TECHNICAL DATA SHEET

Ethylene Glycol Inhibited ACS Grade

Revised: 02/20/2026

PRODUCT IDENTIFICATION

Product Name: Ethylene Glycol Inhibited ACS Grade
CAS Number: 107-21-1
Molecular Formula: $C_2H_6O_2$
Molecular Weight: 62.07 g/mol
Grade: ACS Grade
Purity / Concentration: 100%
Synonyms: Ethylene Glycol with Inhibitors, Ethylene Glycol ACS

PRODUCT OVERVIEW

Alliance Chemical's Ethylene Glycol Inhibited ACS Grade is a high-purity solvent and coolant, boasting an assay of 99.8% and a low water content of 0.02%. This ACS-grade product is a clear, colorless, viscous liquid, ideal for use in automotive cooling systems to prevent freezing and overheating. Its inhibited formula ensures compatibility and extended lifespan in demanding applications.

Grade Significance: ACS Grade signifies that this Ethylene Glycol meets the stringent purity requirements set by the American Chemical Society (ACS). This ensures that the product is of high quality and suitable for use in analytical and research applications where accuracy and reproducibility are paramount.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	99.8	95	—	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
Heavy Metals (as Pb)	ppm	0.05	—	1	ICP-MS
Iron (Fe)	ppm	0.05	—	0.2	ICP-MS
Chloride (Cl^-)	ppm	0.1	—	5	Ion Chromatography
Sulfate (SO_4^{2-})	ppm	0.2	—	5	Ion Chromatography
Acidity	—	Passes Test	—	—	ACS
Aldehydes	ppm	2	—	5	ACS

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, colorless viscous 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**	Fully miscible with water, polar 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)	1.433	**Density (25°C)**	1.113 g/mL

APPLICATIONS

1. **Automotive** — Ethylene Glycol is a crucial component in automotive cooling systems, acting as an antifreeze to prevent freezing in cold temperatures and raising the boiling point to prevent overheating in hot conditions. The inhibited formulation protects metal components from corrosion, extending the lifespan of the cooling system.
2. **Industrial Heat Transfer** — In various industrial processes, Ethylene Glycol serves as an efficient heat transfer medium due to its high boiling point and stable thermal properties. It's used in closed-loop systems to transfer heat from one location to another, ensuring consistent temperature control.
3. **Chemical Synthesis** — Ethylene Glycol acts as a versatile solvent in organic synthesis and chemical reactions. Its ability to dissolve a wide range of compounds makes it useful in various chemical processes, and its high purity ensures minimal interference with reaction outcomes.
4. **Hydraulic Systems** — Due to its low freezing point and high boiling point, Ethylene Glycol is utilized in hydraulic systems, particularly in applications where extreme temperatures are encountered. It ensures reliable operation of hydraulic equipment in challenging environments.
5. **Laboratory Research** — ACS-grade Ethylene Glycol is often used in laboratory settings for research and analysis where high purity and well-defined specifications are essential. The consistent quality and minimal impurities make it suitable for sensitive experiments and analytical procedures.
6. **HVAC Systems** — Ethylene Glycol solutions are used in HVAC (Heating, Ventilation, and Air Conditioning) systems for freeze protection in chilled water loops. This ensures the system's integrity and prevents damage from freezing during cold weather.

STORAGE & HANDLING

Proper storage of Ethylene Glycol Inhibited ACS Grade is crucial to maintain its purity and prevent degradation. Storing in tightly sealed containers in a cool, dry, and well-ventilated area minimizes the risk of contamination and exposure to moisture. While it presents a 'Harmful if Swallowed' hazard, appropriate storage prevents accidental ingestion or spillage, ensuring a safe working environment.

- 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 and acids.
- Ensure proper ventilation when handling to minimize inhalation exposure.
- 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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