

PRODUCT IDENTIFICATION

**Product Name:** Ethylene Glycol 60/40**CAS Number:** 107-21-1**Molecular Formula:** $C_2H_6O_2$ **Molecular Weight:** 62.07 g/mol**Grade:** Technical Grade**Purity / Concentration:** 60%**Synonyms:** Ethylene Glycol Solution, Ethylene Glycol Blend

PRODUCT OVERVIEW

Ethylene Glycol 60/40 is a high-quality technical grade aqueous solution designed for reliable thermal regulation and de-icing performance. With a controlled assay of 61% and a low APHA color value of 5, this blend ensures consistent chemical stability for demanding industrial applications.

Grade Significance: Technical Grade indicates that this product is formulated for industrial and commercial utility where high performance is required, though it is not intended for pharmaceutical or food-grade applications.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	61	60	62	Titration with standardized NaOH
Color (APHA)	APHA	5	—	10	APHA/Hazen visual comparison
Specific Gravity (20°C)	g/mL	1.0625	1.06	1.065	Hydrometer or pycnometer at 20°C
Residue After Ignition	%	0.05	—	0.15	Gravimetric residue after ignition
Aluminum (Al)	ppm	0.1	—	0.5	ICP-OES
Arsenic (As)	ppm	0.02	—	0.1	ICP-MS
Calcium (Ca)	ppm	5	—	20	ICP-OES
Chromium (Cr)	ppm	0.1	—	0.5	ICP-OES
Cobalt (Co)	ppm	0.1	—	0.5	ICP-OES
Copper (Cu)	ppm	0.05	—	0.2	ICP-OES
Heavy Metals (as Pb)	ppm	0.05	—	0.2	ICP-OES
Iron (Fe)	ppm	0.1	—	0.5	ICP-OES
Lead (Pb)	ppm	0.05	—	0.2	ICP-OES
Magnesium (Mg)	ppm	5	—	20	ICP-OES
Manganese (Mn)	ppm	0.05	—	0.2	ICP-OES
Nickel (Ni)	ppm	0.05	—	0.2	ICP-OES
Potassium (K)	ppm	2	—	5	ICP-OES
Sodium (Na)	ppm	2	—	5	ICP-OES
Zinc (Zn)	ppm	0.2	—	0.5	ICP-OES
Ammonium (NH ₄ ⁺)	ppm	1	—	5	Ion chromatography
Chloride (Cl ⁻)	ppm	4	—	10	Ion chromatography (IC) or IC-ICP-OES
Nitrate (NO ₃ ⁻)	ppm	2	—	5	Ion chromatography
Phosphate (PO ₄ ³⁻)	ppm	1	—	5	Ion chromatography
Sulfate (SO ₄ ²⁻)	ppm	20	—	50	Ion chromatography

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Colorless, viscous liquid	Odor	Slightly sweet odor
Form	Liquid	Boiling Point	387.7 °F at 760 mmHg (NTP, 1992)
Melting / Freezing Point	Freezing point ≈ -48 °C	Flash Point	Non-flammable as an aqueous blend. Prior 232 °F was the pure-EG value.
Specific Gravity	1.08	Solubility	Soluble in water and alcohols
Molecular Formula	C ₂ H ₆ O 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

APPLICATIONS

1. **Automotive** — Used as a primary component in engine coolant systems to effectively lower the freezing point and prevent overheating.
2. **Industrial Manufacturing** — Serves as an efficient heat transfer medium in closed-loop cooling and heating systems to maintain precise operational temperatures.
3. **Aviation** — Applied to aircraft surfaces during cold weather operations to act as an anti-icing agent and ensure flight safety.
4. **Chemical Processing** — Functions as a versatile solvent for various chemical synthesis reactions and industrial formulation processes.

STORAGE & HANDLING

Proper storage is critical to prevent contamination and maintain the integrity of the chemical blend. Because this product is harmful if swallowed, it must be stored in a cool, well-ventilated area in tightly sealed containers to minimize exposure risks and prevent evaporation.

- 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 exposure.
- 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**



Hazard Statements:

- H302: Harmful if swallowed
- H373: May cause damage to organs through prolonged or repeated exposure

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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