TECHNICAL DATA SHEET

Ethylene Glycol 50/50

Revised: 06/30/2026

PRODUCT IDENTIFICATION

Product Name: Ethylene Glycol 50/50
CAS Number: 107-21-1
Molecular Formula: $C_2H_6O_2$
Molecular Weight: 62.07 g/mol
Grade: Technical
Purity / Concentration: 50%
Synonyms: Ethylene Glycol Solution, Ethylene Glycol Mixture

PRODUCT OVERVIEW

Our Technical Grade Ethylene Glycol 50/50 is a high-quality, pre-diluted aqueous solution formulated for consistent performance in thermal management. With a specific gravity of 1.072 and extremely low impurity levels, this clear liquid is engineered for reliable heat transfer and anti-freeze applications.

Grade Significance: Technical grade signifies that the product is manufactured to meet industrial performance standards, offering a cost-effective solution for applications where high-purity pharmaceutical or food-grade specifications are not required.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	50.1	49.5	50.5	ASTM D4377
Color (APHA)	APHA	5	—	10	ASTM D1209
Specific Gravity (20°C)	g/mL	1.072	—	—	ASTM D4052
Water Content	%	0.1	—	0.2	ASTM E203
Heavy Metals (as Pb)	ppm	0.05	—	1	ASTM D5808
Iron (Fe)	ppm	0.05	—	0.2	ASTM D5808
Chloride (Cl^-)	ppm	0.1	—	1	ASTM D5808
Sulfate (SO_4^{2-})	ppm	0.2	—	2	ASTM D5808
Acidity As Acetic Acid	%	0.0010	—	0.0050	ASTM D1613
Diethylene Glycol	%	0.05	—	0.1	GC

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, viscous, colorless liquid solution	**Odor**	Slightly sweet odor
Form	Liquid	**Boiling Point**	197°C (386.6°F)
Melting / Freezing Point	-13°C (8.6°F)	**Flash Point**	111°C (231.8°F)
Specific Gravity	1.07	**Solubility**	Water-soluble, miscible with organic solvents
Molecular Formula	$C_2H_6O_2$	**Molecular Weight**	62.07 g/mol
Vapor Pressure (20°C)	0.06 mmHg	**Viscosity (25°C)**	20.1 cP
Refractive Index (20°C)	1.431	**Density (25°C)**	1.115 g/mL
Decomposition Temp.	No decomposition below 100°C; decomposes around 198-250°C under air (gradual) depending on impurities		

APPLICATIONS

1. **Automotive** — Used as a high-performance coolant in engines to effectively manage heat and prevent freezing in cold climates.
2. **HVAC and Industrial Manufacturing** — Serves as a critical heat transfer fluid in large-scale cooling systems and industrial process temperature control.
3. **Aerospace** — Applied as a de-icing agent on aircraft surfaces to ensure safety and operational integrity during winter weather.
4. **Hydraulics** — Utilized in specialized hydraulic systems where its lubricating properties and thermal stability are required for smooth operation.

STORAGE & HANDLING

Proper storage is essential to maintain the concentration and purity of the solution, preventing contamination that could compromise thermal performance. Because this product is harmful if swallowed, it must be stored in clearly labeled, tightly sealed containers in a cool, well-ventilated area away from incompatible substances.

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

Hazard Statements:

- H302: Harmful if swallowed [Warning Acute toxicity, oral]

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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