

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.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment. Keep unauthorized personnel away. Keep upwind. Ventilate closed spaces before entering them.
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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.
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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.
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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.
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7. Handling and storage

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.
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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.
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8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Chemical identity	Type	Exposure Limit values	Source
ETHYLENE GLYCOL - Aerosol.	Ceiling	100 mg/m ³	US. ACGIH Threshold Limit Values (2011)
ETHYLENE GLYCOL	Ceiling	50 ppm 125 mg/m ³	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.

Eyeface 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.

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

10. Stability and reactivity

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

11. Toxicological information

Information on likely routes of exposure

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

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

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

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

Disclaimer:

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