

### PRODUCT IDENTIFICATION



**Product Name:** Propylene Glycol 50% – USP Grade (C3H8O2)

**CAS Number:** 57-55-6

**Molecular Formula:** C<sub>3</sub>H<sub>8</sub>O<sub>2</sub>

**Molecular Weight:** 76.09 g/mol

**Grade:** USP Grade

**Purity / Concentration:** 50% Propylene Glycol

**Synonyms:** Propylene Glycol, 1,2-Propanediol

### PRODUCT OVERVIEW

Propylene Glycol 50% USP Grade is a high-purity, clear, and colorless liquid formulated for consistent performance across sensitive applications. With a strictly controlled impurity profile, including heavy metals at 0.05 ppm and minimal moisture content, this product serves as a reliable solvent and moisture-retaining agent.

**Grade Significance:** USP Grade signifies that the product meets the rigorous quality standards set by the United States Pharmacopeia, ensuring it is safe and pure enough for use in pharmaceutical and food-grade applications.

### CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	50.3	48.5	51.5	USP <921>
Color (APHA)	APHA	5	—	10	USP <631>
Specific Gravity (20°C)	g/mL	1.03	1.026	1.032	USP <841>
Residue After Ignition	%	0.0010	—	0.0070	USP <281>
Water Content	%	0.1	—	0.2	USP <921>
Heavy Metals (as Pb)	ppm	0.05	—	5	USP <231>
Chloride (Cl <sup>-</sup> )	ppm	0.1	—	7	USP <281>
Sulfate (SO <sub>4</sub> <sup>2-</sup> )	ppm	0.2	—	20	USP <221>
Acidity	mL of 0.1 N NaOH	0.1	—	0.2	USP
Aldehydes	%	0.0001	—	0.0010	USP

ND = Not Detected. Values are typical and may vary by lot.

### PHYSICAL & CHEMICAL PROPERTIES

<b>Appearance</b>	Clear, colorless liquid	<b>Odor</b>	Slightly sweet odor
<b>Form</b>	Liquid	<b>Boiling Point</b>	~106
<b>Melting / Freezing Point</b>	-32°C (-25.6°F)	<b>Flash Point</b>	Non-flammable
<b>Specific Gravity</b>	1.04	<b>Solubility</b>	Completely miscible with water
<b>Molecular Formula</b>	C <sub>3</sub> H <sub>8</sub> O <sub>2</sub>	<b>Molecular Weight</b>	76.09 g/mol
<b>Vapor Pressure (20°C)</b>	0.13 mmHg	<b>Viscosity (25°C)</b>	0.87 cP
<b>Refractive Index (20°C)</b>	1.431	<b>Density (25°C)</b>	1.036 g/mL

## APPLICATIONS

1. **Pharmaceuticals** — It acts as a high-quality solvent and carrier for the formulation of various oral, injectable, and topical medications.
2. **Food and Beverage** — This grade is utilized as an effective moisture-retaining agent to maintain the texture and shelf-life of various food formulations.
3. **Analytical Chemistry** — It is commonly employed as a mobile phase component in reversed-phase chromatography for the precise separation of organic compounds.
4. **Industrial Cooling** — The chemical is used in specialized antifreeze formulations to leverage its low freezing point and reliable thermal properties.

## STORAGE & HANDLING

Proper storage in a cool, dry, and well-ventilated area is essential to maintain the product's high purity and prevent contamination. Although it is non-flammable, keeping containers tightly sealed prevents moisture absorption and oxidation, ensuring the material remains within its stringent USP specifications over time.

- Store in a cool, dry place away from direct sunlight.
- Use containers made of HDPE or glass to avoid chemical interaction.
- Keep away from strong oxidizing agents and acids.
- Ensure proper ventilation when handling to minimize inhalation exposure.
- Use appropriate personal protective equipment (PPE) such as gloves and goggles.

## AVAILABLE PACKAGING

- 1 Quart
- 1 Gallon
- 5 Gallon
- 15 Gallon
- 55 Gallon
- 275 Gallon
- 330 Gallon

## SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

### Signal Word: Warning

No GHS pictograms assigned.

### Hazard Statements:

- Not Classified
- Reported as not meeting GHS hazard criteria by 6762 of 6899 companies (only 2% companies provided GHS information). For more detailed information, please visit ECHA C&L website.

**Emergency Contact:** CHEMTEL - 800-255-3924 (24 Hours/Day, 7 Days/Week)

*For complete safety information, refer to the Safety Data Sheet (SDS) for this product.*

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