

## **Dipropylene Glycol (DPG)**

Dipropylene Glycol (DPG) is used as a reactive intermediate in the manufacture of high-performance unsaturated polyester resins, polyurethanes and plasticizers. DPG has great solvency, a low evaporation rate, low toxicity, high viscosity and low odor, making it a chemical intermediate of choice for many applications, including:

- High-volume plasticizer
- Reactant in unsaturated polyurethane resins, adding flexibility and hydrolytic stability
- Initiator in urethane polyols, and as the polyol itself in some rigid polyurethane systems
- Reactive diluents in radiation-cured resins and coatings, cutting viscosity and enabling easier application

Other effective uses of DPG are:

- Hydraulic brake fluid formulations
- Cutting oils
- Textile lubricants
- Printing inks
- Coatings
- Industrial soaps
- Solvents for agricultural chemicals such as insecticides
- Dyes industries
- Pigments industry
- Flavors & fragrances.

DPG is available in drum and bulk quantities.

### **Applications.**

### **Urethanes**

Glycols such as Propylene glycol ([PGI](#)), and [Dipropylene Glycol \(DPG\)](#) can be used as:

- Initiators for urethane polyol synthesis from epoxides
- The polyol itself in some polyurethane foam systems
- A component for polyurethane/urea elastomers

### **Paint and Coatings**

#### **Adhesives, Sealants and Coatings**

The full range of propylene glycols are used in the synthesis of alkyd resins found in paints, enamels and varnishes.

DPG are used as compatibilizers and for freeze-thaw protection in latex-based paint formulations.

DPG are used as resin solvents in the production of printing inks.

DPG are used to produce acrylate and methacrylate resins for coatings, adhesives and paints. The acrylate derivatives can be used as reactive species in the formulation of radiation (ultraviolet light and electron beam) curable coatings.

#### **Alkyd Resins for Paint and Coatings**

PGI is used as an intermediate in the production of alkyd resins for paints and varnishes. It controls flexibility and hardness.

#### **Latex Paints**

Propylene glycols (PGI, DPG and TPG) are used in latex-based architectural paints to provide freeze and thaw stability. They also enhance the quality of the final film by changing the open time and providing leveling during application.

#### **UV-Curable Resins**

UV-curable (or Radiation Cure) resins are used in printing inks, varnishes, paints and coating applications. These resins offer several advantages, including:

- Increased energy efficiency
- No post curing
- Low volatile organic compound (VOC) emissions
- Fast processing speeds
- Compact plant size

#### **Physical Properties\* of Dipropylene Glycol Regular Grade (DPG)**

Physical Properties	Units	Dipropylene Glycol Regular Grade (DPG)
Chemical Name		oxybispropanol
Formula		C <sub>6</sub> H <sub>14</sub> O <sub>3</sub>
CAS Number <sup>1</sup>		25265-71-8
EINECS Number		246-770-3
Molecular Weight		134.2
Boiling Point	760 mm Hg, °F	450.0
	760 mm Hg, °C	232.2
Vapor Pressure	mm Hg, 77°F (25°C)	0.016
Evaporation Rate	(n-Butyl Acetate = 1)	1.55E-03

## GENERAL SPECIFICATION

### Dipropylene Glycol (DPG)

ASSAY BY GLC AS		99.00%
APPEARANCE		COLOUR LESS CLEAR LIQUID
SP.GRAVITY(20/20C)		1.021
SUSPECTED MATTERS		CLEAR
RESIDUE ON IGNITION	PPM	< 50 PPM
ACEDITY AS ACETIC ACID		0.01
BOILING RANGE		ASTM"C" 1BP 220 ASTM "C"DP235
WATER CONTAIN	%WW	0.6%