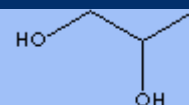


# PROPYLENE GLYCOL

## PRODUCT IDENTIFICATION

CAS NO.	57-55-6
EINECS NO.	200-338-0
FORMULA	CH <sub>3</sub> CHOHCH <sub>2</sub> OH
MOL WT.	76.10
H.S. CODE	2905.39
TOXICITY	Oral rat LD50: 20000 mg/kg
SYNONYMS	Methylethyl glycol; Methylethylene glycol;



1,2-Propanediol; alpha-Propylene glycol; Methyl glycol; Monopropylene glycol; PG; 1,2-Dihydroxypropane; 1,2-Propylene Glycol; 2-Hydroxypropanol; 2,3-Propanediol; Propane-1,2-diol; Trimethyl glycol; 1,2-Propylenglykol; Isopropylene glycol;

DERIVATION Propylene Oxide

## CLASSIFICATION

## PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Clear liquid
MELTING POINT	- 59 C
BOILING POINT	185 - 189 C
SPECIFIC GRAVITY	1.036
SOLUBILITY IN WATER	Miscible
pH	
VAPOR DENSITY	2.6
AUTOIGNITION	510 C
NFPA RATINGS	Health: 0; Flammability: 1; Reactivity: 0
REFRACTIVE INDEX	1.4310 - 1.4340
FLASH POINT	130 C
STABILITY	Stable under ordinary conditions.

## GENERAL DESCRIPTION & APPLICATIONS

Glycol: any of a class of organic chemicals characterized by having separate two hydroxyl (-OH) groups, contribute to high water solubility, hygroscopicity and reactivity with many organic compounds, on usually linear and aliphatic carbon chain. The general formula is C<sub>n</sub>H<sub>2n</sub>(OH)<sub>2</sub> or (CH<sub>2</sub>)<sub>n</sub>(OH)<sub>2</sub>. The wider meaning names include diols, dihydric alcohols, and dihydroxy alcohols. Polyethylene glycols and polypropylene glycols are sometimes called polyglycols which are derived by polymerization of ethylene oxide and propylene oxide respectively. Polyethylene glycols are water-soluble at all molecular weights, but polypropylene glycols become increasingly less water-soluble at high molecular weights. Mono-, di- and tripropylene glycol, the first three members of a homologous series of propylene glycol, are completely water and ethanol soluble; miscible with most organic solvents including acetone, chloroform and some essential oils; soluble in 12 parts of ether. Propylene glycol is an odorless and colorless liquid; boiling point 188 C, freezing point -39 C. Propylene glycol is prepared by hydrolysis of propylene oxide. Large amount of propylene glycol is used in the plastics industry for the manufacture of polyester fibers and alkyd resins. It is used as a main ingredient in automobile antifreeze and engine-cooling liquids and in brake and hydraulic fluids due to its useful properties of low freezing point, involatility and low corrosive activity. It is used in the preparation of body-care surfactants. Propylene glycol is replacing ethylene glycol and ethanol as it is less toxic than ethylene glycol. Propylene glycol is described as a "generally recognized as safe for use in food, cosmetics, and medicines" by FDA. Propylene glycol USP grade is used as a non-toxic antifreeze in breweries and dairies. It is used as a humectant in foods and cosmetics. It is used as a solvent for colouring or flavouring agents as well as in many oral, injectable or topical pharmaceuticals.

Its antibacterial property is applied in the preparation of sanitizing lotions.

**SALES SPECIFICATION**

**INDUSTRIAL GRADE**

APPEARANCE	Clear liquid
ASSAY	99.0% min
WATER	0.2% max
COLOR	10max (Pt/Co Scale)
SPECIFIC GRAVITY	1.035 - 1.037
DISTILL RANGE	185 C (IBP) - 190 C (DP)
REFRACTIVE INDEX	1.4310 - 1.4340
RESIDUE ON IGNITION	0.005% max
CHLORIDES	1ppm max
ARSENIC	1ppm max
HEAVY METALS	5ppm max
IRON	1ppm max
SULFATE	0.006% max

**USP GRADE**

APPEARANCE	Clear liquid
ASSAY	99.7% MIN
WATER	0.2% max
COLOR	10max (Pt/Co Scale)
SPECIFIC GRAVITY	1.035 - 1.037
DISTILL RANGE	185 C (IBP) - 189 C (DP)
REFRACTIVE INDEX	1.4310 - 1.4320
RESIDUE ON IGNITION	0.0035% max
CHLORIDES	1ppm max
ARSENIC	1ppm max
HEAVY METALS	5ppm max
IRON	0.5ppm max
SULFATE	100ppm max

**TRANSPORTATION**

PACKING	210kgs in drum
HAZARD CLASS	Not regulated
UN NO.	

**OTHER INFORMATION**

Hazard Symbols: n/a, Risk Phrases: n/a, Safety Phrases: 24/25