

PRODUCT IDENTIFICATION



Product Name: Propylene Glycol 40% – USP Grade (C₃H₈O₂)

CAS Number: 57-55-6

Molecular Formula: C₃H₈O₂

Molecular Weight: 76.09 g/mol

Grade: USP Grade

Purity / Concentration: 40%

Synonyms: Propylene Glycol Solution, 1,2-Propanediol 40%

PRODUCT OVERVIEW

Propylene Glycol 40% (CAS 57-55-6) is a high-purity USP Grade aqueous solution characterized by its clear, colorless appearance and specific gravity of 1.0381 g/mL. This versatile liquid serves as a reliable solvent, carrier, and humectant across pharmaceutical, food, and analytical applications.

Grade Significance: USP Grade signifies that this product meets the rigorous quality standards set by the United States Pharmacopeia, ensuring it is safe and consistent for sensitive pharmaceutical and food-grade applications.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay Gc Density	%	40	39.5	40.5	GC or density
Color (APHA)	APHA	3	—	10	APHA
Specific Gravity (20°C)	g/mL	1.0381	1.0331	1.0431	Hydrometer @ 20°C
Arsenic As	ppm	0.5	0	1.5	ICP-MS
Heavy Metals (as Pb)	ppm	≤ 2 ppm	—	—	ICP
Iron (Fe)	ppm	≤ 0.2 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, slightly viscous liquid	Odor	Slightly sweet odor
Form	Liquid	Boiling Point	Not characterized for the 40% solution
Melting / Freezing Point	Not characterized for the 40% solution	Flash Point	210 °F (NTP, 1992)
Specific Gravity	1.033	Solubility	Fully miscible with water and many organic solvents
Molecular Formula	C ₃ H ₈ O ₂	Molecular Weight	76.09 g/mol
Vapor Pressure (20°C)	0.1 mmHg	Viscosity (25°C)	40 cP
Refractive Index (20°C)	1.431	Density (25°C)	1.036 g/mL

APPLICATIONS

1. **Pharmaceuticals** — Functions as a stable solvent and carrier for active pharmaceutical ingredients to ensure uniform delivery in various liquid formulations.
2. **Food & Beverage** — Acts as an effective moisture-retaining agent to enhance product texture and extend shelf life in processed food items.
3. **Cosmetics & Personal Care** — Utilized in skin care products for its superior humectant properties and its ability to act as a solvent for other active ingredients.
4. **Analytical Chemistry** — Commonly employed as a mobile phase component in reversed-phase chromatography for the precise separation of complex organic compounds.

STORAGE & HANDLING

Proper storage in a cool, dry, and well-ventilated area is essential to maintain the chemical integrity and purity of this USP Grade solution. While not classified as a hazardous substance, protecting the container from contamination ensures that the product remains within strict COA specifications for heavy metals and density.

- Store in a cool, dry place away from direct sunlight.
- Use materials compatible with propylene glycol, such as HDPE or glass containers.
- Avoid contact with strong oxidizing agents.
- Ensure proper ventilation when handling to minimize inhalation exposure.
- Use appropriate personal protective equipment (PPE) such as gloves and safety 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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