TECHNICAL DATA SHEET

Glycerin USP Grade

Revised: 08/11/2026

PRODUCT IDENTIFICATION

Product Name: Glycerin USP Grade
CAS Number: 56-81-5
Molecular Formula: $C_3H_8O_3$
Molecular Weight: 92.09 g/mol
Grade: USP Grade
Purity / Concentration: 100%
Synonyms: Glycerol, 1,2,3-Propanetriol

PRODUCT OVERVIEW

Alliance Chemical offers high-purity Glycerin USP Grade, a clear and viscous liquid characterized by its 99.5% assay and low impurity profile. This versatile chemical serves as a reliable humectant and solvent, meeting rigorous quality standards for sensitive formulations across multiple sectors.

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

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay Gc Density	%	99.5	99	100.0	GC or density
Color (APHA)	APHA	6	—	10	APHA
Specific Gravity (20°C)	g/mL	1.262	1.261	1.263	Hydrometer @ 20°C
Viscosity	cP	567.0	556.0	—	Per specification
Residue On Ignition	%	≤ 1 %	—	—	Ignition
Water Karl Fischer	%	0.4	—	5	Karl Fischer
Arsenic (As)	ppm	0.45	—	1.5	Per specification
Heavy Metals (as Pb)	ppm	≤ 5 ppm	—	—	ICP
Lead Pb	ppm	≤ 1 ppm	—	—	ICP-MS
Chlorides	ppm	6	—	30	Ion chromatography
Sulfates	ppm	≤ 20 ppm	—	—	Ion chromatography
Acid Value	mg KOH/g	≤ 1 mg KOH/g	—	—	Titration
Acidity	%	0.1	—	1	Titration

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, colorless, thick viscous liquid	**Odor**	Slightly sweet odor
Form	Liquid	**Boiling Point**	554 °F at 760 mmHg (decomposes) (NTP, 1992)
Melting / Freezing Point	64 °F (NTP, 1992)	**Flash Point**	320 °F (NTP, 1992)
Solubility	Fully miscible with water, alcohols, many solvents	**Molecular Formula**	$C_3H_8O_3$
Molecular Weight	92.09 g/mol	**Vapor Pressure (20°C)**	0.0012 mmHg
Viscosity (25°C)	1.412 cP	**Refractive Index (20°C)**	1.474
Density (25°C)	1.261 g/mL		

APPLICATIONS

1. **Pharmaceuticals** — Functions as a high-quality solvent and humectant to ensure the stability and texture of various medicinal formulations.
2. **Personal Care** — Widely utilized in skincare products for its superior moisturizing properties and ability to retain skin hydration.
3. **Food and Beverage** — Acts as a safe sweetener and preservative to maintain the quality and shelf-life of consumable goods.
4. **Industrial** — Leveraged in antifreeze formulations due to its effective low freezing point, providing reliable performance in cold environments.

STORAGE & HANDLING

Glycerin is hygroscopic, meaning it readily absorbs moisture from the air, which can compromise its purity and viscosity. Proper storage in a tightly sealed container is essential to prevent contamination and maintain the integrity of the product.

- Store in a cool, dry place away from direct sunlight.
- Use materials compatible with glycerin, such as HDPE or glass containers.
- Avoid contact with strong oxidizing agents.
- Ensure proper ventilation in storage areas.
- Use personal protective equipment (PPE) such as gloves and goggles when handling.

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 5522 of 5617 companies (only 1.7% 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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