| 75 - 85     | Phosphoric Acid | 7664-38-2  | 231-633-2 | 015-011-00-6 | H302, H314         |

There are no additional ingredients present in this product 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.

### 3.2 Mixtures

Not applicable

## SECTION 4 – FIRST AID MEASURES

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### 4.1 Description of first aid measures

**Inhalation:** If product mist or vapor causes respiratory irritation or distress, move the exposed person to fresh air immediately. If breathing is difficult or irregular, administer oxygen; if respiratory arrest occurs, start artificial respiration by trained personnel. If unconscious, maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Seek immediate medical attention.

**Eyes:** Immediately flush eyes with large amounts of water or saline solution for 20 - 30 minutes, occasionally lifting the upper and lower lids. Remove contact lenses, if present and easy to do, after first 2 minutes and continue rinsing. Seek immediate medical attention, preferably from an ophthalmologist.

**Skin:** Flush skin with large amounts of water while removing contaminated clothing and continue rinsing for 20 - 30 minutes. Wash contaminated clothing thoroughly before reuse. Discard contaminated shoes. Seek immediate medical attention for chemical burns.

**Ingestion:** Rinse mouth with water if the victim is conscious. Remove dentures if present. Give 1 - 2 sips of water to drink if the victim is conscious, alert, able to swallow and not experiencing difficulty breathing. DO NOT induce vomiting unless directed to do so by medical personnel. If vomiting occurs spontaneously keep the head lower than the waist to prevent aspiration of vomitus into the lungs. Never give anything by mouth to an unconscious or convulsing person. Do not leave the victim unattended. Seek immediate medical attention.

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

#### Potential health symptoms and effects

**Eyes:** Causes severe burns and serious damage to eyes. Symptoms may include redness, swelling, pain, tearing, burns, blurred vision, corneal clouding, permanent eye damage and blindness. May cause irreversible eye injury. Mist or vapor can cause severe eye irritation and eye damage.

**Skin:** Causes immediate and severe irritation of the skin progressing quickly to chemical burns and ulceration.

**Inhalation:** Harmful if inhaled. Causes severe irritation of the respiratory system. Symptoms may include burning of the nose and throat, cough, wheezing, constriction of the airway, difficulty breathing, shortness of breath, bronchial spasms, chest pain, pink frothy sputum and possible coma. May cause pulmonary edema. Symptoms may be delayed.

**Ingestion:** Harmful if swallowed. Causes burns to the lips, mouth, throat and gastrointestinal tract. Causes severe pain, nausea vomiting, diarrhea and shock. May cause hemorrhaging of the digestive tract. May cause corrosion and permanent tissue destruction of the digestive tract. Swallowing small quantity of this material will result in serious health hazard.

**Chronic:** Persons with pre-existing skin disorders, eye problems or impaired respiratory function may be more susceptible to the effects of this substance. Repeated or prolonged inhalation may cause respiratory tract inflammation damage lungs. Prolonged and repeated exposure will eventually cause permanent tissue damage and effects such as erosion of teeth, lesions on the skin, dermatitis, tracheo-bronchitis, mouth, inflammation, conjunctivitis and gastritis.

### 4.3 Indication of any immediate medical attention and special treatment needed

#### Advice to doctor and hospital personnel

Treat symptomatically and supportively. Phosphoric acid is an acid which may cause coagulative necrosis. Do not attempt to use chemicals to neutralize the exposure.

## SECTION 5 – FIRE FIGHTING MEASURES

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### 5.1 Extinguishing media

**Suitable methods of extinction:** Use extinguishing media suitable for the surrounding fire.

**Unsuitable methods of extinction:** None known.

### 5.2 Special hazards arising from the substance or mixture

Closed containers may rupture due to the buildup of pressure when exposed to extreme heat. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent or may be delayed. Obtain medical attention.

**Explosion hazards:** Phosphoric acid attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air. Flammable concentrations of vapor may accumulate in the headspace of containers.

### 5.3 Advice to firefighters

**Phosphoric Acid reacts violently with water!** Full protective equipment including self-contained breathing apparatus should be used. Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion when exposed to extreme heat. If possible, water contaminated by this material should be contained from being discharged to any waterway, sewer or drain to prevent environmental contamination.

## SECTION 6 – ACCIDENTAL RELEASE MEASURES

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### 6.1 Personal precautions, protective equipment and emergency procedures

Evacuate non-essential personnel. Wear appropriate protective clothing and equipment designated in Section 8.2. Ventilate the area. Remove all

sources of ignition. NO SMOKING. Clean up spills immediately.

## 6.2 Environmental precautions

Avoid dispersal of spilled material or runoff and prevent contact with soil and entry into drains, sewers or waterways. Use water sparingly to minimize environmental contamination and reduce disposal requirements.

## 6.3 Methods and materials for containment and cleaning up

Approach spill from upwind direction. Cover drains and contain spill. Carefully neutralize the spill with soda ash (sodium carbonate) or calcium carbonate. Cover spill with a large quantity of inert absorbent. Do not use combustible material such as sawdust. Collect product using non-sparking tools and place into an approved container for proper disposal. Do not use a metal container for disposal. Observe possible material restrictions (Sections 7.2 and 10.5). Contaminated absorbent may pose the same hazard as the spilled product. Dispose of via a licensed waste disposal contractor.

## 6.4 Reference to other sections

For indications about waste treatment, see Section 13.

# SECTION 7 – STORAGE AND HANDLING

## 7.1 Precautions for safe handling

Wear all appropriate personal protective equipment specified in Section 8.2. Do not get in eyes or on skin or clothing. Do not inhale mist or vapor. NO SMOKING. If normal use of material presents a respiratory hazard, use only adequate ventilation or wear an appropriate respirator. Wash contaminated clothing before reuse. Discard contaminated shoes.

### Advice on protection against fire and explosion

Avoid high temperatures, hot surfaces, contact with metals and oxidizers. This material attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air. Flammable concentrations of vapor may accumulate in the headspace of containers.

## 7.2 Conditions for safe storage, including any incompatibilities

Store in dry, well-ventilated areas away from incompatible materials (see Section 10.5), food and drink. Keep away from combustible materials. Keep away from alkalis and oxidizers. Store in corrosion resistant container with resistant inner liners. Transfer only to approved containers having correct labeling. Keep container tightly closed when not in use. Protect containers from physical damage. Containers that have been opened must be carefully resealed and kept upright to prevent spillage. Containers are hazardous when empty as they contain product residues. Use appropriate containment to avoid environmental contamination. Ventilate closed areas. Keep locked up and out of reach of children.

## 7.3 Specific end uses

Apart from the uses mentioned in Section 1.2, no other specific uses are stipulated.

# SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

## 8.1 Control parameters

### Occupational exposure limit values

| CAS Number | Ingredient      | OSHA PEL                     | ACGIH TLV   | NIOSH   |
|------------|-----------------|------------------------------|---|---|
| 7664-38-2  | Phosphoric Acid | 1 mg/m <sup>3</sup> TWA, 8 h | 1 mg/m <sup>3</sup> TWA, 8 h<br>3 mg/m <sup>3</sup> STEL, 15 min. | 1 mg/m <sup>3</sup> TWA 10 h<br>3 mg/m <sup>3</sup> STEL, 15 min.<br>1,000 mg/m <sup>3</sup> IDHL |

## 8.2 Exposure controls

**Engineering measures:** Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. Use adequate ventilation. Local exhaust is preferable. Refer to Section 7.1.

**Individual protection measures:** Wear protective clothing to prevent repeated or prolonged contact with product. Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the representative supplier.

**Hygiene measures:** Facilities storing or using this material should be equipped with an eyewash station and safety shower. Change contaminated clothing. Preventive skin protection is recommended. Wash hands thoroughly after use, before eating, drinking, smoking or using the lavatory.

**Eye/face protection:** Wear safety glasses with unperforated side shields or protective splash goggles during use.

**Hand protection:** Wear Nitrile, neoprene or PVC gloves or those recommended by glove supplier for protection against materials in Section 3. Gloves should be impermeable to chemicals and oil. Breakthrough time of selected gloves must be greater than the intended use period.

**Skin protection:** Wear protective clothing. Wear protective boots if the situation requires.

**Respiratory protection:** Always use an approved respirator when vapor/aerosols exceed permissible exposure limits. Where risk assessment shows air-purifying respirators are appropriate use a half-mask respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Follow OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149.

**Environmental exposure controls:** Do not empty into drains.

PPE must not be considered a long-term solution to exposure control. PPE usage must be accompanied by employer programs to properly select, maintain, clean fit and use. Consult a competent industrial hygiene resource to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.



\* It is recommended that a face shield be worn with splash goggles when handling this product.

## SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

|   |   |
|---|---|
| Appearance                              | Clear, colorless liquid                 |
| Odor                                    | Odorless                                |
| Odor Threshold                          | No data available                       |
| Molecular Weight                        | 98 g/mol                                |
| Chemical Formula                        | H <sub>3</sub> PO <sub>4</sub>          |
| pH                                      | 1 - 1.5                                 |
| Freezing/Melting Point                  | - 17.0 to - 21 °C (1.4 - 5.8 °F)        |
| Boiling Point Range                     | 135 - 158 °C (275 - 316 °F) @ 760 mm Hg |
| Evaporation Rate                        | No data available                       |
| Flammability (solid, gas)               | Non-flammable                           |
| Flash Point                             | Product does not sustain combustion     |
| Autoignition Temperature                | No data available                       |
| Decomposition Temperature               | No data available                       |
| Lower Explosive Limit (LEL)             | No data available                       |
| Upper Explosive Limit (UEL)             | No data available                       |
| Vapor Pressure                          | 4 - 11 mm Hg @ 25 °C                    |
| Vapor Density                           | 3.4 [Air = 1] @ 20 °C                   |
| Specific Gravity                        | 1.5 - 1.7 @ 25 °C                       |
| Viscosity                               | 7.2 - 16 cps @ 40 °C                    |
| Solubility in Water                     | Soluble                                 |
| Partition Coefficient (n-octanol/water) | Not applicable                          |
| Oxidizing Properties                    | Not applicable                          |
| Explosive Properties                    | Not applicable                          |
| Volatiles by Weight @ 21 °C             | No data available                       |

### 9.2 Other Data

May be corrosive to metals.

## SECTION 10 – STABILITY AND REACTIVITY

### 10.1 Reactivity

No special reactivity has been reported during normal conditions of handling and use.

### 10.2 Chemical Stability

This material is stable under recommended conditions of storage and handling. Hygroscopic material: absorbs moisture from the air.

### 10.3 Possibility of hazardous reactions

Generates hydrogen gas in contact with metals. Reacts violently with bases. Hazardous polymerization will not occur.

### 10.4 Conditions to avoid

High temperatures, incompatible materials, exposure to moist air or water

### 10.5 Incompatible materials

Strong bases, caustics, alkalis aluminum, copper, mild steel, brass, bronze, iron and iron containing compounds

### 10.6 Hazardous decomposition products

Thermal decomposition products may include oxides of phosphorus, phosphine and hydrogen gas.

## SECTION 11 – TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute oral toxicity

LD<sub>50</sub>, rat: 1,530 mg/kg

#### Acute inhalation toxicity

LC<sub>50</sub>, rat: > 850 mg/m<sup>3</sup>

#### Acute dermal toxicity

LD<sub>50</sub>, rabbit: 2,740 mg/kg

**Skin irritation**

Causes severe skin irritation and burns.

**Eye irritation**

Causes serious eye damage. Risk of blindness!

**Sensitization**

No data available

**Genotoxicity in vitro**

No data available

**Mutagenicity**

No data available

**Specific organ toxicity - single exposure**

May cause respiratory irritation.

**Specific organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**11.2 Further information**

This product contains no substances present at levels greater than or equal to the 0.1% threshold (de minimis) that are identified as probable, possible, potential or confirmed carcinogens by ACGIH, IARC, NTP or OSHA. No data is available regarding the mutagenicity or teratogenicity of this product, nor is there any available data that indicates it causes adverse developmental or fertility effects.

Handle in accordance with good industrial hygiene and safety practice.

**SECTION 12 - ECOLOGICAL INFORMATION**

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**12.1 Toxicity**

Harmful to aquatic life. Large discharges or spills may decrease the pH of aquatic systems to a value < 2, which may be fatal to aquatic life and soil microorganisms. Inorganic phosphates have the potential to increase the growth of freshwater algae, whose eventual death will reduce the available oxygen for aquatic life.

**Toxicity to fish:** LC<sub>50</sub> - Lepomis macrochirus (Bluegill/Sunfish), 96 h static: pH 3.0 - 3.5

LC<sub>50</sub> - Gambusia affinis (Mosquito fish), 96 h: 138 mg/l

**Toxicity to aquatic invertebrates:** LC<sub>50</sub> - Daphnia magna (Water flea), 12 h static: pH 4.6

**Toxicity to bacteria:** EC<sub>50</sub> - Activated sludge: pH 2.55

**12.2 Persistence and degradability**

Inorganic substances are not biodegradable. Methods for the determination of biodegradability are not applicable to inorganic substances. While the acidity of this substance is readily reduced in natural waters, the resulting phosphate may persist indefinitely or incorporate into biological systems.

**12.3 Bioaccumulation potential**

This material will not bioaccumulate.

**12.4 Mobility in soil**

Under acidic soil conditions sparsely soluble phosphates tend to solubilize and may migrate to water.

**12.5 Results of PBT and vPvB assessment**

This material does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

**12.6 Other effects****Additional ecological information**

Do not allow material to run into surface waters, wastewater or soil.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

**SECTION 13 – DISPOSAL CONSIDERATIONS**

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**13.1 Waste treatment methods**

Methods of disposal: The generation of waste should be avoided or minimized whenever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

**RCRA F-Series:** No listings above the reportable threshold (de minimis)

**RCRA U-Series:** No listings above the reportable threshold (de minimis)

## SECTION 14 – TRANSPORTATION INFORMATION

**Note:** Transportation information provided is for reference only. Customer is urged to consult 49 CFR 100 - 177, IMDG, IATA, EC, United Nations TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

*Limited quantity for corrosive liquids Packing Group III when inner packagings are not over 5.0 liters (1.3 gallons) net capacity each, packed in a strong outer packaging.*

### USA DOT (Ground Transportation) - Bulk and Non-bulk

**Proper Shipping Name** Phosphoric acid, solution  
**Hazard Class** 8  
**UN/NA** UN1805  
**Packing Group** III  
**NEAREG** Guide #154  
**Packaging Authorization** Non-Bulk: 49 CFR 173.203; Bulk: 173.241  
**Packaging Exceptions** 49 CFR 173.154

**Drum Label(s)**



### IMO/IMDG (Water Transportation)

**Proper Shipping Name** Phosphoric acid, solution  
**Hazard Class** 8  
**UN/NA** UN1805  
**Packing Group** III  
**Marine Pollutant** No  
**EMS Number** F-E, S-B

### ICAO/IATA (Air Transportation)

**Proper Shipping Name** Phosphoric acid, solution  
**Hazard Class** 8  
**UN/NA** UN1805  
**Packing Group** III  
**Quantity Limitations** 49 CFR 175.27 and 175.75 - Cargo Aircraft Only: 60 l; Passenger Aircraft: 5 l

### RID/ADR (Rail Transportation)

**Proper Shipping Name** Phosphoric acid, solution  
**Hazard Class** 8  
**UN/NA** UN1805  
**Packing Group** III

## SECTION 15 - REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for substance or mixture

#### U. S. Federal Regulations

**OSHA Hazard Communication Standard:** This material is classified as hazardous in accordance with OSHA 29 CFR 1910-1200.

**OSHA Process Safety Management Standard:** This product is not regulated under OSHA PSM Standard 29 CFR 1910.119.

**EPA Risk Management Planning Standard:** This product is not regulated under EPA RMP Standard (RMP) 40 CFR Part 68.

**EPA Federal Insecticide, Fungicide and Rodenticide Act:** This product is not a registered Pesticide under the FIFRA, 40 CFR Part 150.

**Toxic Substance Control Act (TSCA) Inventory:** All substances in this product are listed on the TSCA Inventory. This product is not subject to TSCA 12(b) Export Notification.

**Drug Enforcement Administration (DEA) List 2, Essential Chemicals (21 CFR 1310.02(b)) and 1310.4(f)(2)) and Chemical Code Number:** Not listed

**Drug Enforcement Administration (DEA) Lists 1 & 2, Exempt Chemical Mixtures (21 CFR 1310.12(c)) and Code Number:** Not listed

**Department of Homeland Security (DHS) Chemical Facility Anti-Terrorism Standards (CFATS) Chemicals:** Not listed

#### **Superfund Amendments and Reauthorization Act (SARA)**

**SARA Section 311/312 Hazard Categories:** Harmful if swallowed Causes severe skin burns and eye damage

**SARA 313 Information:** None of the components of the product exceed the threshold (de minimis) reporting requirements of Section 313 of the Emergency Planning and Community Right-to Know Act of 1986.

**SARA 302/304 Extremely Hazardous Substance:** None of the components of the product exceed the threshold (de minimis) reporting levels of established by these sections of Title III of SARA.

**SARA 302/304 Emergency Planning & Notification:** None of the components of the product exceed the threshold (de minimis) reporting levels established by of these sections of Title III of SARA.

**Comprehensive Response Compensation and Liability Act (CERCLA):** This product contains the following CERCLA reportable substance: Phosphoric Acid (CAS #7664-38-2): RQ = 2,267.96 kg (5,000 lbs)

### Clean Air Act (CAA)

This product does not contain Hazardous Air Pollutants (HAPs) designated in CAA Section 112 (b).

This product does not contain Class 1 Ozone depleters.

This product does not contain Class 2 Ozone depleters.

### Clean Water Act (CWA)

Phosphoric Acid (CAS #7664-38-2) is a Hazardous Substance under the CWA.

This product does not contain Priority Pollutants.

This product does not contain Toxic Pollutants.

### U.S. State Regulations

#### California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986

This product contains no chemical(s) known to the state of California to cause cancer birth defects or reproductive harm in concentrations that exceed the threshold (de minimis) reporting levels established under Proposition 65.

#### Other U.S. State Inventories

Phosphoric Acid (CAS #7664-38-2) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists: CA, DE, ID, MA, MN, NJ, NY, PA, RI, WA, WI.

### Canada

#### WHMIS Hazard Classification

Causes severe skin burns and eye damage

Canadian National Pollutant Release Inventory (NPRI): None of the components of this material are listed on the NPRI.

### European Economic Community

WGK, Germany (Water danger/protection): 1 (low hazard to waters)

### Global Chemical Inventory Lists

| Country       | Inventory Name   | Listed |
|---------------|--|--------|
| Canada        | Domestic Substance List (DSL)                                      | Yes    |
| Canada        | Non-Domestic Substance List (NDSL)                                 | No     |
| Europe        | Inventory of New and Existing Chemicals (EINECS)                   | Yes    |
| United States | Toxic Substance Control Act (TSCA)                                 | Yes    |
| Australia     | Australian Inventory of Chemical Substances (AICS)                 | Yes    |
| New Zealand   | New Zealand Inventory of Chemicals (NZIoC)                         | Yes    |
| China         | Inventory of Existing Chemical Substances in China (IECSC)         | Yes    |
| Japan         | Inventory of Existing and New Chemical Substances (ENCS)           | Yes    |
| Korea         | Existing Chemicals List (KECI)                                     | Yes    |
| Philippines   | Philippines Inventory of Chemicals and Chemical Substances (PICCS) | Yes    |

\*Yes - All components of this product comply with the inventory requirements administered by the governing country.

No - One or more components of this product are not on the inventory or are exempt from listing.

## 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

## SECTION 16 - OTHER INFORMATION

### Hazardous Material Information System (HMIS)

|                     |   |
|---------------------|---|
| HEALTH              | 3 |
| FLAMMABILITY        | 0 |
| PHYSICAL HAZARD     | 0 |
| PERSONAL PROTECTION | C |

C = safety glasses, gloves and an apron

#### HMIS Hazard Rating Legend

0 = Minimal 1 = Slight 2 = Moderate

3 = Serious 4 = Severe

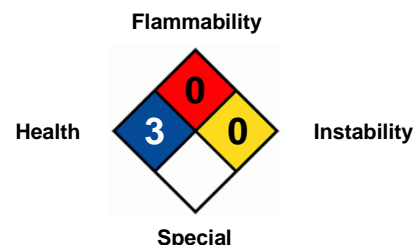
\* = Chronic Health Hazard

#### NFPA Hazard Rating Legend

0 = Insignificant 1 = Slight 2 = Moderate

3 = High 4 = Extreme

### National Fire Protection Association (NFPA)



### Abbreviation Key

|                  |   |                  |   |
|------------------|---|------------------|---|
| ACGIH            | American Conference of Governmental Industrial Hygienists   | LD <sub>50</sub> | Lowest Lethal Dose                                  |
| ADR              | Accord Dangereux Routier (European regulations concerning the international transport of dangerous goods by road) | mppcf            | Millions of Particles Per Cubic Foot                |
| CAS              | Chemical Abstract Services  | NA               | North America                                       |
| CFR              | Code of Federal Regulations   | NAERG            | North American Emergency Response Guide Book        |
| COC              | Cleveland Open Cup  | NIOSH            | National Institute for Occupational Safety & Health |
| DOT              | Department of Transportation  | NTP              | National Toxicology Program                         |
| EC <sub>50</sub> | Half maximal effective concentration  | OSHA             | Occupational Safety and Health Administration       |
| EMS              | Emergency Response Procedures for Ships Carrying  | PBT              | Persistent, Bioaccumulating and Toxic               |

|                         |   |                |  |
|-------------------------|---|----------------|--|
| <b>EPA</b>              | Environmental Protection Agency   | <b>PEL</b>     | Permissible exposure limit                       |
| <b>ErC<sub>50</sub></b> | Reduction of Growth Rate  | <b>PMCC</b>    | Pensky-Martens Closed Cup                        |
| <b>ERG</b>              | Emergency Response Guide Book   | <b>ppm</b>     | Parts Per Million                                |
| <b>FDA</b>              | Food and Drug Administration  | <b>RCRA</b>    | Resource Conservation and Recovery Act           |
| <b>GHS</b>              | Globally Harmonized System of Classification and Labelling of Chemicals (GHS) | <b>RID</b>     | Dangerous Goods by Rail                          |
| <b>HCS</b>              | Hazard Communication Standard   | <b>RQ</b>      | Reportable Quantity                              |
| <b>IARC</b>             | International Agency for Research on Cancer                                   | <b>TCC/Tag</b> | Tagliabue Closed Cup                             |
| <b>IATA</b>             | International Air Transport Association                                       | <b>TLV</b>     | Threshold Limit Value                            |
| <b>IC<sub>50</sub></b>  | Half Maximal Inhibitory Concentration   | <b>TSCA</b>    | Toxic Substance Control Act                      |
| <b>ICAO</b>             | International Civil Aviation Organization                                     | <b>TWA</b>     | Time-weighted Average                            |
| <b>IDLH</b>             | Immediately Dangerous to Life and Health                                      | <b>UN</b>      | United Nations                                   |
| <b>IMDG</b>             | International Maritime Dangerous Goods  | <b>VOC</b>     | Volatile Organic Compounds                       |
| <b>IMO</b>              | International Maritime Organization   | <b>vPvB</b>    | Very Persistent and Very Bioaccumulating         |
| <b>LC<sub>50</sub></b>  | 50% Lethal Concentration  | <b>WHMIS</b>   | Workplace Hazardous Materials Information System |
| <b>LD<sub>50</sub></b>  | 50% Lethal Dose   |                |  |

#### **DISCLAIMER OF RESPONSIBILITY**

The information on this SDS was obtained from sources which we believe are reliable. However, the information is provided 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 substance itself. 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 damage or expense arising out of or in any way responsibility and expressly disclaim liability for loss, connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this SDS information may not be applicable.

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