TECHNICAL DATA SHEET

50% Propylene Glycol Technical Grade

Revised: 08/09/2026

PRODUCT IDENTIFICATION

Product Name: 50% Propylene Glycol Technical Grade
CAS Number: 57-55-6
Molecular Formula: $C_3H_8O_2$
Molecular Weight: 76.09 g/mol
Grade: Technical Grade
Purity / Concentration: 50%
Synonyms: Propylene Glycol 50%, Propylene Glycol Solution

PRODUCT OVERVIEW

Alliance Chemical offers 50% Propylene Glycol Technical Grade, a high-purity solution featuring a clear, colorless appearance and a specific gravity of 1.0447 g/mL. This versatile aqueous solution is engineered for consistent performance across industrial applications, maintaining exceptional quality with iron levels below 0.25 ppm.

Grade Significance: Technical Grade indicates that this product is manufactured for industrial and commercial utility, balancing cost-effectiveness with the consistent purity required for reliable manufacturing results.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay Gc	%	50	49.5	50.5	GC
Color (APHA)	APHA	3	—	10	APHA
Specific Gravity (20°C)	g/mL	1.0447	1.0397	1.0497	Hydrometer @ 20°C
Heavy Metals As Pb	ppm	≤ 2.5 ppm	—	—	ICP-MS
Iron (Fe)	ppm	≤ 0.25 ppm	—	—	ICP-MS
Chlorides As Cl	ppm	≤ 0.25 ppm	—	—	ICP
Acidity As Acetic	ppm	3	0	10	Titration

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, colorless liquid	**Odor**	Slightly sweet odor
Boiling Point	188°C (371°F)	**Melting / Freezing Point**	-59°C (-74°F)
Flash Point	104°C (219°F)	**Specific Gravity**	1.04 (20 °C)
Solubility	Miscible with water and many organic solvents	**Molecular Formula**	$C_3H_8O_2$
Molecular Weight	76.09 g/mol	**Vapor Pressure (20°C)**	0.1 mmHg
Viscosity (25°C)	50 cP	**Refractive Index (20°C)**	1.431
Density (25°C)	1.036 g/mL	**Decomposition Temp.**	No significant decomposition below 150 °C under normal storage

APPLICATIONS

1. **Laboratory Research** — Functions as a reliable mobile phase component in reversed-phase high-performance liquid chromatography for the precise separation of organic compounds.
2. **Cosmetics and Personal Care** — Utilized as an effective humectant that helps cosmetic formulations retain moisture, improving the texture and stability of the end product.
3. **Automotive** — Serves as a non-toxic antifreeze agent in cooling systems, providing essential thermal management while minimizing environmental impact.
4. **Paints and Coatings** — Acts as a high-quality solvent that enhances the flow and leveling properties of paints and industrial coatings during application.

STORAGE & HANDLING

Proper storage in a cool, dry, and well-ventilated area is essential to maintain the concentration and purity of the 50% Propylene Glycol solution. While the product is not classified as hazardous, keeping containers tightly sealed prevents contamination and ensures the long-term stability of its chemical properties.

- Store in a cool, dry place away from direct sunlight.
- Use materials compatible with polyethylene or stainless steel for storage.
- Avoid contact with strong oxidizing agents.
- Ensure proper ventilation when handling to minimize inhalation risks.
- Use 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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