TECHNICAL DATA SHEET

Ethylene Glycol 50/50

Revised: 05/05/2026

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

Ethylene Glycol 50/50 is a high-quality technical grade solution providing a balanced 50% concentration for optimal thermal performance. With a low APHA color of 5 and precise specific gravity of 1.072, this mixture is engineered for reliable use in automotive cooling and industrial heat transfer systems.

Grade Significance: Technical grade indicates that this product is manufactured for industrial and commercial utility, ensuring it meets strict purity standards for performance-critical applications.

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 primary coolant in engines to prevent both freezing in cold temperatures and overheating during operation.
2. **Industrial Manufacturing** — Serves as an efficient heat transfer fluid in closed-loop systems to maintain stable process temperatures.
3. **Aerospace** — Applied to aircraft surfaces as a de-icing agent to safely remove and prevent ice accumulation during winter operations.
4. **Hydraulics** — Utilized in hydraulic systems where its viscous properties provide excellent lubrication and consistent pressure transmission.

STORAGE & HANDLING

Proper storage in a cool, dry, and well-ventilated area is essential to maintain the integrity of the solution and prevent degradation. Because this product is harmful if swallowed, it must be stored in clearly labeled, secure containers to prevent accidental ingestion or exposure.

- 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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