

Technical Bulletin

HUNTSMAN

ETHYLENE GLYCOL - ANTIFREEZE GRADE

GENERIC NAMES	1,2-ethanediol; ethylene glycol; monoethylene glycol; MEG
DESCRIPTION	Product is a straight-chain aliphatic compound terminated on both ends by a hydroxyl group. It is a clear, moderately viscous, hygroscopic liquid at room temperature.
APPLICATIONS	<ul style="list-style-type: none">• heat transfer agent• freezing point depressant• deicing fluid• boiling point depressant <p>Ethylene glycol - antifreeze grade is designed to be used as the base for antifreeze formulations compounded to meet the requirements of the North American market.</p>

SALES SPECIFICATIONS

<u>Property</u>	<u>Specifications</u>	<u>Test Method</u> *
Acidity (as acetic acid), wt.%	0.01 max.	ST-31.46,B
Appearance	Clear and substantially free of suspended matter	ST-30.1
Ash, wt.%	0.01 max.	ST-31.12
Chlorides, ppm	3 max.	ST-4.7
Color, Pt-Co	20 max.	ST-30.12
Ethylene glycol, wt.%	95.0 min.	ST-35.7
Water, wt.%	0.5 max.	ST-31.53

*Methods of Test are available upon request.

ETHYLENE GLYCOL - ANTIFREEZE GRADE

TYPICAL PROPERTIES

Chemical Properties

Structure	HOCH ₂ CH ₂ OH
Molecular Weight	62.07

Physical Properties

Boiling point, 760 mm Hg, °C	197.2
Flash point, open cup, °F	240
Freezing point (50% aqueous solution), °C	-37.5
Specific gravity, 20/20°C	1.12
Vapor pressure, 20°C, mm Hg	0.1
Viscosity, 20°C, cSt	20.9
Water solubility	Complete
Weight, 20 °C, lb/gal	9.28

Regulatory Information

DOT Classification	Not Regulated
Freight Classification	Ethylene glycol
OSHA Classification	Hazardous
HMIS Code	2-1-0
CAS Number	107-21-1 and 111-46-6
TSCA Inventory	Yes
WHMIS Classification	D1B, D2A
Canadian DSL	Yes
European EINECS	Yes
Australian AICS	Yes
Japanese MITI	Yes

PRODUCT SAFETY POLICY

It is the product safety policy of Huntsman Petrochemical Corporation to provide our customers with information on the safe handling and use of our products. The Material Safety Data Sheet (MSDS) should always be read and understood thoroughly before handling the product, and adequate safety procedures should be followed. Information on the toxicity, environmental, and industrial hygiene aspects of our products may be found in the MSDS. Precautionary measures include: use only with adequate ventilation; avoid breathing vapor, mist or gas; avoid contact with eyes, skin and clothing; keep container closed; wash thoroughly after handling.

HANDLING AND STORAGE

Ethylene glycol is a stable, noncorrosive chemical with high flash point. Since it is hygroscopic, storage vessels must be designed to minimize moisture pickup. Other possible contaminants are iron and oxygen. For longer term storage, or where iron contamination and color are objectionable, resin linings or stainless steel and aluminum vessels are recommended. Linings based on phenolic and epoxy resins are satisfactory. Zinc or zinc alloys should not be used in glycol service. For longer term color stability, it is recommended that the product be stored under an inert atmosphere.

Cast-iron or centrifugal pumps with stainless shafts and impellers are satisfactory. Rubber-lined or rubber-bound gaskets should be avoided. Flexible graphite filled or stainless steel double jacketed gaskets are usually effective larger gaskets. Stainless steel winding with flexible graphite filler piping gaskets performs well. Pipe thread lubricants based on corrosion inhibiting zinc compounds or a graphite based lubricant with aluminum are generally satisfactory; however, glycols are excellent penetrants and leaks may be present where hydrostatic testing has indicated a tight system. Therefore, the system should be rechecked after the glycol has been added.

Low pressure stainless steel steam coils in storage tanks and steam tracing of transfer lines may need to be provided in cases where low environmental temperatures may make pumping of the product difficult. Transfer or storage tanks can be readily cleaned by flushing with water and steam.

SHIPPING

Product is available in barges, tank cars and tank trucks. Certain government regulations may apply at the time of shipment.

