

## Technical Data

# MPDiol® Glycol

CAS No. 2163-42-0

### Description

MPDiol glycol (2-Methyl-1,3-Propanediol) is a clear, colorless, low viscosity liquid diol available from Lyondell Chemical Company. This commercially available diol is produced via a proprietary hydroformylation of allyl alcohol—a propylene oxide derivative—at Lyondell's facility in Channelview, Texas.

Because of its unique molecular structure, MPDiol glycol provides the user an exceptional set of properties.

### Typical Properties

Melting Point	-54°C
Boiling Point	212°C @ 760 mm Hg
Specific Gravity	1.015
Density	1.01 g/cm <sup>3</sup> @ 20° C
Viscosity @ 25°C	174 centipoise
Solubility in Water	Infinite
Flash Point (Closed Cup)	127° C
Vapor Pressure @ 100°C	4.3 mm Hg

MPDiol glycol is a branched, aliphatic diol with two primary hydroxyls. Therefore, MPDiol glycol benefits from both molecular characteristics as an intermediate. The particular areas of use and the specific industries which can benefit from using MPDiol glycol are numerous.

### Applications

#### Unsaturated Polyester Resins

The unique molecular structure of MPDiol glycol brings significant process and property advantages to unsaturated polyester resins. The all-primary hydroxyl, high boiling point character of MPDiol glycol increases esterification rates and kettle productivity. Light color resins with excellent styrene miscibility are obtained.

MPDiol glycol provides an excellent balance of tensile strength, elongation and flexibility to the final product. Molding resins can achieve higher elongations and toughness without sacrificing modulus. And, unlike other flexibilizing diols, methyl propanediol will not lead to a loss in chemical resistance, water resistance or weatherability.

#### Gel Coats

The exacting requirements of gel coat systems will benefit from the inherent characteristics of MPDiol glycol. Gel coats formulated with MPDiol glycol have higher strength and elongation, excellent blister resistance and good weatherability.

#### Saturated Polyesters and Alkyds

MPDiol glycol provides a unique balance of performance characteristics to the manufacturer and supplier of high performance saturated polyester resins for coating applications. The ease of handling liquid MPDiol glycol, combined with rapid polyesterifications and low color products, provide greater plant productivity with better product quality.

The unique non-crystallizing nature of MPDiol glycol-based polyesters provides the resin manufacturer the ability to design the resin to fit the customer's specific needs. Very hard, but flexible, coatings with excellent stain resistance and good chemical resistance can be designed with MPDiol glycol.

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### Storage and Handling

#### Plasticizers

The unique non-crystallizing nature of MPDiol glycol-based diesters and polyester plasticizers can provide significant handling benefits to the thermoplastics (PVC) compounder. In addition, the very low glass transition temperature of the MPDiol glycol based derivatives ensures efficient utilization of such premium plasticizers.

MPDiol glycol is a stable material. However, it should be stored away from strong mineral acids, dehydrating agents and strong oxidizing agents. If low water content is important, MPDiol glycol should be protected against excessive exposure to atmospheric moisture and stored under a nitrogen blanket.

MPDiol glycol can be shipped and stored in phenolic-lined, mild steel containers. Using stainless steel will also prolong product consistency. Keep away from heat, sparks and flame.

### Safety and Health

Detailed information and recommendations pertinent to the safe handling of MPDiol glycol are given in Lyondell Chemical Company's Material Safety Data Sheet (MSDS).

This information is believed to be accurate as of the date of publication. It is the sole responsibility of the customer to determine whether the product is appropriate and suitable for the customer's specific use. Specific end uses may require approval by appropriate regulatory agencies. Lyondell Chemical Company makes no warranties, express or implied, regarding the product or information contained therein. The applicable Material Safety Data Sheet should be reviewed by customer before handling the Lyondell Chemical product. Lyondell Chemical Company disclaims any liability for infringement of any patent by reason of customer's use of any Lyondell Chemical Company products in combination with other materials or in any process.

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