



## DOW Dipropylene Glycol, Regular Grade

### General Description

Dipropylene Glycol (DPG), Regular Grade, is a co-product from the manufacture of monopropylene glycol, involving the high temperature and high pressure hydrolysis of propylene oxide (PO) with excess water. Dipropylene glycol regular grade is a distilled product of greater than 99% purity (as DPG), and is available from The Dow Chemical Company in drum and bulk quantities.

The colorless, practically odorless, water soluble, medium viscosity and hygroscopic liquid with low vapor pressure and low toxicity, is a mixture of structural isomers (oxybispropanol CAS 25265-71-8, EINECS 246-770-3), defined by the manufacturing process, and comprising:

- 1,1'-oxybis-2-propanol (CAS 110-98-5, EINECS 203-821-4)
- 2,2'-oxybis-1-propanol (CAS 108-61-2)
- 2-(2-hydroxypropoxy)-1-propanol (CAS 106-62-7)

### Properties<sup>1</sup> of Dipropylene Glycol, Regular Grade

Chemical Name	Oxybispropanol
Formula	C <sub>6</sub> H <sub>14</sub> O <sub>3</sub>
Molecular Weight (g/mol)	134.2
CAS Number	25265-71-8
EINECS Number	246-770-3
Distillation Range, 101.3 kPa (1 atm)	228–236°C (442–457°F)
Vapor Pressure, 25°C (77°F)	0.0021 kPa (0.016 mm Hg)
Freezing Point	Supercools
Pour Point	-39°C (-38.2°F)
Density, 25°C (77°F)	1.022 g/cm <sup>3</sup>
60°C (140°F)	0.998 g/cm <sup>3</sup>
Refractive Index, 20°C (68°F)	1.439–1.442
Viscosity, 25°C (77°F)	75.0 centipoise (mPa.s)
60°C (140°F)	10.9 centipoise (mPa.s)
Specific Heat, 25°C (77°F)	2.18 J/(g°K) (0.52 Btu/lb/°F)
Surface Tension, 25°C (77°F)	35 mN/m (dynes/cm)
Flash Point, Pensky-Martens Closed Cup	124°C (255°F)
Thermal Conductivity, 25°C (77°F)	0.1672 W/(m°K) (0.09661 Btu/hr ft°F)
Electrical Conductivity, 25°C (77°F)	< 6 micro S/m
Heat of Formation	-628 kJ/mol (-150 Kcal /g-mol)
Heat of Vaporization, 25°C (77°F)	45.4 kJ/mol (257 Btu/lb/°F)

<sup>1</sup>These data are laboratory results typical of the product, and should not be confused with, or regarded as specifications. For a copy of the sales specification, contact your Dow representative or visit our web site at [www.dowpg.com](http://www.dowpg.com).

## Applications

Dipropylene Glycol, Regular Grade, is used as a solvent, coupling agent and chemical intermediate. Typical applications include:

1. Esterification with benzoic acid to make dipropylene glycol dibenzoates for plasticizers
2. A reactant in unsaturated polyester resins to add flexibility and hydrolytic stability to the finished resin
3. Esterification with acrylic acid to make dipropylene glycol diacrylates for radiation cured resin formulations
4. In dicyclopentadiene-based unsaturated polyester resin systems to add flexibility
5. An initiator for urethane polyol synthesis using epoxides, and for the polyol in rigid polyurethane foams

Dipropylene Glycol's excellent solvency for certain oils, low evaporation rate and low toxicity lend its use in brake fluid formulations, cuttings oils, textile lubricants, printing inks, coatings, industrial soaps and as a solvent for agricultural and insecticidal formulations.

## Storage & Handling

DPG has a shelf life of one year when stored below 40°C (104°F) in closed containers away from sources of UV light.

For more details about product handling and safety information, please refer to the Dow Material Safety Data Sheet (MSDS/SDS).

Additional information is available from your Dow representative or on our web site or by calling:

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