

# SAFETY DATA SHEET



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## ETHYLENE GLYCOL

### 1. Identification

**Product identifier:** ETHYLENE GLYCOL

**Product formulation name:** Ethylene Glycol - ALL GRADES

**Alternate product identifier(s):** Monoethylene Glycol, 1,2-Dihydroxyethane, 1,2-Ethanediol, Ethylene Dihydrate

**Manufacturer / Supplier**

Distributed by Tarr, LLC

P.O. Box 12570

Portland, OR 97212

**Customer Service:** 503-288-5294

**Emergency telephone number (24 hour)**

**CHEMTREC (US Transportation) :**(800) 424 - 9300

### 2. Hazard identification

**Classification of the substance or mixture**

**Health hazards:**

Acute Toxicity (Oral), Category 4

Target Organ Toxicity (Repeated exposure), Category 2

**Label elements**



Health  
hazard



Exclamation  
mark

**Signal word:** WARNING

**Hazard statement(s)**

H373: May cause damage to organs ( state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).

H302: Harmful if swallowed.

**Precautionary statement(s)**

**Supplemental label elements:**

P261: Avoid breathing dust/fume/gas/mist/vapours/spray.

P270: Do not eat, drink or smoke when using this product.

**Prevention:**

P233: Keep container tightly closed.

**Response:**

P301+P310: IF SWALLOWED: Immediately call a POISON CENTER/doctor/...

**ETHYLENE GLYCOL****Storage:**

P102: Keep out of reach of children.

P234: Keep only in original packaging.

**Disposal:**

P273: Avoid release to the environment.

**Emergency overview**

**Immediate concerns:** WARNING! Harmful or fatal if swallowed. Avoid prolonged breathing of vapors. Avoid contact with eyes and skin. Use only in well ventilated areas.

**Potential health effects**

**Eye:** May cause pain, transient irritation and superficial corneal effects. Corneal injury is unlikely. Vapors or mists may cause eye irritation.

**Skin:** Prolonged or repeated contact is not likely to cause significant skin irritation. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. Repeated skin exposure may result in absorption of harmful amounts. Massive contact with damaged skin or of material sufficiently hot to burn skin may result in absorption of potential lethal amounts.

**Ingestion:** Liquid is moderately toxic and may be harmful if swallowed. Excessive exposure may cause central nervous system (CNS) effects, cardiopulmonary effects (metabolic acidosis), and kidney failure. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing amounts larger than that may cause serious injury, even death.

**Inhalation:** At room temperature, exposures to vapors are minimal due to physical properties; higher temperature may generate vapor levels sufficient to cause adverse effects.

**Medical conditions aggravated:** Preexisting diseases in or history of ailments involving skin, central nervous system, liver and kidney.

**3. Composition/information on ingredients**

Chemical name	% w/w	CAS No.
1,2-Ethandiol	98 - 100	107-21-1

**4. First-aid measures**

**Eye:** Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Get medical attention. Contact lenses should never be worn when working with this chemical.

**Skin:** Remove contaminated clothing/shoes. Wipe off excess material from exposed area. Flush with large amounts of water for at least 15 minutes, by the clock, and follow by washing with soap, if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment. Do not reuse clothing until cleaned.

**Ingestion:** Do not give liquids if victim is unconscious or drowsy. Otherwise, give 2 glasses of water (16 oz.) and immediately call physician. Induce vomiting as directed by medical personnel. Keep victim's head below hips while vomiting. Small amounts entering mouth should be rinsed out for 5 minutes.

**Inhalation:** Remove from exposure to fresh air. If not breathing or if breathing is difficult, oxygen should be administered by qualified personnel. Get medical aid if symptoms persist.

**Most important symptoms and effects, both acute and delayed**

**Acute effects:** Redness of the skin or eyes. Repeated excessive exposures may cause severe kidney and also liver and

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gastrointestinal effects. Signs and symptoms of excessive exposure may be central nervous system effects. Signs and symptoms of excessive exposure may be nausea and/or vomiting. Signs and symptoms of excessive exposure may be anesthetic or narcotic effects. Observations in animals include formation of bladder stones after repeated oral doses of ethylene glycol. Reports of kidney failure and death in burn patients suggest the ethylene glycol may have been a factor. The use of topical applications containing this material may not be appropriate in severely burned patients or individuals with impaired renal function.

### 5. Fire-fighting measures

**Suitable extinguishing media:** Use water fog, "alcohol" foam, dry chemical, or CO<sub>2</sub>. Alcohol resistant foams (ATC type) are preferred if available. General purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively. Do not use direct water stream. May spread fire.

**Hazardous combustion products:** Carbon monoxide and unidentified organic compounds may be formed during combustion.

**Explosion hazards:** No fire and explosion hazards expected under normal storage and handling conditions (i.e. ambient temperatures). However, ethylene glycol or solutions of ethylene glycol and water can form flammable vapors with air if heated sufficiently. Keep people away. Isolate fire area and deny unnecessary entry.

**Fire fighting procedures:** Clear fire area of all non-emergency personnel. Do not enter fire space without proper protective gear, including eye protection and respiratory protection to prevent breathing products of combustion. Move containers from fire area if it can be done without risk. Use water stream to cool exposed containers.

**Fire fighting equipment:** Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece in positive pressure mode.

### 6. Accidental release measures

**Small spill:** Remove all sources of ignition and provide ventilation. Wear protective equipment as given in section 8. Absorb small spills with inert material (clay, sand). Prevent contamination of surface waters.

**Large spill:** Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing personal protective equipment should be excluded from area of spill until clean-up has been completed. Shut off source of leak if safe to do so. Dike and contain spill. Prevent from entering drains, sewers, streams or other bodies of water. If runoff occurs, notify authorities as required. Remove with vacuum trucks or pump into clean storage/salvage vessels for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other materials to containers for proper disposal.

### 7. Handling and storage

**General procedures:** Product on surfaces can cause slippery conditions. Practice reasonable care and cleanliness.

Avoid breathing spray mists if generated. Keep out of reach of children. Product may become a solid at temperatures below minus 8 degrees F. Do not store near food, foodstuffs, drugs or potable water supplies.

**Comments:** KEEP OUT OF REACH OF CHILDREN! Empty containers retain product residue (liquid and/or vapor) and can be dangerous. Do not pressurize, cut weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks static electricity, or other sources of ignition; they may explode and cause injury or death. Observe all federal, state, and local regulations and National Fire Protection Association (NFPA) Codes with pertain to the specific local conditions of stage and use, including OSHA 29 CFR 1910.106 and NFPA 30, 70, 77, and 497.

### 8. Exposure controls/personal protection

**ETHYLENE GLYCOL****Exposure controls**

Control parameters				
Occupational exposure limit values				
Chemical name	Type		ppm	mg/m <sup>3</sup>
1,2-Ethanediol	OSHA PEL	TWA	ppm <sup>[1]</sup>	mg/m <sup>3</sup> <sup>[1]</sup>
		STEL	ppm <sup>[2]</sup>	mg/m <sup>3</sup> <sup>[2]</sup>
	ACGIH TLV	TWA	ppm	mg/m <sup>3</sup>
		STEL	ppm	mg/m <sup>3</sup>
	Supplier OEL	TWA	NL	NL
		STEL	NL	NL

**Footnotes:**

- NL = Not Listed
- C = Ceiling

**Appropriate engineering controls:** Provide exhaust ventilation sufficient to keep the airborne concentration of this product below its exposure limits. Exhaust air may need to be cleaned by scrubbers or filters to reduce environmental contamination.

**Individual protection measures, such as personal protective equipment**

**Eye / face protection:** Use chemical safety goggles and full face shield where splashing is possible. Contact lenses should not be worn when working with this material. Maintain eye wash fountain and quick-drench facilities in work areas.

**Skin protection - hand protection:** Wear resistant gloves (consult your safety equipment supplier). To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

**Respiratory protection:** Use in a well ventilated area. Wear a NIOSH approved respirator appropriate for airborne exposure at the point of use.

**Occupational hygiene practices:** Use good personal hygiene when handling this product. Wash hands after use, before eating, drinking, smoking, or using the toilet.

**Other use precautions:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

**Comments:** May be harmful or fatal if swallowed. May irritate body tissues. Use with adequate ventilation. Avoid breathing vapor. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling.

**9. Physical and chemical properties**

Chemical name	Flash Point (°C)	Boiling Point (°C)	Freezing Point (°C)	Solubility in Water	Specific Gravity
1,2-Ethanediol	232	197.778	-12.778	Miscible	1.11

**Physical state:** Liquid

**Appearance:** Syrupy.

**Color:** Clear, colorless to blue green to green colored liquid.

**Odor:** Mild odor.

**ETHYLENE GLYCOL****Freezing point:** (9°F)**Initial boiling point and boiling range:** (388°F)**Flash point:** (232°F)**Evaporation rate (n-butyl acetate = 1):** Nil**Lower explosion limit / flammability limit:** 3.2%**Upper explosion limit / flammability limit:** 15.3%**Vapor pressure:** 0.06 mm Hg**Relative vapor density:** Heavier than air.**Density:** 9.31**Relative density:** 1.11 to 1.120**Solubility:** Miscible**Auto-ignition temperature:** (748°F)**Molecular weight:** 62.1**Percent volatiles:** 96**10. Stability and reactivity****Dangerous polymerization:** Will not occur under normal conditions.**Chemical stability:** Stable under normal conditions.**Conditions to avoid:** Avoid heat, sparks, open flames and other ignition sources.**Hazardous decomposition products:** Carbon monoxide, carbon dioxide, nitrogen oxides and unidentified organic compounds may be formed during combustion.**Incompatible materials:** Isolate from strong oxidizers such as permanganates, chromates and peroxides.**11. Toxicological information****Acute toxicity****Acute dermal toxicity LD<sub>50</sub>:** 9530 mg/kg (rabbit)**Notes:** Ethylene glycol lowest known LD50 (skin) data.**Acute oral toxicity LD<sub>50</sub>:** 5840 mg/kg (rat)**Notes:** Ethylene glycol lowest known LD50 (oral) data.**Notes:** Ethylene Glycol is moderately toxic when ingested. The lethal dose in humans is estimated to be 100 ml (3 ounces). The LD50 for rats is in the 5840 - 13,000 mg/kg range.**Germ cell mutagenicity: MUTAGENICITY (EFFECTS ON GENETIC MATERIAL):** Results of in vitro ("test tube") mutagenicity studies have been negative for ethylene glycol. Animal mutagenicity studies were negative.**Reproductive toxicity:** Ethylene glycol has not interfered with reproduction in animal studies except at very high doses.**12. Ecological information****Aquatic toxicity, both acute and chronic****Notes:** When released into water, ethylene glycol will readily biodegrade (half-life several days.). Ethylene glycol would not be expected to absorb to sediment or volatilize.

**ETHYLENE GLYCOL**

**General comments:** Avoid uncontrolled releases of this material. Keep out of sewers, storm drains, surface waters and soil. Where spills are possible, a comprehensive spill response plan should be developed and implemented.

**13. Disposal considerations**

**Disposal methods:** The preferred options for disposal are to send to licensed reclaimers, or to permitted incinerators. Any disposal practice must be in compliance with federal, state, and local regulations. Do not dump into sewers, ground, or any body of water.

**Empty container:** KEEP OUT OF REACH OF CHILDREN! Empty containers retain product residue and can be dangerous.

**RCRA/EPA waste information:** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**14. Transport information****USA Department of Transport Regulations (DOT)**

**UN proper shipping name:** NOT DOT REGULATED

**DOT other shipping information:** NOT DOT REGULATED in containers less than 5000lbs. of Ethylene Glycol. 5000 lbs or greater of Ethylene Glycol UN 3082 Environmentally hazardous substance, liquid, n.o.s. ( Ethylene glycol); PG III, ERG 171, RQ = 5,000lbs  
NOT regulated for IMDG or IATA.

**15. Regulatory information****UNITED STATES****Dot label symbol and hazard classification**

Class 9

R39/25: Toxic : danger of very serious irreversible effects if swallowed.

S1/2: Keep locked up and out of reach of children.

S13: Keep away from food, drink and animal feedingstuffs.

S23: Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

S2: Keep out of the reach of children.

**SARA Section 311/312 Hazard Categories**

**311/312 Health hazards:** This product should be reported as an immediate (acute) health hazard, and a delayed (chronic) health hazard.

**313 reportable ingredients:** Ethylene glycol, glycols

**EPCRA Section 313 Toxic Chemicals**

Chemical name	% w/w	CAS No
1,2-Ethenediol	98 - 100	107-21-1

**EPCRA Section 302 Extremely Hazardous Substances**

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**EPCRA Status:** To the best of our knowledge, this product is not listed as an extremely hazardous substance.

**CERCLA Hazardous Substances and Reportable Quantities (RQ)**

Chemical name	% w/w	CERCLA rq
1,2-Ethanediol	98 - 100	5,000 LBS.

**CERCLA rq:** 5,000 lbs.

**TSCA (The Toxic Substances Control Act)**

Chemical name	CAS No
1,2-Ethanediol	107-21-1

**TSCA Status:** Listed.

**CANADA****WHMIS Hazard Symbol and Classification**

Toxic

R39/25: Toxic : danger of very serious irreversible effects if swallowed.

S13: Keep away from food, drink and animal feedingstuffs.

S1/2: Keep locked up and out of reach of children.

S20/21: When using do not eat, drink or smoke.

**General comments:** The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

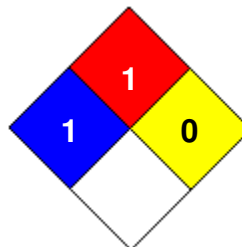
**16. Other information**

**Prepared by:** Compliance Dept. **Date revised:** 04/05/2022

**Revision summary:** This SDS replaces the 01/23/2020 SDS. Revised: **Section 1:** SDS number. **Section 2:** Classification of the substance or mixture, Label elements, Precautionary statement(s).

**HMIS rating**

Health	2
Flammability	1
Physical hazard	0
Personal protection	B

**NFPA codes**

**HMIS ratings notes:** The HMIS rating involves data interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in the SDS must be considered. Personal protection rating to be supplied by user depending on use conditions.

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