

PRODUCT IDENTIFICATION



Product Name: Propylene Glycol USP Grade

CAS Number: 57-55-6

Molecular Formula: C₃H₈O₂

Molecular Weight: 76.09 g/mol

Grade: USP Grade

Purity / Concentration: 100%

Synonyms: 1,2-Propanediol, Propylene Glycol

PRODUCT OVERVIEW

Propylene Glycol USP Grade is a high-purity, colorless liquid that serves as a versatile solvent and moisture-retaining agent. With an assay of 100% and exceptionally low impurity levels, such as 0.3 ppm chlorides and 0.5 ppm arsenic, it provides consistent performance across sensitive applications.

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 human-grade pharmaceutical and food applications.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay Gc Density	%	100.0	99.5	100.5	GC or density
Color (APHA)	APHA	3	—	10	APHA
Specific Gravity (20°C)	g/mL	1.0361	1.0311	1.0411	Hydrometer @ 20°C
Water Karl Fischer	%	0.1	0	0.2	Karl Fischer
Arsenic As	ppm	0.5	0	1.5	ICP-MS
Heavy Metals (as Pb)	ppm	1	0	5	ICP
Lead Pb	ppm	0.2	0	0.5	ICP-MS
Chlorides	ppm	0.3	0	1	Ion chromatography
Sulfates	ppm	2	0	5	Ion chromatography

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Transparent, mobile, colorless glycol liquid	Odor	Slightly sweet odor
Form	Liquid	Boiling Point	370.8 °F at 760 mmHg (NTP, 1992)
Melting / Freezing Point	-76 °F (NTP, 1992)	Flash Point	210 °F (NTP, 1992)
Solubility	High water solubility	Molecular Formula	C ₃ H ₈ O ₂
Molecular Weight	76.09 g/mol	Vapor Pressure (20°C)	0.08 mmHg
Viscosity (25°C)	40 cP	Refractive Index (20°C)	1.431
Density (25°C)	1.036 g/mL	Decomposition Temp.	Decomposes above 188°C

APPLICATIONS

1. **Pharmaceutical** — Functions as a reliable solvent and stabilizer in drug formulations, ensuring the efficacy and safety of liquid medications.
2. **Food & Beverage** — Acts as an effective moisture-retaining agent in food formulations, helping to maintain texture and freshness in various consumer products.
3. **Analytical Chemistry** — Utilized as a critical mobile phase component in reversed-phase chromatography for the precise separation and analysis of organic compounds.
4. **Industrial Cooling** — Provides a non-toxic alternative for cooling systems and de-icing applications where safety and thermal efficiency are required.

STORAGE & HANDLING

Proper storage is essential to maintain the high purity of USP grade propylene glycol and prevent contamination from atmospheric moisture or airborne impurities. While it is not classified as a hazardous substance, it should be kept in a cool, dry, and well-ventilated area to ensure long-term stability.

- 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 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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