

PRODUCT IDENTIFICATION



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

CAS Number: 57-55-6

Molecular Formula: C₃H₈O₂

Molecular Weight: 76.09 g/mol

Grade: USP Grade

Purity / Concentration: 50%

Synonyms: Propylene Glycol, 1,2-Propanediol

PRODUCT OVERVIEW

Alliance Chemical offers high-purity Propylene Glycol 50% in a USP Grade formulation, ensuring consistent quality for sensitive applications. With a specific gravity of 1.0447 g/mL and extremely low impurity levels, such as sulfates at 2 ppm, this solution provides reliable performance for pharmaceutical and food-grade processes.

Grade Significance: USP Grade signifies that the product meets the stringent quality and purity standards set by the United States Pharmacopeia, ensuring it is safe for human consumption and medical applications.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay Gc Density	%	50	49.5	50.5	GC or density
Color (APHA)	APHA	3	—	10	APHA
Specific Gravity (20°C)	g/mL	1.0447	1.0397	1.0497	Hydrometer @ 20°C
Arsenic As	ppm	0.5	0	1.5	ICP-MS
Heavy Metals (as Pb)	ppm	≤ 2.5 ppm	—	—	ICP
Iron (Fe)	ppm	≤ 0.3 ppm	—	—	ICP-OES
Lead Pb	ppm	0.2	0	0.5	ICP-MS
Sulfates	ppm	2	0	5	Ion chromatography

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, colorless liquid	Odor	Slightly sweet odor
Form	Liquid	Boiling Point	Not characterized for the 50% solution
Melting / Freezing Point	Not characterized for the 50% solution	Flash Point	210 °F (NTP, 1992)
Specific Gravity	1.037	Solubility	Completely miscible with water
Molecular Formula	C ₃ H ₈ O ₂	Molecular Weight	76.09 g/mol
Vapor Pressure (20°C)	0.13 mmHg	Viscosity (25°C)	0.87 cP
Refractive Index (20°C)	1.431	Density (25°C)	1.036 g/mL

APPLICATIONS

1. **Pharmaceuticals** — Functions as a high-quality solvent and carrier in the formulation of oral, injectable, and topical medications.
2. **Food & Beverage** — Acts as an effective moisture-retaining agent to maintain texture and freshness in various food product formulations.
3. **Analytical Chemistry** — Used as a mobile phase component in reversed-phase chromatography to facilitate the precise separation of organic compounds.
4. **Industrial Cooling** — Utilized in specialized antifreeze formulations due to its low freezing point and stable chemical properties.

STORAGE & HANDLING

Proper storage is essential to maintain the integrity of this USP grade solution and prevent contamination. While it is not classified as a significant hazard, keeping the container tightly sealed in a cool, dry area ensures the purity levels remain within specification and prevents moisture absorption from the air.

- 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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