

Diethylene Glycol (DEG)

PRODUCT DESCRIPTION

Diethylene Glycol is a clear, colorless, low-odor liquid formed by the ether linkage of two ethylene glycol molecules ($C_4H_{10}O_3$, CAS 111-46-6). Combining the chemistry of primary alcohols and ethers in one molecule, it delivers strong solvency, high hygroscopicity, and thermal stability.

A 245°C boiling point supports low-volatility service at elevated temperature, while complete water miscibility and broad organic solvency suit it to dyes, resins, oils, and nitrocellulose. Its dual hydroxyl groups make DEG a building block for polyester resins, polyurethanes, plasticizers, and specialty intermediates.

BENEFITS

Wide Thermal Range

A 12°F freezing point and 473°F boiling point cover freeze protection and elevated-temperature process duty alike.

Superior Solvency

Dissolves dyes, resins, oils, and nitrocellulose while staying completely miscible with water at all concentrations.

Outstanding Hygroscopicity

Efficient moisture absorption for gas drying, humidity control, and conditioning of paper, cork, and textiles.

Chemical Versatility

Dual hydroxyl functionality converts to aldehydes, amines, esters, and ethers for downstream synthesis.

Stable in Service

Not reactive under normal conditions and stable under recommended storage; very low vapor pressure limits losses.

APPLICATIONS

Gas Processing & Separations

Natural gas dehydration · aromatic hydrocarbon separations

Resins & Polymers

Unsaturated polyester resin production · polyurethane manufacturing · plasticizer intermediate

Functional Fluids

Heat transfer fluids · brake fluid formulation · latex paint antifreeze · soluble oil stabilization

Chemical Intermediate

Morpholine synthesis · 1,4-dioxane production

Coatings & Materials

Printing inks and dyes · adhesive and coating formulations · textile conditioning · cork and paper treatment · glass and cement grinding aids

AVAILABILITY

55

GALLON DRUMS

275

GALLON TOTES

Bulk

DELIVERIES

Samples available on request. Contact us for current lead times and volume pricing.

(800) 489-2306
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 PRODUCT DATA

PROPERTY	TEST METHOD	VALUE
Appearance	SDS CG-024	Colorless liquid
Odor	SDS CG-024	Low
Chemical Name	IUPAC	2-(2-Hydroxyethoxy)ethanol
CAS Number	SDS CG-024	111-46-6
Molecular Formula	–	C ₄ H ₁₀ O ₃
Molecular Weight	–	106.12 g/mol
Composition	SDS CG-024	≤100% diethylene glycol
pH	SDS CG-057	7.0
Specific Gravity (water = 1)	–	1.12
Boiling Point / Range	SDS CG-025	245°C (473°F)
Melting / Freezing Point	SDS CG-025	–11.1°C (12°F)
Flash Point (COC)	SDS CG-025	143.3°C (290°F)
Vapor Density (Air = 1)	SDS CG-025	3.6
Dynamic Viscosity @ 40°C	SDS CG-025	14 cSt
Lower Flammability Limit	SDS CG-025	1.6%
Upper Flammability Limit	SDS CG-025	10.8%
VOC Content	ASTM D 2639	9%
NFPA Rating	SDS CG-025	Health 2 · Flammability 1 · Instability 0
HMIS Rating	SDS CG-025	Health 2* · Flammability 1 · Physical Hazard 0
TSCA Status	SDS CG-057	Present on inventory
Transport Classification	SDS CG-024	Not regulated: DOT · IATA · IMDG

 HANDLING & STORAGE

Keep containers tightly closed and store locked up in a cool, dry, well-ventilated place. DEG is hygroscopic, so sealed storage protects product quality.

Incompatible with strong oxidizing agents. Keep away from ignition sources. Thermal decomposition can release irritating and toxic gases and vapors.

 SAFETY

Warning. Harmful if swallowed (acute oral toxicity Category 4). May cause damage to organs, specifically kidneys and liver, through prolonged or repeated exposure (STOT-RE Category 2).

May cause mild eye and skin irritation. Wash exposed skin thoroughly after handling; do not eat, drink, or smoke when using this product. Use safety goggles and impervious protective clothing.

Consult the current Safety Data Sheet for complete hazard information, exposure limits, first aid measures, and handling precautions prior to use.

The information contained herein is offered in good faith and is believed to be accurate. No warranty, express or implied, is made regarding results to be obtained from its use. The user is responsible for determining suitability for their application and for compliance with all applicable regulations.

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