

Technical Data Sheet

Texol™ Diethylene Glycol
Diethylene Glycol / DEG

Product Description

Diethylene glycol (DEG) is a colorless, low-volatility, low viscosity, hygroscopic liquid. Under normal conditions, diethylene glycol has no detectable odor; however, under high vapor concentrations, a slightly sweet odor may be detected.

Diethylene Glycol :
HOCH₂CH₂OCH₂ CH₂ OH

CAS Registry Number :
111 – 46 – 6

DEG is completely miscible with water and many organic liquids.

The hydroxyl groups on glycols undergo alcohol chemistry, thus providing opportunities for production of a wide variety of derivatives. Hydroxyls can be converted to aldehydes, alkyl halides, amines, azides, carboxylic acids, ethers, mercaptans, nitrate esters, nitriles, nitrite esters, organic esters, peroxides, phosphate esters and sulfate esters.

Because of its higher molecular weight, DEG is considerably less volatile than ethylene glycol and differs sufficiently in that it has specialized uses. The reactivity and solubility of diethylene glycol provide the basis for many applications.

Applications and Uses

- Gas dehydration
- Plasticizer for paper, composition cork, glues, adhesives, bookbinding and coatings
- Glass-grinding aids
- Fiber-finish component
- Cement-grinding aids
- Mold release agent
- Stabilizer for soluble oil dispersions
- Compatibilizer for dye and printing ink components
- Aromatic and paraffinic hydrocarbon separations
- Printing ink/paint pigments/dyes
- Latex paint antifreeze
- Antifreeze
- Deicing fluids
- Heat transfer fluids
- Drywall joint compound
- Belt wetting agent
- Unsaturated polyester resin
- Plasticizer intermediate for nitrocellulose lacquers, enamels and adhesives

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Chemical

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Typical Properties

Property (Unit)	Typical Value
Appearance	Essentially free of suspended matter
Diethylene glycol, wt. % max.	100.0
Color (APHA) max.	8
Acidity [as acetic acid], wt. % max.	0.005
Chlorides (as Cl), ppm max.	0.1
Iron, ppm max.	0.10
Water, wt. % max.	0.10
Water solubility at 25°C	Miscible in all proportions
Molecular weight	106.12
Boiling point at 760 mm Hg, °C	245.3
Freezing point, °C	-9
Flash point (PMCC), °C	154
Specific gravity at 20/20 °C	1.1182
Specific heat at 20 °C, cal/g/ °C	0.56
Absolute viscosity at 20 °C, cP	35.7
Refractive index at 20 °C	1.4472
Autoignition Temperature °C	364
Critical Pressure Kpa	4.605
Dielectric Constant at 25°C	31.69

Technical Expertise

Texol experts on DEG are regionally located to respond to your needs. Whether you have a question about products, applications or regulations, Texol offers comprehensive customer and technical service.

Product Stewardship

Texol encourages its customers and potential users to review their applications from the standpoint of human health and environmental aspects. To help ensure that Texol products are not used in ways for which they are not intended or tested, Texol personnel will assist customers in dealing with environmental and product safety considerations. Texol literature, including Material Safety Data Sheets (MSDS), should be consulted prior to the use. MSDS are updated regularly, therefore, please request and review the most current MSDS before handling or using any product. MSDS are available from the nearest Texol sales office.