DIETHYLENE GLYCOL

INDUSTRIAL GRADE · VIRGIN · CAS 111-46-6

Virgin diethylene glycol, 99.6 wt% minimum assay. A clear, colorless, practically odorless, hygroscopic liquid of high boiling point and low volatility, used as a chemical intermediate, high-boiling solvent, humectant, and gas dehydration fluid.



01 IDENTIFICATION

PRODUCT CODE	CHEMICAL IDENTITY	SYNONYMS	SDS REFERENCE	MANUFACTURER
DEG99	CAS 111-46-6 · EC 203-872-2 $C_4H_{10}O_3$ · 106.12 g/mol	DEG; Diglycol; 2,2′ -Oxydiethanol	Diethylene Glycol SDS, Revision 2	Coastline Chemical, Inc. · 30426 Depot Street, New Church, VA 23415

02 PRODUCT DESCRIPTION

Coastline Chemical, Inc. Diethylene Glycol, Industrial Grade is a **virgin** diethylene 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 unsaturated polyester and polyurethane intermediates, plasticizers, high-boiling solvent and humectant service, and natural gas dehydration. Its higher boiling point and lower volatility than ethylene glycol suit it to high-boiling solvent and humectant service, and its hygroscopicity to natural gas dehydration where a lower regeneration temperature than triethylene glycol is acceptable. In unsaturated polyester and polyurethane synthesis the central ether linkage gives the polymer added flexibility.

03 PRODUCT SPECIFICATIONS · QC RELEASE CRITERIA

PARAMETER	SPECIFICATION	TEST METHOD
Diethylene Glycol	**99.6 wt% min**	ASTM E2409
Other Glycols, Oligomers	**0.4 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	**1.117 – 1.119**	ASTM D1122
Refractive Index, n_D 20°C	**1.445 – 1.449**	ASTM D1218
Color, APHA	**15 max**	ASTM D1209
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**	**473°F (245°C)**
APPEARANCE	**Clear, colorless**	**FLASH POINT**	**280°F (138°C), closed cup**
ODOR	**Practically odorless**	**AUTO-IGNITION**	**approx. 444°F (229°C)**
SOLUBILITY IN WATER	**Complete (miscible)**	**VAPOR PRESSURE, 20°C**	**< 0.01 mmHg**
PH, 50% AQUEOUS	**7.5 – 8.5 (typical)**	**VAPOR DENSITY**	**3.7 (air = 1)**
FREEZE POINT	**20°F (–6.5°C)**		

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

05 TYPICAL LITERATURE PROPERTIES

PROPERTY	VALUE
Dynamic Viscosity, 20°C	**35.7 cP (mPa·s)**
Dynamic Viscosity, 25°C	**approx. 30 cP (mPa·s)**
Kinematic Viscosity, 20°C	**32.0 cSt (mm^2/s)**
Surface Tension, 25°C	**44.8 mN/m**
Specific Heat, 25°C	**2.30 J/g·K (0.55 Btu/lb·°F)**
Thermal Conductivity, 25°C	**0.20 W/m·K (0.116 Btu/hr·ft·°F)**
Heat of Vaporization, 245°C	**57.9 kJ/mol (546 kJ/kg)**

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

06 APPLICATIONS

UNSATURATED POLYESTER RESINS
Diol component in unsaturated polyester resins for reinforced plastics, gel coats, and laminates.

POLYURETHANES & PLASTICIZERS
Raw material for polyester polyols and for plasticizer esters.

SOLVENT & COUPLER
High-boiling solvent and coupling agent in printing inks, dyes, and coatings.

HUMECTANT & PLASTICIZER
Moisture retention and plasticizing in paper, cork, adhesive, and textile-finishing formulations. Industrial use only.

CEMENT GRINDING AIDS
Component of cement and mineral grinding-aid formulations.

NATURAL GAS DEHYDRATION
Absorption of water vapor from natural gas where a lower-viscosity glycol than TEG is specified.

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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)**	**512 lb (232 kg)**	**55DEG99**
Tote (IBC)	**275 U.S. gal (1,041 L)**	**2,561 lb (1,162 kg)**	**275DEG99**
Bulk Tanker (road)	**As ordered**	**Contact for details**	**BDEG99**

- *Net weights are calculated at a relative density of 1.118 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 as a hazardous material for the product as supplied; 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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