

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 a 50% Propylene Glycol Technical Grade solution, characterized by its high clarity and consistent specific gravity of 1.0447 g/mL. This aqueous formulation serves as a reliable, non-toxic solvent and humectant suitable for various industrial and analytical applications.

Grade Significance: Technical Grade indicates that this product is manufactured for industrial and commercial use where consistent performance is required, though it is not intended for food or pharmaceutical applications.

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	~106 °C	Melting / Freezing Point	-34 °C (freeze / crystallization onset)
Flash Point	Not flammable (aqueous solution)	Specific Gravity	1.046
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. **Analytical Chemistry** — Used as a mobile phase component in reversed-phase high-performance liquid chromatography to facilitate the effective separation of organic compounds.
2. **Cosmetics** — Functions as a humectant in various formulations to help products retain moisture and improve skin hydration.
3. **Automotive** — Acts as a safe, non-toxic antifreeze agent in cooling systems to prevent freezing and ensure optimal thermal regulation.
4. **Paints and Coatings** — Serves as an essential solvent in coating formulations to enhance flow properties and overall application consistency.

STORAGE & HANDLING

Propylene Glycol should be stored in a cool, dry, and well-ventilated area to maintain its purity and prevent contamination. While it is not classified as a hazardous substance, keeping containers tightly sealed ensures the solution remains stable and free from moisture absorption over time.

- 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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