# SAFETY DATA SHEET

# Dilute Sulfuric Acid 60-80%

| Version | Revision Date: | SDS Number: | Date of last issue: 10-04-2017 |
|---|---|---|---|
| 4.0 | 05-24-2021 | 10000001227 | Date of first issue: 05-24-2021 |

Olin Corporation (OCAP) 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.

## SECTION 1. IDENTIFICATION

Product name : Dilute Sulfuric Acid 60-80%
Other means of identification : No data available

**Manufacturer or supplier's details**

Company name of supplier : Olin Corporation (OCAP)
Address : 190 Carondelet Plaza, Suite 1530
Clayton MO 63105
Telephone : (423) 336-4850
E-mail address : INFO@OLIN.COM
Local Emergency Contact : +1 800-567-7455
Identified uses : Aluminum production.
Matting agent
Neutralizing agent.
Industrial use as intermediate.
Intermediate in manufacture of inorganic and organic chemicals including fertilizers

## SECTION 2. HAZARDS IDENTIFICATION

**GHS classification in accordance with the Hazardous Products Regulations**

Corrosive to metals : Category 1

Skin corrosion : Category 1A

Serious eye damage : Category 1

**GHS label elements**

Hazard pictograms :

Signal word : Danger

Hazard statements : May be corrosive to metals.
Causes severe skin burns and eye damage.

Precautionary statements :

**Prevention:**

P234 Keep only in original packaging.
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): Take off immediately all contaminated clothing. Rinse skin with water.
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.
P363 Wash contaminated clothing before reuse.
P390 Absorb spillage to prevent material damage.

**Storage:**

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

Substance / Mixture : Mixture

**Components**

| Chemical name | CAS-No. | Concentration (% w/w) |
|---|---|---|
| Sulfuric acid | 7664-93-9 | >= 60 - <= 80 |
| Water | 7732-18-5 | >= 20 - <= 40 |

## SECTION 4. FIRST AID MEASURES

If inhaled : 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.

In case of 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.

In case of 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.

If swallowed : 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), any additional important symptoms and effects are described in Section 11: Toxicology Information. |
| Protection of first-aiders | : | First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection).<br>If potential for exposure exists refer to Section 8 for specific personal protective equipment. |
| Notes to physician | : | Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist.<br>Maintain adequate ventilation and oxygenation of the patient.<br>May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help.<br>Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress.<br>Repeated exposure to acid fumes or mists may be associated with bleeding, ulceration of nose, mouth and gums and erosion of dental enamel.<br>If burn is present, treat as any thermal burn, after decontamination.<br>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.<br>No specific antidote.<br>Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.<br>Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome). |

## SECTION 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. |
| Specific hazards during firefighting | : | Product reacts with water. Reaction may produce heat and/or gases.<br>This reaction may be violent.<br>Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. |
| Hazardous combustion products | : | Fire conditions may cause this product to decompose. Refer to section 10 - Thermal Decomposition. |
| Further information | : | Keep people away. Isolate fire and deny unnecessary entry.<br>Water is not recommended, but may be applied in large quantities as a fine spray when other extinguishing agents are not |

| | | |
|---|---|---|
| | | available.<br>This material does not burn. Fight fire for other material that is burning.<br>Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage.<br>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).<br>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.<br>For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections. |

## SECTION 6. ACCIDENTAL RELEASE MEASURES

| | | |
|---|---|---|
| Personal precautions, protective equipment and emergency procedures | : | Evacuate area.<br>Keep upwind of spill.<br>Spilled material may cause a slipping hazard.<br>Ventilate area of leak or spill.<br>Only trained and properly protected personnel must be involved in clean-up operations.<br>Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.<br>Refer to section 7, Handling, for additional precautionary measures. |
| 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:<br>Dilute with large quantities of water.<br>Large spills:<br>Contain spilled material if possible.<br>Attempt to neutralize by adding materials such as<br>Soda ash.<br>Lime.<br>See Section 13, Disposal Considerations, for additional information. |

## SECTION 7. HANDLING AND STORAGE

| | | |
|---|---|---|
| Advice on safe handling | : | Do not get in eyes, on skin, on clothing.<br>Do not swallow.<br>Avoid breathing vapor or mist.<br>Keep container closed.<br>Use with adequate ventilation.<br>Wash thoroughly after handling.<br>See Section 8, EXPOSURE CONTROLS AND PERSONAL |

PROTECTION.

Conditions for safe storage : Store away from incompatible materials. See STABILITY AND REACTIVITY section.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Components with workplace control parameters**

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|---|---|---|---|---|
| Sulfuric acid | 7664-93-9 | TWA | 1 mg/m3 | CA AB OEL |
| | | STEL | 3 mg/m3 | CA AB OEL |
| | | TWA (Thoracic) | 0.2 mg/m3 | CA BC OEL |
| | | TWAEV | 1 mg/m3 | CA QC OEL |
| | | STEV | 3 mg/m3 | CA QC OEL |
| | | TWA (Thoracic particulate matter) | 0.2 mg/m3 | ACGIH |

**Engineering measures** : 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.

**Personal protective equipment**

Filter type : The following should be effective types of air-purifying respirators:Acid gas cartridge with particulate pre-filter.

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.

Hand protection

Remarks : Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Viton. Polyethylene. Styrene/butadiene rubber. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Neoprene. Natural rubber ("latex"). Polyvinyl chloride ("PVC" or "vinyl"). 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 instruc-

tions/specifications provided by the glove supplier.

Eye protection : Use chemical goggles.
If exposure causes eye discomfort, use a full-face respirator.

Skin and body 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.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| Appearance | : | Liquid. |
| Colour | : | Colorless to amber |
| Odour | : | pungent |
| Odour Threshold | : | Not available |
| pH | : | < 1 (25 °C) |
| Freezing point | : | -26.11 °C |
| Melting point/range | | -26.11 °C |
| Boiling point/boiling range | : | 176.67 °C |
| Flash point | : | Method: closed cup<br>Not available |
| Evaporation rate | : | Not available |
| Flammability (solid, gas) | : | No data available |
| Self-ignition | : | The substance or mixture is not classified as pyrophoric. |
| Upper explosion limit / Upper flammability limit | : | Not applicable |
| Lower explosion limit / Lower flammability limit | : | Not available |
| Vapour pressure | : | < 1 mmHg<br>Not available |
| Relative vapour density | : | 3.4<br>Not available |
| Relative density | : | > 1.67 |
| Solubility(ies) | | |
| Water solubility | : | not determined |
| Partition coefficient: n-octanol/water | : | Partitioning from water to n-octanol is not applicable. |
| Auto-ignition temperature | : | Not available |

| | | |
|---|---|---|
| Decomposition temperature | : | No data available |
| Viscosity | | |
| Viscosity, dynamic | : | No data available |
| Viscosity, kinematic | : | No data available |
| Explosive properties | : | No test data available |
| Oxidizing properties | : | No data available |
| Molecular weight | : | 98.08 g/mol |

*Note: These are the Reference Points for these Physical Properties listed above, unless otherwise noted in their respective Physical Property value information: Boiling Point at 760 mmHg; Evaporation Rate Butyl Acetate = 1; Relative Vapor Density Air = 1; and Relative Density Water = 1.*
NOTE: The physical data presented above are typical values and should not be construed as a specification.

## SECTION 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 | : | Avoid temperatures above 140°C (284°F)<br>Exposure to elevated temperatures can cause product to decompose.<br>Avoid moisture. |
| Incompatible materials | : | Heat is generated when mixed with water. Spattering and boiling can occur.<br>Avoid contact with strong bases.<br>Avoid contact with:<br>Acids.<br>Alcohols.<br>Bases.<br>Combustible materials.<br>Glycols.<br>Hydrochloric acid.<br>Nitrates.<br>Organic compounds.<br>Oxidizers.<br>Reducing agents.<br>Contact with common metals can generate flammable hydrogen gas.<br>Avoid contact with absorbent materials such as:<br>Moist organic absorbents. |
| Hazardous decomposition products | : | Decomposition products can include and are not limited to:<br>Acrid fumes.<br>Sulfur oxides.<br>Toxic gases are released during decomposition. |

## SECTION 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

**Product:**

Acute oral toxicity : Remarks: Low toxicity if swallowed.
Swallowing may result in burns of the mouth and throat.
May be more toxic to humans than in animals.

LD50 (Rat, male and female): 2,140 mg/kg

Acute inhalation toxicity : Remarks: Excessive exposure may cause severe irritation to upper respiratory tract (nose and throat) and lungs.
Excessive exposure may cause lung injury.
For narcotic effects:
No relevant data found.

Acute dermal toxicity : Remarks: Absorption has not been determined due to corrosivity.

Remarks: The dermal LD50 has not been determined.

**Components:**

**Sulfuric acid:**

Acute oral toxicity : LD50 (Rat): 2,140 mg/kg
Remarks: May be more toxic to humans than in animals.

Acute inhalation toxicity : LC50 (Rat, male and female): 0.375 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : Remarks: The dermal LD50 has not been determined.

### Skin corrosion/irritation

**Product:**

Result : Causes severe burns.
Remarks : Brief contact may cause severe skin burns. Symptoms may include pain, severe local redness and tissue damage.

Remarks : Classified as corrosive to the skin according to DOT guidelines.

**Components:**

**Sulfuric acid:**

Result : Causes severe burns.
Remarks : Brief contact may cause severe skin burns. Symptoms may include pain, severe local redness and tissue damage.

Remarks : Classified as corrosive to the skin according to DOT guidelines.

**Serious eye damage/eye irritation**

**Product:**

Result : Corrosive
Remarks : May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.
Vapor may cause eye irritation experienced as mild discomfort and redness.

**Components:**

**Sulfuric acid:**

Result : Corrosive
Remarks : May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.
Vapor may cause eye irritation experienced as mild discomfort and redness.

**Respiratory or skin sensitisation**

**Product:**

Remarks : For skin sensitization:
No relevant data found.

Remarks : For respiratory sensitization:
No relevant data found.

**Components:**

**Sulfuric acid:**

Remarks : For skin sensitization:
No relevant data found.

Remarks : For respiratory sensitization:
No relevant data found.

**Germ cell mutagenicity**

**Product:**

Genotoxicity in vitro : Remarks: No data available for assessment due to technical difficulties with testing.

**Components:**

**Sulfuric acid:**

Genotoxicity in vitro : Remarks: No data available for assessment due to technical difficulties with testing.

**Carcinogenicity**

**Product:**

Remarks : Animal testing did not show any carcinogenic effects.

Remarks : IARC has classified 'Occupational exposure to strong-inorganic-acid mists containing sulfuric acid' as 'carcinogenic to humans (Group 1)'.

**Components:**

**Sulfuric acid:**

Remarks : IARC has classified 'Occupational exposure to strong-inorganic-acid mists containing sulfuric acid' as 'carcinogenic to humans (Group 1)'.

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

**Reproductive toxicity**

**Product:**

Effects on fertility : Remarks: No relevant data found.

Effects on foetal development : Remarks: Did not cause birth defects or any other fetal effects in laboratory animals.

**Components:**

**Sulfuric acid:**

Effects on fertility : Remarks: No relevant data found.

Effects on foetal development : Remarks: Did not cause birth defects or any other fetal effects in laboratory animals.

**STOT - single exposure**

**Product:**

Assessment : Material is corrosive. Material is not classified as a respiratory irritant; however, upper respiratory tract irritation or corrosivity may be expected.

**Components:**

**Sulfuric acid:**

Assessment : Material is corrosive. Material is not classified as a respiratory irritant; however, upper respiratory tract irritation or corrosivity may be expected.

**Repeated dose toxicity**

**Product:**

Remarks : Repeated exposure of workers to sulfuric acid mist may cause characteristic dental changes and chronic inflammation of the eye, mouth, skin and upper respiratory tract, and lung effects.

**Components:**

**Sulfuric acid:**

Remarks : Repeated exposure of workers to sulfuric acid mist may cause characteristic dental changes and chronic inflammation of the eye, mouth, skin and upper respiratory tract, and lung effects.

**Aspiration toxicity**

**Product:**

Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

**Components:**

**Sulfuric acid:**

Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

## SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

**Product:**

Toxicity to fish :

Remarks: Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).
May decrease pH of aquatic systems to < pH 5 which may be toxic to aquatic organisms.

LC50 (Lepomis macrochirus (Bluegill sunfish)): 49 mg/l
Exposure time: 48 h
Test Type: static test
Method: Method Not Specified.

LC50 (Lepomis macrochirus (Bluegill sunfish)): 16 - 28 mg/l
Exposure time: 96 h
Method: Method Not Specified.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
Remarks: No data available

| | | |
|---|---|---|
| Toxicity to algae/aquatic plants | : | EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l<br>End point: Growth rate inhibition<br>Exposure time: 72 h<br>Test Type: Static |
| Toxicity to microorganisms | : | (activated sludge): > 10 mg/l<br>End point: Respiration rates.<br>Exposure time: 3 h<br>Test Type: static test<br>Method: OECD Test Guideline 209 |

**Ecotoxicology Assessment**

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

**Components:**

**Sulfuric acid:**

Toxicity to fish : Remarks: Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).
May decrease pH of aquatic systems to < pH 5 which may be toxic to aquatic organisms.

LC50 (Lepomis macrochirus (Bluegill sunfish)): 49 mg/l
Exposure time: 48 h
Test Type: static test
Method: Method Not Specified.

LC50 (Lepomis macrochirus (Bluegill sunfish)): 16 - 28 mg/l
Exposure time: 96 h
Method: Method Not Specified.

| | | |
|---|---|---|
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): > 100 mg/l<br>Exposure time: 48 h<br>Test Type: Static<br>Method: OECD Test Guideline 202 |
| Toxicity to algae/aquatic plants | : | EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l<br>End point: Growth rate inhibition<br>Exposure time: 72 h<br>Test Type: Static |
| Toxicity to microorganisms | : | (activated sludge): > 10 mg/l<br>End point: Respiration rates.<br>Exposure time: 3 h<br>Test Type: static test<br>Method: OECD Test Guideline 209 |

**Ecotoxicology Assessment**

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

**Persistence and degradability**

**Product:**

Biodegradability : Remarks: No relevant data found.

**Bioaccumulative potential**

**Components:**

**Sulfuric acid:**

Partition coefficient: n-octanol/water : Remarks: Partitioning from water to n-octanol is not applicable.

**Mobility in soil**

**Product:**

Distribution among environmental compartments : Remarks: Potential for mobility in soil is very high (Koc between 0 and 50).

**Other adverse effects**

No data available

## SECTION 13. DISPOSAL CONSIDERATIONS

**Disposal methods**

Waste from residues : 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.
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.
DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER.

## SECTION 14. TRANSPORT INFORMATION

**International Regulations**

**UNRTDG**

| | | |
|---|---|---|
| UN number | : | UN 1830 |
| Proper shipping name | : | SULPHURIC ACID |
| Class | : | 8 |
| Packing group | : | II |
| Labels | : | 8 |

**IATA-DGR**

| | | |
|---|---|---|
| UN/ID No. | : | UN 1830 |
| Proper shipping name | : | Sulphuric acid |
| Class | : | 8 |
| Packing group | : | II |
| Labels | : | Corrosive |
| Packing instruction (cargo aircraft) | : | 855 |
| Packing instruction (passenger aircraft) | : | 851 |

**IMDG-Code**

| | | |
|---|---|---|
| UN number | : | UN 1830 |
| Proper shipping name | : | SULPHURIC ACID |
| Class | : | 8 |
| Packing group | : | II |
| Labels | : | 8 |
| EmS Code | : | F-A, S-B |
| Marine pollutant | : | no |
| Remarks | : | Stowage category CAcids |

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

**National Regulations**

**TDG**

| | | |
|---|---|---|
| UN number | : | UN 1830 |
| Proper shipping name | : | SULFURIC ACID |
| Class | : | 8 |
| Packing group | : | II |
| Labels | : | 8 |
| ERG Code | : | 137 |
| Marine pollutant | : | no |
| Remarks | : | Terrapure Env#+1800-567-7455 # ERAP 2-1502 |

**Special precautions for user**

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

## SECTION 15. REGULATORY INFORMATION

**NPRI Components** : Sulfuric acid

**International Regulations**

| | | |
|---|---|---|
| Montreal Protocol (Ozone Depleting Substances) | : | Not applicable |
| Rotterdam Convention (Prior Informed Consent) | : | Not applicable |
| Stockholm Convention (Persistent Organic Pollutants) | : | Not applicable |

**The components of this product are reported in the following inventories:**

| | | |
|---|---|---|
| TCSI | : | All intentional components are listed on the inventory, are exempt, or are supplier certified. |
| TSCA | : | All substances listed as active on the TSCA Inventory or are |

not required to be listed.

| | | |
|---|---|---|
| AICS | : | All intentional components are listed on the inventory, are exempt, or are supplier certified. |
| DSL | : | All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed. |
| ENCS | : | All intentional components are listed on the inventory, are exempt, or are supplier certified. |
| ISHL | : | All intentional components are listed on the inventory, are exempt, or are supplier certified. |
| KECI | : | All intentional components are listed on the inventory, are exempt, or are supplier certified. |
| PICCS | : | All intentional components are listed on the inventory, are exempt, or are supplier certified. |
| IECSC | : | All intentional components are listed on the inventory, are exempt, or are supplier certified. |
| NZIoC | : | All intentional components are listed on the inventory, are exempt, or are supplier certified. |
| CH INV | : | All intentional components are listed on the inventory, are exempt, or are supplier certified. |

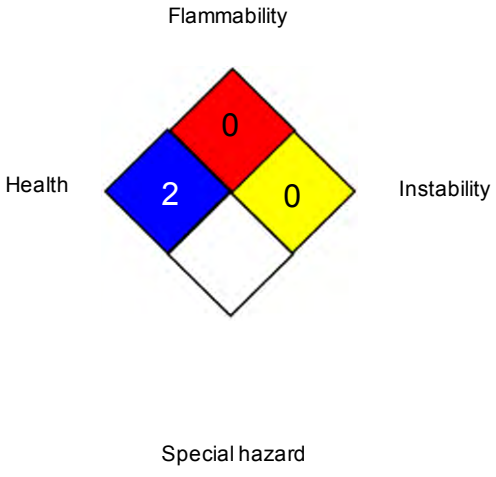
**Canadian lists**

No substances are subject to a Significant New Activity Notification.

## SECTION 16. OTHER INFORMATION

**Further information**

**NFPA 704:**




**Full text of other abbreviations**

| | | |
|---|---|---|
| ACGIH | : | USA. ACGIH Threshold Limit Values (TLV) |
| CA AB OEL | : | Canada. Alberta, Occupational Health and Safety Code (table 2: OEL) |
| CA BC OEL | : | Canada. British Columbia OEL |

| | | |
|---|---|---|
| CA QC OEL | : | Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants |
| ACGIH / TWA | : | 8-hour, time-weighted average |
| CA AB OEL / TWA | : | 8-hour Occupational exposure limit |
| CA AB OEL / STEL | : | 15-minute occupational exposure limit |
| CA BC OEL / TWA | : | 8-hour time weighted average |
| CA QC OEL / TWAEV | : | Time-weighted average exposure value |
| CA QC OEL / STEV | : | Short-term exposure value |

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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