



SAFETY DATA SHEET

THE DOW CHEMICAL COMPANY

Product name: Ethoxypolyglycol

Issue Date: 02/08/2022

Print Date: 02/10/2022

THE DOW CHEMICAL COMPANY 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: Ethoxypolyglycol

Recommended use of the chemical and restrictions on use

Identified uses: Formulation & (re)packing of substances and mixtures, industrial Distribution of substance, industrial Functional Fluids, industrial Functional Fluids, professional

Distributor

Silver Fern Chemical, Inc.
2226 Queen Anne Ave N.
Seattle, WA 98109

Customer Service:

Phone: 866-282-3376
Fax: 206-282-0105
email: info@silverfernchemical.com
website: www.silverfernchemical.com

EMERGENCY TELEPHONE NUMBER

Infotrac

1-800-535-5053 (USA & Canada)
Outside USA & Canada 1-352-323-3500

2. HAZARDS IDENTIFICATION

Hazard classification

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin irritation - Category 2

Eye irritation - Category 2A

Label elements

Hazard pictograms



Signal word: **WARNING!**

Hazards

Causes skin irritation.

Causes serious eye irritation.

Precautionary statements**Prevention**

Wash skin thoroughly after handling.

Wear protective gloves/ eye protection/ face protection.

Response

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

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

If skin irritation occurs: Get medical advice/ attention.

If eye irritation persists: Get medical advice/ attention.

Take off contaminated clothing and wash before reuse.

Other hazards

No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: Glycol ether

This product is a substance.

Component	CASRN	Concentration
Tetraethylene glycol monoethyl ether	5650-20-4	< 80.0 %
Triethylene glycol monoethyl ether	112-50-5	< 30.0 %
Potassium Oleate	143-18-0	< 15.0 %
Potassium hydroxide	1310-58-3	< 2.0 %

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 and keep comfortable for breathing; consult a physician.

Skin contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing. Seek medical attention if symptoms occur or irritation persists. Wash clothing before reuse. Suitable emergency safety shower facility should be immediately available.

Eye contact: Wash eyes immediately and continuously with water for 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Seek medical attention immediately, preferably from an ophthalmologist. Wash eyes en route if possible. 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: Repeated excessive exposure may aggravate preexisting lung disease. May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. Eye irrigation may be necessary for an extended period of time to remove as much caustic as possible. Duration of irrigation and treatment is at the discretion of medical personnel. If burn is present, treat as any thermal burn, after decontamination. Due to irritant properties, swallowing may result in burns and/or ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal or 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.

5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media: Water fog or fine spray.. Dry chemical fire extinguishers.. Carbon dioxide fire extinguishers.. Foam.. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective..

Unsuitable extinguishing media: Do not use direct water stream.. May spread fire..

Special hazards arising from the substance or mixture

Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating.. Combustion products may include and are not limited to:. Carbon monoxide.. Carbon dioxide..

Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation.. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids..

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry.. Use water spray to cool fire exposed containers and fire affected zone until fire is out and

danger of reignition has passed.. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles.. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container.. Burning liquids may be extinguished by dilution with water.. Do not use direct water stream. May spread fire.. Move container from fire area if this is possible without hazard.. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage..

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, see Section 8 of the safety data sheet..

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Evacuate area. Only trained and properly protected personnel must be involved in clean-up operations. Keep upwind of spill. Ventilate area of leak or spill. Refer to section 7, Handling, for additional precautionary measures. 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: Absorb with materials such as: Sand. Vermiculite. Collect in suitable and properly labeled containers. Large spills: Contain spilled material if possible. Pump into suitable and properly labeled containers. 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. Avoid breathing vapor or mist. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION. Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

Conditions for safe storage: Store in the following material(s): Carbon steel. Stainless steel. Phenolic lined steel drums. Do not store in: Aluminum. Copper. Galvanized iron. Galvanized steel.

Storage stability

Shelf life: Use within 24 Month

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value
Potassium hydroxide	ACGIH	C	2 mg/m ³

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.

Skin protection

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). 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: 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, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. In misty atmospheres, use an approved particulate respirator. 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	Liquid.
Color	Yellow
Odor	Ether
Odor Threshold	No test data available
pH	10.9 <i>Literature</i>
Melting point/range	Not applicable
Freezing point	-35 °C (-31 °F) <i>Literature</i>
Boiling point (760 mmHg)	315 °C (599 °F) <i>Literature</i> 599 °F (599 °F)

Flash point	closed cup >110 °C (230 °F) <i>Setaflash Closed Cup ASTM D3828</i>
Evaporation Rate (Butyl Acetate = 1)	<i>No test data available</i>
Flammability (solid, gas)	Not applicable to liquids
Flammability (liquids)	Not expected to be a static-accumulating flammable liquid.
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapor Pressure	< 0.01 mmHg at 25 °C (77 °F) <i>Literature</i>
Relative Vapor Density (air = 1)	No test data available
Relative Density (water = 1)	1.025 <i>Literature</i>
Water solubility	> 1,000 g/L <i>Literature</i>
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No test data available
Decomposition temperature	No test data available
Kinematic Viscosity	No test data available
Explosive properties	No
Oxidizing properties	No test data available
Liquid Density	1.0406 g/cm ³ <i>Literature</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: Thermally stable at typical use temperatures.

Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: Do not distill to dryness. Product can oxidize at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.

Incompatible materials: Avoid contact with: Strong acids. Strong bases. Strong oxidizers.

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:.. Aldehydes.. Ketones.. Organic acids..

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity (represents short term exposures with immediate effects - no chronic/delayed effects known unless otherwise noted)

Acute oral toxicity

Information for the Product:

Low toxicity if swallowed. Swallowing may result in burns of the mouth and throat. Swallowing may result in gastrointestinal irritation or ulceration. As product: Single dose oral LD50 has not been determined.

Information for components:

Tetraethylene glycol monoethyl ether

Single dose oral LD50 has not been determined.

Triethylene glycol monoethyl ether

LD50, Rat, male, 10,610 mg/kg

Potassium Oleate

LD50, Rat, > 5,000 mg/kg

Potassium hydroxide

LD50, Rat, male, 333 mg/kg

Acute dermal toxicity

Information for the Product:

Prolonged skin contact is unlikely to result in absorption of harmful amounts. As product: The dermal LD50 has not been determined.

Information for components:

Tetraethylene glycol monoethyl ether

The dermal LD50 has not been determined.

Triethylene glycol monoethyl ether

LD50, Rabbit, 8,200 mg/kg

Potassium Oleate

LD50, Rat, > 2,000 mg/kg

Potassium hydroxide

The dermal LD50 has not been determined.

Acute inhalation toxicity

Information for the Product:

At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous. Mist may cause irritation of upper respiratory tract (nose and throat) and lungs.

As product: The LC50 has not been determined.

Information for components:

Tetraethylene glycol monoethyl ether

The LC50 has not been determined.

Triethylene glycol monoethyl ether

LC50, Rat, 1 Hour, Vapour, > 200 mg/l No deaths occurred at this concentration.

Potassium Oleate

LC50, Rat, dust/mist, 5.61 mg/l

Potassium hydroxide

The LC50 has not been determined.

Skin corrosion/irritation

Information for the Product:

Based on information for component(s):

Brief contact may cause moderate skin irritation with local redness.

Prolonged exposure may cause skin burns.

Information for components:

Tetraethylene glycol monoethyl ether

Brief contact may cause slight skin irritation with local redness.

Triethylene glycol monoethyl ether

Essentially nonirritating to skin.

Potassium Oleate

Brief contact may cause moderate skin irritation with local redness.

Potassium hydroxide

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

Effects may be delayed.

Serious eye damage/eye irritation

Information for the Product:

Based on information for component(s):

Due to the pH of the material, it is assumed that exposure may cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness.

Information for components:

Tetraethylene glycol monoethyl ether

May cause slight eye irritation.

Corneal injury is unlikely.

Triethylene glycol monoethyl ether

May cause slight temporary eye irritation.
May cause slight temporary corneal injury.

Potassium Oleate

May cause eye irritation.

Potassium hydroxide

May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.
Dust or mist may cause eye irritation and corneal injury.
Effects may be delayed.

Sensitization

Information for the Product:

For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant data found.

Information for components:

Tetraethylene glycol monoethyl ether

For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant data found.

Triethylene glycol monoethyl ether

For similar material(s):
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Potassium Oleate

For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant data found.

Potassium hydroxide

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Information for the Product:

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Information for components:

Tetraethylene glycol monoethyl ether

Available data are inadequate to determine single exposure specific target organ toxicity.

Triethylene glycol monoethyl ether

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Potassium Oleate

May cause respiratory irritation.

Route of Exposure: Inhalation

Target Organs: Respiratory Tract

Potassium hydroxide

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

Aspiration Hazard

Information for the Product:

Based on available information, aspiration hazard could not be determined.

Information for components:

Tetraethylene glycol monoethyl ether

Based on available information, aspiration hazard could not be determined.

Triethylene glycol monoethyl ether

Based on physical properties, not likely to be an aspiration hazard.

Potassium Oleate

Based on physical properties, not likely to be an aspiration hazard.

Potassium hydroxide

Aspiration into the respiratory system may occur during ingestion or vomiting. Due to corrosivity, tissue damage or lung injury may occur.

Chronic toxicity (represents longer term exposures with repeated dose resulting in chronic/delayed effects - no immediate effects known unless otherwise noted)

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Information for the Product:

Excessive exposure may cause severe irritation to upper respiratory tract (nose and throat) and lungs.

Information for components:

Tetraethylene glycol monoethyl ether

No relevant data found.

Triethylene glycol monoethyl ether

In animals, effects have been reported on the following organs:
Liver.

Potassium Oleate

No relevant data found.

Potassium hydroxide

Excessive exposure may cause severe irritation to upper respiratory tract (nose and throat) and lungs.

Carcinogenicity

Information for the Product:

No relevant data found.

Information for components:

Tetraethylene glycol monoethyl ether

No relevant data found.

Triethylene glycol monoethyl ether

No relevant data found.

Potassium Oleate

No relevant data found.

Potassium hydroxide

No relevant data found.

Teratogenicity

Information for the Product:

No relevant data found.

Information for components:

Tetraethylene glycol monoethyl ether

No relevant data found.

Triethylene glycol monoethyl ether

For similar material(s): Did not cause birth defects in laboratory animals.

Potassium Oleate

No relevant data found.

Potassium hydroxide

No relevant data found.

Reproductive toxicity

Information for the Product:

No relevant data found.

Information for components:

Tetraethylene glycol monoethyl ether

No relevant data found.

Triethylene glycol monoethyl ether

In animal studies, a similar material has been shown not to interfere with reproduction.

Potassium Oleate

No relevant data found.

Potassium hydroxide

No relevant data found.

Mutagenicity

Information for the Product:

No relevant data found.

Information for components:

Tetraethylene glycol monoethyl ether

No relevant data found.

Triethylene glycol monoethyl ether

Based on information for a similar material: In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Potassium Oleate

In vitro genetic toxicity studies were negative.

Potassium hydroxide

In vitro mutagenicity studies were negative.

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity

Tetraethylene glycol monoethyl ether

Acute toxicity to fish

No relevant data found.

Triethylene glycol monoethyl ether

Acute toxicity to fish

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).

LC50, Pimephales promelas (fathead minnow), static test, 96 Hour, > 10,000 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

LC50, Daphnia magna (Water flea), static test, 48 Hour, > 10,000 mg/l, OECD Test Guideline 202 or Equivalent

Toxicity to bacteria

EC50, Bacteria, static test, 16 Hour, > 10,000 mg/l

Potassium Oleate**Acute toxicity to fish**

Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

LC50, Lepomis macrochirus (Bluegill sunfish), 96 Hour, 23 mg/l

Acute toxicity to aquatic invertebrates

EC50, Daphnia pulex (Water flea), 48 Hour, 0.57 mg/l

Potassium hydroxide**Acute toxicity to fish**

May increase pH of aquatic systems to > pH 10 which may be toxic to aquatic organisms.

Persistence and degradability**Tetraethylene glycol monoethyl ether**

Biodegradability: No relevant data found.

Triethylene glycol monoethyl ether**Biodegradability:**

Material is expected to be readily biodegradable. Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD > 40%).

10-day Window: Pass

Biodegradation: 92.1 %

Exposure time: 28 d

Method: OECD Test Guideline 301B or Equivalent

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	0 - 8 %
10 d	7 - 47 %
20 d	8 - 71 %

Photodegradation

Test Type: Half-life (indirect photolysis)

Sensitization: OH radicals

Atmospheric half-life: 2.8 Hour

Method: Estimated.

Potassium Oleate

Biodegradability: Biodegradability is not applicable to inorganic substances.

Potassium hydroxide

Biodegradability: Biodegradability is not applicable to inorganic substances.

Bioaccumulative potential

Tetraethylene glycol monoethyl ether

Bioaccumulation: No relevant data found.

Triethylene glycol monoethyl ether

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): -0.6 at 20 °C Estimated.

Potassium Oleate

Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

Partition coefficient: n-octanol/water(log Pow): 3.92 Literature

Potassium hydroxide

Bioaccumulation: Partitioning from water to n-octanol is not applicable.

Mobility in soil

Tetraethylene glycol monoethyl ether

No relevant data found.

Triethylene glycol monoethyl ether

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Partition coefficient (Koc): 10 Estimated.

Potassium Oleate

No relevant data found.

Potassium hydroxide

No relevant data found.

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: Incinerator or other thermal destruction device.

14. TRANSPORT INFORMATION

DOT

Proper shipping name	Potassium hydroxide, solution
UN number	UN 1814
Class	8
Packing group	III

Classification for SEA transport (IMO-IMDG):

Proper shipping name	POTASSIUM HYDROXIDE SOLUTION
UN number	UN 1814
Class	8
Packing group	III
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	Potassium hydroxide solution
UN number	UN 1814
Class	8
Packing group	III

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

Skin corrosion or irritation

Serious eye damage or eye irritation

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

Triethylene glycol monoethyl ether

CASRN

112-50-5

Pennsylvania Worker and Community Right-To-Know Act:

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

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.

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

Product Literature

Additional information on this product may be obtained by calling your sales or customer service contact.

Hazard Rating System

NFPA

Health	Flammability	Instability
3	0	0

Revision

Identification Number: 99062099 / A001 / Issue Date: 02/08/2022 / Version: 8.0

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)
C	Ceiling limit

Full text of other abbreviations

AllC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; HMIS - Hazardous Materials Identification System; 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECL - Thailand Existing Chemicals Inventory; 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

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 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 this product. If the product is used as a component in another product, this SDS information may not be applicable.