

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

Ethylene Glycol ACS Grade is a high-purity, colorless liquid characterized by a 99.93% assay and exceptional consistency, making it ideal for demanding laboratory and industrial applications. With an APHA color rating of 2 and extremely low trace metal content, this reagent ensures reliable performance in precise chemical processes.

Grade Significance: ACS Grade designation signifies that this product meets the rigorous purity standards set by the American Chemical Society, ensuring it is suitable for sensitive analytical and laboratory use.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay Gc	%	99.93	99.43	100.4	GC
Color (APHA)	APHA	2	0	5	APHA
Specific Gravity (20°C)	g/mL	1.1158	1.1108	1.1208	Hydrometer @ 20°C
Water Karl Fischer	%	0.04	0	0.05	Karl Fischer
Iron (Fe)	ppm	0.0070	0	0.1	ICP-MS
Chlorides As Cl	ppm	0.1	0	0.5	ICP
Acidity As Acetic	ppm	5	0	30	Titration
Aldehydes As Acetaldehyde	ppm	9	0	30	Spectrophotometry
Ash	ppm	10	0	40	Residue on Ignition
Deg Content	%	0.0234	0	0.05	GC
Uv Transmittance 220Nm	%T	85.3	70	—	UV Spectrophotometry
Uv Transmittance 275Nm	%T	95.2	90	—	UV Spectrophotometry
Uv Transmittance 350Nm	%T	100.0	98	—	UV Spectrophotometry

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	387.7 °F at 760 mmHg (NTP, 1992)
Melting / Freezing Point	9 °F (NTP, 1992)	Flash Point	232 °F (NTP, 1992)
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** — Functions as a critical component in engine cooling systems, effectively lowering the freezing point of coolant to prevent winter damage.
2. **Chemical Manufacturing** — Serves as a versatile solvent for various synthesis reactions where high-purity chemical environments are required.
3. **Industrial Hydraulics** — Utilized in hydraulic systems to leverage its wide liquid range, maintaining stability across both high and low temperature extremes.
4. **Food Processing** — Acts as a specialized humectant to help retain moisture levels in specific food-grade product formulations.

STORAGE & HANDLING

Ethylene Glycol should be stored in a cool, well-ventilated area to maintain its chemical integrity and prevent degradation. Given its classification as harmful if swallowed and potential for organ damage through chronic exposure, secure storage is essential to prevent accidental ingestion or environmental release.

- 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
- 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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