

# SAFETY DATA SHEET

## 1. Identification

**Product identifier:** ETHYLENE GLYCOL

**Other means of identification**

**Product No.:** 5387, 9356, 9346, 9300, 5001

**Recommended use and restriction on use**

**Recommended use:** Not available.

**Restrictions on use:** Not known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Company Name:** Avantor Performance Materials, Inc.  
**Address:** 3477 Corporate Parkway, Suite 200  
Center Valley, PA 18034

**Telephone:** Customer Service: 855-282-6867

**Fax:**  
**Contact Person:** Environmental Health & Safety  
**e-mail:** info@avantormaterials.com

**Emergency telephone number:**

24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

## 2. Hazard(s) identification

**Hazard classification**

**Health hazards**

Acute toxicity (Oral)	Category 4
Toxic to reproduction	Category 2
Specific target organ toxicity - single exposure (Oral)	Category 1
Serious eye damage/eye irritation	Category 2A

**Label elements**

**Hazard symbol:**



**Signal word:** Danger

**Hazard statement:** Harmful if swallowed.  
Causes serious eye irritation.  
May damage fertility or the unborn child.  
Causes damage to organs if swallowed.

**Precautionary statement**

- Prevention:** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product.
- Response:** IF exposed: Call a POISON CENTER or doctor/physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
- Storage:** Keep container tightly closed. Store in a well-ventilated place. Store in a dry place. Store locked up.
- Disposal:** Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Other hazards which do not result in GHS classification:** None.

### 3. Composition/information on ingredients

#### Substances

Chemical identity	Common name and synonyms	CAS number	Content in percent (%)*
ETHYLENE GLYCOL		107-21-1	99 - 100%

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

### 4. First-aid measures

- General information:** Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
- Ingestion:** Call a physician or poison control center immediately. Do not induce vomiting without advice from poison control center. Never give liquid to an unconscious person. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
- Inhalation:** Move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.
- Skin contact:** Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing.
- Eye contact:** Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

#### Most important symptoms/effects, acute and delayed

**Symptoms:** May irritate eyes. Harmful if swallowed.

#### Indication of immediate medical attention and special treatment needed

**Treatment:** Treat symptomatically. Symptoms may be delayed.

### 5. Fire-fighting measures

**General fire hazards:** In case of fire and/or explosion do not breathe fumes.

**Suitable (and unsuitable) extinguishing media**

**Suitable extinguishing media:** Water spray, foam, dry powder or carbon dioxide.

**Unsuitable extinguishing media:** None known.

**Specific hazards arising from the chemical:** Fire may produce irritating, corrosive and/or toxic gases.

**Special protective equipment and precautions for firefighters**

**Special fire fighting procedures:** Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

**Special protective equipment for fire-fighters:** Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

<b>6. Accidental release measures</b>
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**Personal precautions, protective equipment and emergency procedures:** Use personal protective equipment. Keep unauthorized personnel away. Keep upwind. Ventilate closed spaces before entering them.

**Methods and material for containment and cleaning up:** Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

**Notification Procedures:** Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.

**Environmental precautions:** Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

<b>7. Handling and storage</b>
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**Precautions for safe handling:** Use personal protective equipment as required. Do not breathe mist or vapor. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use.

**Conditions for safe storage, including any incompatibilities:** Keep container tightly closed. Store in a well-ventilated place. Store in a dry place. Store locked up.

## 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Chemical identity	Type	Exposure Limit values	Source
ETHYLENE GLYCOL - Aerosol.	Ceiling	100 mg/m <sup>3</sup>	US. ACGIH Threshold Limit Values (2011)
ETHYLENE GLYCOL	Ceiling	50 ppm 125 mg/m <sup>3</sup>	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)

**Appropriate engineering controls** No data available.

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

**General information:** Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.

**Eye/face protection:** Wear safety glasses with side shields (or goggles).

#### Skin protection

**Hand protection:** Chemical resistant gloves

**Other:** Wear suitable protective clothing.

**Respiratory protection:** In case of inadequate ventilation use suitable respirator. Chemical respirator with organic vapor cartridge, full facepiece, dust and mist filter.

**Hygiene measures:** Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Avoid contact with eyes, skin, and clothing.

## 9. Physical and chemical properties

### Appearance

**Physical state:** Liquid  
**Form:** Liquid  
**Color:** Clear colorless  
**Odor:** Odorless  
**Odor threshold:** No data available.  
**pH:** No data available.  
**Melting point/freezing point:** -13 °C  
**Initial boiling point and boiling range:** 197 °C  
**Flash Point:** 111 °C (Closed Cup)  
**Evaporation rate:** No data available.  
**Flammability (solid, gas):** No data available.

#### Upper/lower limit on flammability or explosive limits

**Flammability limit - upper (%):** 15.3 %(V)  
**Flammability limit - lower (%):** 3.2 %(V)  
**Explosive limit - upper (%):** No data available.

<b>Explosive limit - lower (%):</b>	No data available.
<b>Vapor pressure:</b>	0.01 kPa (25 °C)
<b>Vapor density:</b>	2.14 AIR=1
<b>Relative density:</b>	1.1 (20 °C)
<b>Solubility(ies)</b>	
<b>Solubility in water:</b>	Miscible with water.
<b>Solubility (other):</b>	No data available.
<b>Partition coefficient (n-octanol/water):</b>	-1.36
<b>Auto-ignition temperature:</b>	398 °C
<b>Decomposition temperature:</b>	No data available.
<b>Viscosity:</b>	No data available.
<b>Other information</b>	
<b>Minimum ignition temperature:</b>	397.8 °C
<b>Molecular weight:</b>	62.07 g/mol (C <sub>2</sub> H <sub>6</sub> O <sub>2</sub> )

## 10. Stability and reactivity

<b>Reactivity:</b>	No dangerous reaction known under conditions of normal use.
<b>Chemical stability:</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions:</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid:</b>	Excessive heat. Contact with incompatible materials.
<b>Incompatible materials:</b>	Strong oxidizing agents. Acids.
<b>Hazardous decomposition products:</b>	Thermal decomposition may release oxides of carbon.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Ingestion:</b>	Harmful if swallowed.
<b>Inhalation:</b>	Spray mist may irritate the respiratory system.
<b>Skin contact:</b>	May cause irritation.
<b>Eye contact:</b>	Causes serious eye irritation.

### Information on toxicological effects

#### Acute toxicity (list all possible routes of exposure)

<b>Oral</b>	
<b>Product:</b>	LD 50 (Rat): 5.89 g/kg
<b>Dermal</b>	
<b>Product:</b>	LD 50 (Rabbit): 9,530 mg/kg
<b>Inhalation</b>	
<b>Product:</b>	No data available.
<b>Repeated dose toxicity</b>	
<b>Product:</b>	No data available.

**Skin corrosion/irritation**

**Product:** Defatting, drying and cracking of skin.

**Serious eye damage/eye irritation**

**Product:** May irritate eyes.

**Respiratory or skin sensitization**

**Product:** Not a skin sensitizer.

**Carcinogenicity**

**Product:** This substance has no evidence of carcinogenic properties.

**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

No carcinogenic components identified

**US. National Toxicology Program (NTP) Report on Carcinogens:**

No carcinogenic components identified

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):**

No carcinogenic components identified

**Germ cell mutagenicity**

**In vitro**

**Product:** No mutagenic components identified

**In vivo**

**Product:** No mutagenic components identified

**Reproductive toxicity**

**Product:** May damage fertility or the unborn child.

**Specific target organ toxicity - single exposure**

**Product:** Central nervous system. Kidneys.

**Specific target organ toxicity - repeated exposure**

**Product:** None known.

**Aspiration hazard**

**Product:** Not classified

**Other effects:** None known.

**12. Ecological information**

**Ecotoxicity:**

**Acute hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Specified substance(s):**

ETHYLENE GLYCOL LC 50 (Bluegill (*Lepomis macrochirus*), 96 h): 27,540 mg/l Mortality  
LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 8,050 mg/l Mortality

**Aquatic invertebrates**

**Product:** No data available.

**Specified substance(s):**

ETHYLENE GLYCOL LC 50 (Water flea (*Daphnia magna*), 48 h): 37,800 - 45,100 mg/l Mortality

**Chronic hazards to the aquatic environment:**

**Fish**  
**Product:** No data available.

**Aquatic invertebrates**  
**Product:** No data available.

**Toxicity to Aquatic Plants**  
**Product:** No data available.

#### **Persistence and degradability**

**Biodegradation**  
**Product:** The product is expected to be biodegradable.

**BOD/COD ratio**  
**Product:** No data available.

#### **Bioaccumulative potential**

**Bioconcentration factor (BCF)**  
**Product:** No data available on bioaccumulation.

**Partition coefficient n-octanol / water (log Kow)**  
**Product:** Log Kow: -1.36

**Mobility in soil:** The product is water soluble and may spread in water systems.

**Other adverse effects:** The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

### **13. Disposal considerations**

**Disposal instructions:** Discharge, treatment, or disposal may be subject to national, state, or local laws.

**Contaminated packaging:** Since emptied containers retain product residue, follow label warnings even after container is emptied.

### **14. Transport information**

**DOT**  
Not regulated.

**IMDG**  
Not regulated.

**IATA**  
Not regulated.

### **15. Regulatory information**

#### **US federal regulations**

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**  
**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**  
None present or none present in regulated quantities.

**CERCLA Hazardous Substance List (40 CFR 302.4):**  
ETHYLENE GLYCOL Reportable quantity: 5000 lbs.

**Superfund amendments and reauthorization act of 1986 (SARA)**

**Hazard categories**

Acute (Immediate)  Chronic (Delayed)  Fire  Reactive  Pressure Generating

**SARA 302 Extremely hazardous substance**

None present or none present in regulated quantities.

**SARA 304 Emergency release notification**

Chemical identity	RQ
ETHYLENE GLYCOL	5000 lbs.

**SARA 311/312 Hazardous chemical**

Chemical identity	Threshold Planning Quantity
ETHYLENE GLYCOL	500 lbs

**SARA 313 (TRI reporting)**

Chemical identity	Reporting threshold for other users	Reporting threshold for manufacturing and processing
ETHYLENE GLYCOL	10000 lbs	25000 lbs.

**Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)**

None present or none present in regulated quantities.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):**

None present or none present in regulated quantities.

**US state regulations**

**US. California Proposition 65**

No ingredient regulated by CA Prop 65 present.

**US. New Jersey Worker and Community Right-to-Know Act**

ETHYLENE GLYCOL	Listed
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**US. Massachusetts RTK - Substance List**

ETHYLENE GLYCOL	Listed
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**US. Pennsylvania RTK - Hazardous Substances**

ETHYLENE GLYCOL	Listed
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**US. Rhode Island RTK**

ETHYLENE GLYCOL	Listed
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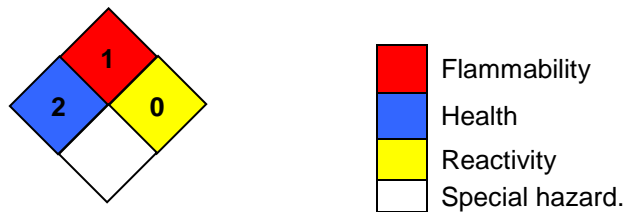


**Inventory Status:**

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

**16. Other information, including date of preparation or last revision**

**NFPA Hazard ID**



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

<b>Issue date:</b>	06-19-2014
<b>Revision date:</b>	No data available.
<b>Version #:</b>	1.0
<b>Further information:</b>	No data available.

**Disclaimer:**

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