TECHNICAL DATA SHEET

Propylene Glycol USP Grade

Revised: 04/27/2026

PRODUCT IDENTIFICATION

Product Name: Propylene Glycol USP Grade
CAS Number: 57-55-6
Molecular Formula: $C_3H_8O_2$
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, and odorless liquid widely recognized for its versatility in sensitive formulations. With a minimum assay of 99.8% and extremely low impurity levels, it serves as a reliable solvent and moisture-retaining agent across various professional sectors.

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

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	99.8	99.5	100.5	GC
Color (APHA)	APHA	5	—	10	USP <631>
Specific Gravity (20°C)	g/mL	1.036	1.035	1.037	USP <841>
Residue After Ignition	%	0.0010	—	0.0070	USP <281>
Water Content	%	0.1	—	0.2	USP <921>
Heavy Metals (as Pb)	ppm	0.1	—	5	USP <231>
Chloride (Cl^-)	ppm	1	—	7	USP <221>
Sulfate (SO_4^{2-})	ppm	1	—	10	USP <221>
Acidity	mL of 0.1 N NaOH	0.1	—	0.2	USP
Identification	—	Passes Test	—	—	USP <191>

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**	188°C (370.4°F)
Melting / Freezing Point	-59°C (-74.2°F)	**Flash Point**	104°C (219.2°F)
Solubility	High water solubility	**Molecular Formula**	$C_3H_8O_2$
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. **Pharmaceuticals** — Functions as a high-quality solvent and carrier for drug formulations, ensuring stability and safety in medical products.
2. **Food and Beverage** — Used as an effective humectant to maintain moisture levels and improve the texture of various food formulations.
3. **Laboratory Research** — Utilized as a critical component in the mobile phase for reversed-phase chromatography to accurately separate complex organic compounds.
4. **Industrial Cooling** — Acts as a non-toxic antifreeze agent in cooling systems and de-icing applications where safety and performance are both required.

STORAGE & HANDLING

Propylene Glycol is hygroscopic, meaning it readily absorbs moisture from the air, which can degrade its high-purity profile over time. To maintain its USP integrity and prevent contamination, it should be stored in a cool, dry, and well-ventilated area in tightly sealed containers.

- 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.

Alliance Chemical | 204 South Edmond St, Taylor, Texas 76574 | 512-365-6838 | www.alliancechemical.com

Disclaimer: The information contained herein is believed to be accurate and represents the best information currently available to us. However, Alliance Chemical makes no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.