

PRODUCT IDENTIFICATION



Product Name: Ethylene Glycol ACS Grade

CAS Number: 107-21-1

Molecular Formula: C₂H₆O₂

Molecular Weight: 62.07 g/mol

Grade: ACS Grade

Purity / Concentration: Not Available

Synonyms: Ethylene Glycol, 1,2-Ethanediol

PRODUCT OVERVIEW

Alliance Chemical offers high-purity Ethylene Glycol ACS Grade, featuring an assay of 99.9% and exceptionally low impurity levels for demanding laboratory and industrial applications. This clear, colorless liquid is engineered for precision, serving as a reliable solvent and chemical intermediate across various technical sectors.

Grade Significance: ACS Grade signifies that this product meets the rigorous standards set by the American Chemical Society, ensuring the high purity required for analytical chemistry and sensitive industrial processes.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	99.9	99.5	—	GC
Color (APHA)	APHA	5	—	10	ASTM D1209
Specific Gravity (20°C)	g/mL	1.114	1.113	1.115	USP <841>
Residue After Ignition	%	0.0005	—	0.0050	ACS
Water Content	%	0.02	—	0.1	Karl Fischer Titration
Heavy Metals (as Pb)	ppm	0.05	—	1	ICP-MS
Iron (Fe)	ppm	0.05	—	0.2	ICP-MS
Chloride (Cl ⁻)	ppm	0.1	—	1	Ion Chromatography
Sulfate (SO ₄ ²⁻)	ppm	0.2	—	2	Ion Chromatography
Acidity	—	Passes Test	—	—	ACS
Aldehydes	%	0.0002	—	0.0010	ACS

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, colorless liquid	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 (232°F)
Specific Gravity	1.113	Solubility	Soluble in water, alcohol, and other polar solvents
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)	1.113 g/mL

APPLICATIONS

- 1. Automotive** — Used as a primary component in antifreeze and cooling systems to effectively lower the freezing point and raise the boiling point of engine coolant.
- 2. Chemical Manufacturing** — Serves as a high-purity solvent for complex chemical reactions and synthesis processes requiring strict contamination control.
- 3. Hydraulics** — Utilized in hydraulic fluids due to its stable viscosity profile, low freezing point, and high boiling point under operational pressure.
- 4. Food Processing** — Acts as a specialized humectant used in controlled environments to help retain moisture and maintain product consistency.

STORAGE & HANDLING

Ethylene Glycol is hygroscopic, meaning it absorbs moisture from the air, which can compromise its high-purity ACS specifications if not stored in a tightly sealed container. Proper storage in a cool, well-ventilated area is essential to mitigate health risks associated with its classification as harmful if swallowed.

- Store in a cool, dry place away from direct sunlight.
- Use containers made of HDPE or glass to prevent chemical reactions.
- Keep away from strong oxidizing agents and acids.
- Ensure proper ventilation when handling to avoid inhalation of vapors.
- Wear appropriate personal protective equipment (PPE) including 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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