

Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)  
+1.703.527.3887 (INT)

# SAFETY DATA SHEET

## Ethylene Glycol

### 1. IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF SUPPLIER

**Product Identifier:** High Purity Chemicals  
**Synonyms:** 1,2-Ethanediol  
**Other means of identification:** CAS No. 107-21-1  
EINECS No. 203-473-3

**Recommended use of the chemical and restrictions on use:**

General solvent use

**Supplier Details:**

**Pharmco Products, Inc.**

58 Vale Road, Brookfield,  
CT 06804, USA.

Tel: 203.740.3471

Fax: 203.740.3481

CCN17213

**Pharmco Products, Inc.**

1101 Isaac Shelby Drive, Shelbyville,  
KY 40065, USA.

Tel: 502.232.7600

Fax: 502.633.6100

CCN17213

Distributed by:



4621 Technology Drive, Golden, CO 80403  
pH: (303) 762-0800 fax: (303) 762-1240

Part #'s: E1014

**Emergency Contact:** CHEMTREC: 1.800.424.9300 (USA) / +1.703.527.3887 (International)

### 2. HAZARDS IDENTIFICATION

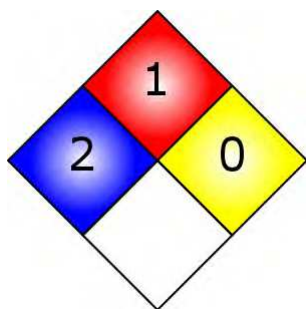
**OSHA Hazards:**

Harmful by ingestion, Irritant, Target organ effect, Teratogen

**Target Organs:**

Cardiovascular system, Central nervous system, Eyes, Kidney, Liver

**NFPA**



GHS label elements, including precautionary statements

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**Signal Word:**  
WARNING!

**Hazard statement(s)**

H302 Harmful if swallowed.  
H373 May cause damage to organs through prolonged or repeated exposure.

**Precautionary statement(s)**

P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
P270 Do not eat, drink or smoke when using this product.  
P301+ P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
P330 Rinse Mouth.  
P501 Dispose of contents and container to an approved waste disposal plant.

**GHS Classification(s)**

Acute toxicity, Oral (Category 4)  
Specific target organ toxicity - repeated exposure (Category 2)

**Other hazards which do not result in classification:**

**Potential Health Effects:**

Organ	Description
Eyes	Causes eye irritation.
Ingestion	Toxic if swallowed.
Inhalation	Can be harmful if inhaled. Causes respiratory tract irritation.
Skin	Can be harmful if absorbed through skin. Causes skin irritation.

### 3. COMPOSITION AND INFORMATION ON INGREDIENTS

**Chemical identity:** Ethylene Glycol  
**Common name / Synonym:** 1,2-Ethanediol  
**CAS number:** 107-21-1  
**EINECS number:** 203-473-3  
**ICSC number:** 0270  
**RTECS #:** KW2975000

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**EC #:** 603-027-00-1

% Weight	Material	CAS
100	Ethylene Glycol	107-21-1

## 4. FIRST AID MEASURES

### General advice

Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

### Skin

Wash skin with soap and copious amounts of water. Seek medical attention.

### Inhalation

Remove person to fresh air. If signs/symptoms continue, get medical attention. Give oxygen or artificial respiration as needed.

### Eyes

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

DO NOT induce vomiting. If vomiting does occur, have victim lean forward to prevent aspiration. Rinse mouth with water. Seek medical attention. Never give anything by mouth to an unconscious individual.

## 5. FIRE FIGHTING MEASURES

### Suitable (and unsuitable) extinguishing media:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):

Carbon oxides expected to be the primary hazardous combustion product.

### Special protective equipment and precautions for firefighters:

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Keep unopened containers cool by spraying with water.

### Flammable Properties

#### Classification

OSHA/NFPA Class IIIB Combustible Liquid.

#### Flash point

111 °C (232 °F) - closed cup

#### Autoignition temperature

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398 °C (748 °F)

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## 6. ACCIDENTAL RELEASE MEASURES

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

Use personal protective equipment. Do not inhale vapors/mist/gas/dust. Ensure adequate ventilation. Evacuate personnel to safe areas.

### Environmental precautions:

Stop leak. Contain spill if possible and safe to do so. Prevent product from entering drains.

### Methods and materials for containment and cleaning up:

Absorb with an inert dry material and place in an appropriate waste disposal container. Keep disposal containers closed when finished.

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## 7. HANDLING AND STORAGE

### Precautions for safe handling:

Do not get on skin or in eyes. Do not inhale vapor or mist. Take normal fire prevention measures.

### Conditions for safe storage, including any incompatibilities:

Container must be sealed tightly and kept in a dry, well-ventilated space. Avoid moisture.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters, e.g., occupational exposure limit values or biological limit values:

#### Occupational Exposure Limits

Component	Source	Type	Value	Note
Ethylene Glycol	US (OSHA)	TWA	100 mg/m <sup>3</sup>	ACGIH Threshold Limit Value

### Appropriate engineering controls:

General room or local exhaust ventilation is usually required to meet exposure limit(s). Electrical equipment should be grounded and conform to applicable electrical code.

### Individual protection measures, such as personal protective equipment:

#### Respiratory protection:

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand protection:

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Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Eye protection:**

Use chemical safety goggles and/or a full face shield where splashing is possible. Use equipment approved by appropriate government standards, such as NIOSH (US) or EN166 (EU) Maintain eye wash fountain and quick-drench facilities in work area.

**Skin and body protection:**

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

**Hygiene measures:**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance ( <i>physical state, color, etc.</i> )	Liquid.
Odor	Specific data not available
Odor threshold	Specific data not available
pH	Specific data not available
Freezing point	-13 °C (9 °F)
Initial boiling point and boiling range	197 °C (387 °F)
Flash point	111 °C (232 °F) - closed cup
Evaporation rate	Specific data not available
Flammability (solid, gas)	Flammable
Upper / Lower flammability or explosive limits	15.3% (V) / 3.2% (V)
Vapor pressure	0.11 hPa (0.08 mmHg) at 20 °C (68 °F)
Vapor Density	2.14
Relative Density	1.113 g/mL at 25 °C (77 °F)
Solubility(ies)	Miscible
Partition coefficient n-octanol/water(ies)	log Pow: -1.36
Auto-ignition temperature	398 °C (748 °F)
Decomposition temperature	Specific data not available
Formula (ETHYLENE GLYCOL)	C <sub>2</sub> H <sub>6</sub> O <sub>2</sub>
Molecular Weight (ETHYLENE GLYCOL)	62.07 g/mol

## 10. STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No data available

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<b>Conditions to avoid (e.g., static discharge, shock or vibration)</b>	Heat, flames, and sparks. Avoid moisture.
<b>Incompatible materials</b>	Strong acids, Strong oxidizing agents, Strong bases, Aldehydes, Aluminum
<b>Hazardous decomposition products</b>	Carbon oxides are expected to be, under fire conditions, the primary hazardous decomposition products.

## 11. TOXICOLOGICAL INFORMATION

### • Ethylene Glycol 107-21-1

#### Product Summary:

Laboratory tests have shown teratogenic and reproductive effects in animals. No data to classify product as an aspiration hazard or to cause specific target organ toxicity through single exposure.

#### Acute Toxicity:

LD50 (Dermal)	Rabbit	10,626 mg/kg	
LD50 (Oral)	Rat	4,700 mg/kg	

#### Irritation:

##### Eyes

Rabbit - mild eye irritation - 24 hours

##### Respiratory or Skin Sensitization

No data available

##### Skin

No data available

#### Specific target organ toxicity - repeated exposure (Globally Harmonized System)

May Cause damage to organs through prolonged or repeated exposure. Route: Oral. Affected Organs: Kidneys

#### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable or confirmed human carcinogen by IARC.

ACGIH: No data is available.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

#### Other Hazards

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Organ	Description
Eyes	Irritating to the eyes.
Ingestion	Toxic if ingested.
Inhalation	Can be harmful if inhaled. Irritating to the respiratory tract.
Skin	Can be harmful if absorbed through skin. Irritating to the skin.

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## 12. ECOLOGICAL INFORMATION

- Ethylene Glycol 107-21-1

### Ecotoxicity (aquatic and terrestrial, where available):

#### Acute Fish Toxicity (ETHYLENE GLYCOL)

LC50 / 96 hours Rainbow Trout - 18,500 mg/L

#### Toxicity to Daphnia (ETHYLENE GLYCOL)

LC50 /48 hours Water flea - 41,000 mg/L

### Persistence and degradability:

No data available

### Bioaccumulative potential:

Bioaccumulation: Other fish - 61 days; Bioconcentration factor (BCF) - 0.60

### Other adverse effects:

no data available

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## 13. DISPOSAL CONSIDERATIONS

**Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging:**

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company.

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## 14. TRANSPORT INFORMATION

**Description of waste residues and information on their safe handling and methods of disposal:**

UN number	Not DOT regulated.
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**Reportable Quantity**

5,000 lbs

**IMDG**

UN-Number: Not a dangerous good.

Marine pollutant: No

**IATA**

UN-Number: Not a dangerous good.

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## 15. REGULATORY INFORMATION

**Safety, health and environmental regulations specific for the product in question:**

**OSHA Hazards**

Harmful by ingestion, Irritant, Target organ effect, Teratogen

All ingredients are on the following inventories or are exempted from listing

Country	Notification
Australia	AICS
Canada	DSL
China	IECS
European Union	EINECS
Japan	ENCS/ISHL
Korea	ECL
New Zealand	NZIoC
Philippines	PICCS
United States of America	TSCA

**SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

The following components are subject to reporting levels established by SARA Title III, Section 313: ETHYLENE GLYCOL CAS-No. 107-21-1 Revision Date 2007-07-01

**SARA 311/312 Hazards**

Acute Health Hazard

Chronic Health Hazard

**CERCLA**

Ethylene Glycol CAS-No. 107-21-1, RQ: 5,000 lbs

**Massachusetts Right To Know Components**

Ethylene glycol CAS-No. 107-21-1 Revision Date 2007-07-01



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**Pennsylvania Right To Know Components**

Ethylene glycol CAS-No. 107-21-1 Revision Date 2007-07-01

**New Jersey Right To Know Components**

Ethylene glycol CAS-No. 107-21-1 Revision Date 2007-07-01

**California Prop 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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## **16. OTHER INFORMATION: INCLUDING INFORMATION ON PREPARATION AND REVISION OF THE SDS**

**Disclaimer**

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