ETHYLENE GLYCOL

INDUSTRIAL GRADE · VIRGIN · CAS 107-21-1

Virgin ethylene glycol, 99.8 wt% minimum assay. A clear, colorless, practically odorless, hygroscopic liquid of high boiling point and low volatility, used as an antifreeze and coolant base fluid, heat transfer fluid, deicing fluid, and chemical intermediate.



01 IDENTIFICATION

PRODUCT CODE	CHEMICAL IDENTITY	SYNONYMS	SDS REFERENCE	MANUFACTURER
EG99	CAS 107-21-1 · EC 203-473-3 $C_2H_6O_2$ · 62.07 g/mol	MEG; Monoethylene glycol; 1,2-Ethanediol	Ethylene Glycol SDS, Revision 2	Coastline Chemical, Inc. · 30426 Depot Street, New Church, VA 23415

02 PRODUCT DESCRIPTION

Coastline Chemical, Inc. Ethylene Glycol, Industrial Grade is a **virgin** ethylene glycol. It is a clear, colorless, practically odorless, hygroscopic liquid with a high boiling point and low volatility, completely miscible with water and soluble in many polar organic solvents. It is produced under controlled manufacturing and quality systems to maintain consistent composition and low impurity levels. Principal applications are engine coolant and antifreeze base fluid, heat transfer fluid, deicing fluid, and use as a chemical intermediate. Its low freezing point in aqueous solution suits it to coolant, antifreeze and deicing service, and its high boiling point and low volatility to closed-loop heat transfer at elevated temperature. In polyester and polyurethane synthesis it is used as the diol component of the resin.

03 PRODUCT SPECIFICATIONS · QC RELEASE CRITERIA

PARAMETER	SPECIFICATION	TEST METHOD
Monoethylene Glycol	**99.8 wt% min**	ASTM E2409
Other Glycols, Oligomers	**0.2 wt% max**	ASTM E2409
Water	**0.10 wt% max**	ASTM E203
Acidity, as Acetic Acid	**0.005 wt% max**	ASTM D1613
Relative Density, d 20/20°C	**1.113 – 1.116**	ASTM D1122
Refractive Index, n_D 20°C	**1.4305 – 1.4330**	ASTM D1218
Color, APHA	**10 max**	ASTM D1209
Chlorides	**1.0 ppm max**	ASTM E2469
Iron	**1.0 ppm max**	ASTM E394
Ash	**0.005 wt% max**	ASTM D1119

- *Specifications are QC release criteria; batch values are reported on the Certificate of Analysis, against any agreed customer specification, which may be tighter than the limits above. Other glycols and oligomers are reported as the total of all glycol species other than the named product. Percentages and ppm are by mass. Relative density is d 20/20°C; refractive index is at the sodium D line (589.3 nm).*

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04 PHYSICAL & CHEMICAL PROPERTIES

PHYSICAL STATE	**Liquid**	**BOILING POINT, 1 ATM**	**387°F (197°C)**
APPEARANCE	**Clear, colorless**	**FLASH POINT**	**232°F (111°C), closed cup**
ODOR	**Practically odorless**	**AUTO-IGNITION**	**approx. 748°F (398°C)**
SOLUBILITY IN WATER	**Complete (miscible)**	**VAPOR PRESSURE, 20°C**	**0.06 mmHg**
PH, 50% AQUEOUS	**6.0 – 7.5 (typical)**	**VAPOR DENSITY**	**2.1 (air = 1)**
FREEZE POINT	**9°F (–13°C)**		

- *Values are typical and are not release specifications unless also listed in section 03. Consistent with Ethylene Glycol SDS, Revision 2.*

05 TYPICAL LITERATURE PROPERTIES

PROPERTY	VALUE
Dynamic Viscosity, 20°C	**19.8 cP (mPa·s)**
Dynamic Viscosity, 25°C	**16.1 cP (mPa·s)**
Kinematic Viscosity, 20°C	**17.8 cSt (mm^2/s)**
Surface Tension, 25°C	**48.0 mN/m**
Specific Heat, 25°C	**2.41 J/g·K (0.58 Btu/lb·°F)**
Thermal Conductivity, 25°C	**0.25 W/m·K (0.146 Btu/hr·ft·°F)**
Heat of Vaporization, 197°C	**53.2 kJ/mol (857 kJ/kg)**

- *These are not batch specifications and are not reported on the Certificate of Analysis.*

06 APPLICATIONS

ANTIFREEZE & COOLANT
Base fluid for engine coolant and antifreeze concentrates, blended with water and inhibitors by the formulator.

HEAT TRANSFER
Base fluid for aqueous heat-transfer fluids in closed-loop heating, cooling, and refrigeration circuits. Provide corrosion control appropriate to the system metallurgy.

POLYESTER & PET
Diol monomer for polyethylene terephthalate resin and polyester fiber. Industrial use only.

DEICING
Component of aircraft and runway deicing and anti-icing fluids.

CHEMICAL INTERMEDIATE
Raw material for alkyd and unsaturated polyester resins, plasticizers, glycol ethers, and other specialty chemical synthesis.

HUMECTANT & SOLVENT
Moisture retention and coupling solvent in industrial formulations, inks, and adhesives. Not for food, drug, or cosmetic use.

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07 STORAGE & HANDLING

STORAGE CONDITIONS

Store in tightly closed, labeled containers in a cool, dry, well-ventilated area away from heat and ignition sources. Keep sealed; the product is hygroscopic and picks up water from the air.

RECOMMENDED MATERIALS

Carbon steel, stainless steel (304, 316), and HDPE are suitable for storage and transfer. Avoid galvanized and zinc-bearing surfaces in heated service.

STABILITY & INCOMPATIBILITIES

Incompatible materials include strong oxidizing agents, strong acids, strong bases, and alkali metals. Avoid prolonged elevated temperatures, particularly in the presence of air; see SDS section 10. Protect the stored product from contamination.

HANDLING PRECAUTIONS

Use safety glasses and chemical-resistant gloves; ensure ventilation. Avoid breathing mists and prolonged skin contact. Do not ingest. Refer to the Safety Data Sheet for complete information.

- *No expiration date or shelf life is assigned. Verify the product against the specifications in section 03 before use after extended storage, or if the container seal has been broken or storage conditions compromised.*

08 PACKAGING & ORDERING

CONTAINER TYPE	NOMINAL VOLUME	NET WEIGHT (APPROX.)	ORDER CODE
Drum	**55 U.S. gal (208 L)**	**510 lb (231 kg)**	**55EG99**
Tote (IBC)	**275 U.S. gal (1,041 L)**	**2,550 lb (1,157 kg)**	**275EG99**
Bulk Tanker (road)	**As ordered**	**Contact for details**	**BEG99**

- *Net weights are calculated at a relative density of 1.114 and are nominal. Custom packaging is available on request; contact your Coastline representative for bulk and specialty options. Contact sales to confirm marine-bulk availability.*

09 REGULATORY & QUALITY ASSURANCE

TSCA STATUS	Listed (active) on the TSCA Chemical Substance Inventory
DOT CLASSIFICATION	Not regulated when the quantity of ethylene glycol in any one package is less than 5,000 lb; at or above that quantity, RQ, UN3082, Class 9, PG III. See SDS section 14
USE RESTRICTIONS	Not for use in food, drug, cosmetic, or potable-water applications
OSHA HAZARD	Classified as hazardous under 29 CFR 1910.1200 (H302, H373); see SDS section 2
QUALITY SYSTEM	Documented production, storage, loading, and quality-control program
ORIGIN	Made in USA

Each lot is released against the QC criteria in section 03 based on in-process and final testing, and ships with a Certificate of Analysis reporting the measured values. Where a customer requires tighter or additional limits, the Coastline technical team can agree on a supplementary specification.

ORDERING & TECHNICAL SUPPORT

PHONE	WEB	SDS	COA
(757) 824-3831	**coastlinechemical.com**	**Current revision on request**	**With every shipment**

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Users should conduct their own tests to determine suitability of the product for their specific applications. For technical assistance or application review, contact your Coastline representative.

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