

Section 1. Product and Company Identification

**Product Name** Monoethylene Glycol  
**CAS Number** 107-21-1

**Parchem - fine & specialty chemicals**  
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**New Rochelle, NY 10801**  
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Collect Calls Accepted

Section 2. Hazards Identification

**Classification of the substance or mixture**

**GHS Classification**

Acute toxicity; Oral Category 4  
Skin irritation Category 2  
Specific target organ systemic toxicity - single exposure; Oral Category 1  
Central nervous system, Kidney  
Specific target organ systemic toxicity - repeated exposure; Oral Category 2  
Kidney

**GHS Label Elements**

**Pictograms:**



**Signal word:** DANGER

**Hazard and precautionary statements**

**Hazard Statements**

H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H370 Causes damage to organs (Central nervous system, Kidney) if swallowed.  
H373 May cause damage to organs (Kidney) through prolonged or repeated exposure if swallowed.

**Precautionary Statements**

**Prevention**

P264 Wash hands thoroughly after handling.  
P270 Do not eat, drink, or smoke when using this product.



P280 Wear protective gloves/protective clothing/eye protection/face protection.

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

**Response**

P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.

P330 Rinse mouth.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P332 + P313 If skin irritation occurs: Get medical advice/attention.

P362 Take off contaminated clothing and wash before reuse.

P307 + P311 IF exposed: Call a POISON CENTER or doctor/physician.

P314 Get medical advice/attention if you feel unwell.

**Storage**

P405 Store locked up.

**Other hazards:** No additional information available.

Section 3. Composition / Information on Ingredients

**Common Name** Monoethylene Glycol  
**Synonym(s)** Ethylene Glycol  
**CAS Number** 107-21-1

COMPONENT	CAS NUMBER	CONCENTRATION
Ethylene Glycol	107-21-1	95.0 – 100.0%
Diethylene Glycol	111-46-6	≤ 5.0%

Section 4. First Aid Measures

**First-aid procedures**

**General advice:** Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid.

**Inhalation:** If overcome by exposure, remove victim to fresh air immediately.

If breathing is difficult, give oxygen.

**Skin contact:** Wash thoroughly with soap and water.

**Eye contact:** Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation persists, seek medical attention.

**Ingestion:** Rinse mouth with water.

**Notes to physician**

**Symptoms:** Kidney Damage

**Treatment:** Treat symptomatically.



## Section 5. Firefighting Measures

### Flammable Properties

**Flash point:** 232°F (111°C) at 1,013.25 hPa (760.00 mmHg)

**Auto-ignition Temperature:** 748°F (398°C) at 1,013.25 hPa (760.00 mmHg)

**Lower explosion limit:** 3.2% vol.

**Upper explosion limit:** 15.3% vol.

### Firefighting Measures

#### Suitable extinguishing media

**Small Fire:** Use dry chemicals, CO<sub>2</sub>, water spray, or alcohol-resistant foam.

**Large Fire:** Use water spray, water fog, or alcohol-resistant foam.

**Unsuitable extinguishing media:** Even if material is water soluble, may not be practical to extinguish fire by water dilution.

#### Protective equipment and precautions for firefighters

**Specific hazards during firefighting:** Ethylene glycol mist in air is a moderate fire and explosion hazard.

Individuals should perform only those firefighting procedures for which they have been trained.

Firefighters should wear self-contained breathing apparatus in the positive pressure mode with a full face piece when there is a possibility of exposure to smoke, fumes or hazardous decomposition products. Cool tanks and containers exposed to fire with water.

Cool containers with flooding quantities of water until well after fire is out.

**Special protective equipment for firefighters:** Wear an approved positive pressure self-contained breathing apparatus and firefighter turnout gear. Structural firefighter's protective clothing will only provide limited protection.

## Section 6. Accidental Release Measures

**Methods for containment/Methods for cleaning up:** Eliminate all sources of ignition.

All equipment used when handling this product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas.

A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. For large spills, dike and pump into properly labeled containers for reclamation or disposal. For small spills, soak up with absorbent material and place in properly labeled containers for disposal. Report spills or leaks to the proper regulatory authorities.

## Section 7. Handling and Storage

### Handling

**Advice on safe handling:** Avoid open heating or agitation that may generate vapors or mists.



Do not handle near heat, sparks, or flame. Avoid contact with incompatible agents. Use only with adequate ventilation/personal protection. Avoid contact with eyes, skin, and clothing. Do not enter storage area unless adequately ventilated. Metal containers involved in the transfer of this material should be grounded and bonded.

Containers, even those that have been emptied, will retain product residue and vapor and should be handled as if they were full. Do not eat, drink, or smoke in areas where this material is used.

### Storage

Requirements for storage areas and containers: Store containers in a cool, dry, ventilated, fire resistant area away from sources of ignition and incompatible materials. Ground all equipment containing this material. Keep container tightly closed and properly labeled.

## Section 8. Exposure Controls / Personal Protection

### Control parameters

#### Ingredients with workplace control parameters

#### Occupational Exposure Limits

Ingredients	CAS-No.	Type	Limit Value	Basis Revision Date	Additional Information
Ethylene Glycol	107-21-1	Ceiling	100 mg/m <sup>3</sup> aerosol only	US (ACGIH) 2012	

Consult local authorities for acceptable exposure limits.

### Exposure controls

**Engineering measures:** General room ventilation plus local exhaust at points of emission to maintain levels of airborne contaminants below exposure limits.

### Personal protective equipment

**Respiratory protection:** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Where unknown concentrations are encountered or during an emergency, use NIOSH approved supplied air respirators.

**Hand protection:** Wear chemical resistant gloves such as rubber, neoprene or vinyl.

**Eye and face protection:** Safety glasses are recommended for normal use.

Use splash goggles when eye contact due to splashing or spraying liquid is possible.

**Skin and body protection:** Appropriate protective clothing should be worn to prevent skin contact. The equipment must be cleaned thoroughly after each use.

**Hygiene measures:** Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use.

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities.



Take off contaminated clothing and wash before reuse. Shower after work using plenty of soap and water.

Section 9. Physical and Chemical Properties

**Appearance**

**Physical State:** Liquid at 68°F (20°C) (1,013.25 hPa (760.00 mm Hg))

**Color:** Clear, colorless.

**Odor:** Slight sweet odor.

**Flash point:** 232°F (111°C) at 1,013.25 hPa (760.00 mm Hg)

**Lower explosion limit:** 3.2% vol.

**Upper explosion limit:** 15.3% vol.

**Flammability (solid, gas):** Not applicable

**Auto-ignition Temperature:** 748°F (398°C) at 1,013.25 hPa (760.00 mm Hg)

**Decomposition Temperature:** Not determined

**pH:** No data available

**Melting point/range:** 9°F (-13°C)

**Boiling point/boiling range:** 387.3°F (197.4°C) at 1,013 hPa (760 mm Hg)

**Vapor pressure:** 0.1 hPa (0.1 mm Hg) at 77°F (25°C)

**Density:** 1.11 g/cm<sup>3</sup> at 68°F (20°C) (Water = 1)

**Water solubility:** Miscible in water.

**Partition coefficient (n-Octanol/Water):** log Pow: -1.36

**Viscosity, kinematic:** 145 mm<sup>2</sup>/s at 77 °F (25 °C)

**Relative vapor density:** 2.14 (Air = 1.0)

**Remarks - Other information:** No additional information available.

Section 10. Stability and Reactivity

**Conditions to avoid:** Heat, sparks, open flames, and strong oxidizing conditions.

**Materials to avoid:** Strong oxidizer. Strong acids. Permanganates. Peroxides. Dichromates.

Reactive sodium compounds. Sulfur compounds. Alkali metals. Nitrates.

**Hazardous decomposition products:** Carbon Monoxide and Carbon dioxide.

**Thermal decomposition:** Carbon oxides (CO, CO<sub>2</sub>)

**Hazardous reactions:** Hazardous polymerization will not occur. The product is stable.

Section 11. Toxicological Information

**Product Summary:** The below given information is based on the assessment of the product including impurities.

**Acute toxicity**

**Acute oral toxicity:** Classified



Harmful if swallowed.

Ingestion may include inebriation, nausea and vomiting, metabolic acidosis, and CNS depression.

Tachycardia, hypertension, hyperventilation, hypoxia and renal failure are also possible.

**LD50 (Oral):** 7,712 mg/kg

Species: Rat

**Mean lethal dose (estimated):** 1,400 - 1,600 mg/kg

Species: Humans

**Acute inhalation toxicity:** Based on acute toxicity values, not classified.

LC50: > 2.5 mg/l

Exposure time: 6 hours

Species: Rat

**Acute dermal toxicity:** Based on acute toxicity values, not classified.

LD50: > 3,500 mg/kg

Species: Mouse

Skin corrosion/irritation: Classified

Causes skin irritation.

**Serious eye damage/eye irritation:** Based on eye irritation values, not classified.

#### **Respiratory or skin sensitization**

**Skin sensitization:** No adverse effect observed.

**Respiratory sensitization:** Not classified

#### **Chronic toxicity**

**Carcinogenicity:** Not classified

Contains a substance that has a positive carcinogenicity study. Inconsistent reports of bladder tumors in rats that received chronic high oral exposure to diethylene glycol cannot be attributed to diethylene glycol and are not evidence of a primary carcinogenic effect but rather due to the development of bladder stones and their mechanical damage.

**Germ cell mutagenicity:** Not classified

No adverse effect observed.

#### **Reproductive toxicity**

**Effects on fertility/Effects on or via lactation:** Not classified

May cause toxicity to reproduction at high oral doses.

**Effects on Development:** Not classified

May be toxic to embryo/fetal development and teratogenic at high exposure levels.

(Based on Diethylene Glycol)

**Target Organ Systemic Toxicant - Single exposure:** Classified, Causes damage to organs,

Ingestion may include inebriation, nausea and vomiting, metabolic acidosis, and CNS depression.

Tachycardia, hypertension, hyperventilation, hypoxia and renal failure are also possible.

**Routes of exposure:** Ingestion

**Target Organs:** Central nervous system, Kidney

**Target Organ Systemic Toxicant - Repeated exposure:** Classified, May cause damage to organs through prolonged or repeated exposure. Kidney and bladder effects due to the formation of oxalate crystals may occur following prolonged exposure to high oral doses.

**Routes of exposure:** Ingestion

**Target Organs:** Kidney

**Aspiration hazard:** Based on physico-chemical values or lack of human evidence, not classified.

## Section 12. Ecological Information

### Ecotoxicology Assessment

**Acute aquatic toxicity:** Based on acute aquatic toxicity values, not classified.

**Chronic aquatic toxicity:** Not classified, based on readily biodegradability and low acute toxicity.

**Toxicity to fish:** Low acute toxicity to fish

**Toxicity to daphnia and other aquatic invertebrates:** Low acute toxicity to aquatic invertebrates.

**Toxicity to algae:** Low toxicity to algae.

**Toxicity to bacteria:** Low toxicity to sewage microbes.

**Toxicity to fish (Chronic toxicity):** Low chronic toxicity to fish.

**Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):** Low chronic toxicity to aquatic invertebrates.

### Persistence and degradability

**Biodegradability:** Rapidly degradable. 90 - 100%

Testing period: 10 d

### Bioaccumulative potential

**Bioaccumulation:** This material is not expected to bioaccumulate.

Species: *Leuciscus idus* (Golden orfe)

Bioconcentration factor (BCF): 10

### Mobility in soil

#### Distribution among environmental compartments

**Stability in soil:** Low potential for soil adsorption expected (QSAR calculated value)

**Stability in water:** no data available

### Additional advice

**Environmental fate and pathways:** No additional information available.



**Results of PBT and vPvB assessment:** Not applicable.

**Other adverse effects**

**Additional ecological information:** No additional information available.

Section 13. Disposal Considerations

**Waste Treatment Methods:** Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

**DOT**

**UN Number:** 3082

**Description of the goods:** Environmentally Hazardous Substance, Liquid, N.O.S. (Ethylene Glycol)

**Class:** 9

**Packing group:** III

**Labels:** 9

Section 15. Regulatory Information

If identified components of this product are listed under the TSCA 12(b) Export Notification rule, they will be listed below.

**SARA 302/304**

Component: Ethylene Glycol

RQ: 5000 lbs

**SARA 311/312:** Based upon available information, this material is classified as the following health and/or physical hazards according to Section 311 & 312: Immediate (Acute) Health Hazard; Delayed (Chronic) Health Hazard.

**SARA 313**

This product contains the following chemicals subject to the reporting requirements of SARA Title III, Section 313 and 40 CFR 372:

Component: Ethylene glycol

Reporting Threshold: 1.0%

**State Reporting**

This material is not known to contain a chemical substance known to the State of California to cause cancer, reproductive, or developmental toxicity under California Proposition 65. However, the product has not been tested for the presence of listed chemical substances.





This product contains the following chemicals regulated by New Jersey's Worker and Community Right to Know Act:

Ethylene glycol (107-21-1)

This product contains the following chemicals regulated by Massachusetts' Right to Know Law:

Ethylene glycol (107-21-1)

This product contains the following chemicals regulated by Pennsylvania's Right to Know Act:

Ethylene glycol (107-21-1)

Diethylene Glycol (111-46-6)

### Other international regulations

#### Global Inventory Status

The ingredients of this product are compliant with the following chemical inventory requirements or exemptions.

\*Additional Explanatory Status Statements follow the table, as necessary.

Country/Region	Inventory	Status Description
Australia	AICS	Compliant
Canada	DSL	Compliant
China	IECSC	Compliant
Europe	REACH	See REACH Compliance Statement
Japan	ENCS	Compliant
Korea	KECI	Compliant
New Zealand	NZIoC	Compliant
Philippines	PICCS	Compliant
United States of America	TSCA	Compliant
Taiwan	TCSCA	Compliant

#### REACH Status

The chemical substance in this product has been pre-registered or, where required under REACH, registered, and that we have the intention to proceed with any required registration in accordance with the deadlines set forth in REACH. (Regulation (EU) No. 1907/2006)

#### Section 16. Other Information

**Disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

REVISION DATE: 4/18/2016