

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's Ethylene Glycol ACS Grade is a high-purity solvent and antifreeze, boasting an assay of 99.9%. This clear, colorless liquid is primarily used in automotive cooling systems to prevent freezing and overheating. Its stringent quality controls ensure reliable performance in demanding applications.

Grade Significance: ACS Grade Ethylene Glycol meets the stringent purity standards set by the American Chemical Society, guaranteeing its suitability for demanding laboratory and analytical applications. This ensures reliable and reproducible results in research and quality control settings.

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 (387°F)
Melting / Freezing Point	-13°C (9°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** — Ethylene glycol is a crucial component in engine coolants, lowering the freezing point and raising the boiling point to protect against extreme temperatures and prevent corrosion within the cooling system. This ensures optimal engine performance and longevity.
- 2. Chemical Processing** — As a versatile solvent, Ethylene Glycol facilitates various chemical reactions and processes. Its ability to dissolve a wide range of substances makes it invaluable in synthesis and purification procedures.
- 3. Hydraulics** — Ethylene glycol is used in hydraulic fluids, providing reliable performance in systems requiring a stable viscosity and a wide operating temperature range. Its low freezing point ensures proper function in cold environments.
- 4. Food and Beverage** — In certain food-related applications, Ethylene Glycol acts as a humectant, retaining moisture and preventing products from drying out. However, its use in food is highly regulated and must adhere to strict safety guidelines.
- 5. Laboratory** — ACS Grade Ethylene Glycol is suitable for laboratory use as a solvent, reagent, or as a component in buffer solutions. The high purity ensures accurate and reproducible results in analytical and research applications.
- 6. Textiles** — Ethylene Glycol is used in the textile industry as a component in fiber production and dyeing processes. It can act as a solvent or a chemical intermediate, contributing to the properties and appearance of textile products.

STORAGE & HANDLING

Proper storage of Ethylene Glycol is essential to prevent contamination and maintain its purity. It should be stored in tightly sealed containers in a cool, dry, and well-ventilated area, away from incompatible materials. While it has a 'Warning' signal word, following proper storage guidelines minimizes the risk of exposure and maintains product integrity.

- 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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