

PRODUCT IDENTIFICATION



Product Name: Propylene Glycol Inhibited ACS Grade

CAS Number: 57-55-6

Molecular Formula: C₃H₈O₂

Molecular Weight: 76.09 g/mol

Grade: ACS Grade

Purity / Concentration: 100%

Synonyms: 1,2-Propanediol, Propylene Glycol

PRODUCT OVERVIEW

Propylene Glycol Inhibited ACS Grade is a high-purity, clear, and colorless solvent featuring a 99.8% assay and extremely low impurity levels, such as 0.1 ppm for chlorides. This versatile 1,2-propanediol is widely utilized across sensitive laboratory and industrial applications where consistent chemical performance is required.

Grade Significance: ACS Grade signifies that the chemical meets the strict purity standards set by the American Chemical Society, ensuring the product is suitable for laboratory use and rigorous analytical testing.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

| PARAMETER | UNIT | TYPICAL | MIN | MAX | TEST METHOD |
|--|------|-------------|-------|--------|--------------------|
| Assay (wt%) | % | 99.8 | 99.5 | — | GC |
| Color (APHA) | APHA | 5 | — | 10 | ASTM D1209 |
| Specific Gravity (20°C) | g/mL | 1.037 | 1.036 | 1.038 | USP <841> |
| Residue After Ignition | % | 0.0010 | — | 0.0050 | ACS |
| Water Content | % | 0.05 | — | 0.2 | Karl Fischer |
| Heavy Metals (as Pb) | ppm | 0.1 | — | 1 | ICP-MS |
| Iron (Fe) | ppm | 0.05 | — | 1 | ICP-MS |
| Chloride (Cl ⁻) | ppm | 0.1 | — | 5 | Ion Chromatography |
| Sulfate (SO ₄ ²⁻) | ppm | 0.2 | — | 5 | Ion Chromatography |
| Acidity | — | Passes Test | — | — | Titration |
| Aldehydes | % | 0.0010 | — | 0.0010 | Spectrophotometry |

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 | 188°C (370.4°F) |
| Melting / Freezing Point | -59°C (-74.2°F) | Flash Point | 104°C (219.2°F) |
| Specific Gravity | 1.036 | Solubility | Highly water miscible, broad organic solvent compatibility |
| Molecular Formula | C ₃ H ₈ O ₂ | Molecular Weight | 76.09 g/mol |
| Vapor Pressure (20°C) | 0.1 mmHg | Viscosity (25°C) | 59 cP |
| Refractive Index (20°C) | 1.431 | Density (25°C) | 1.036 g/mL |

APPLICATIONS

- Analytical Chemistry** — Used as a critical mobile phase component in reversed-phase high-performance liquid chromatography for the precise separation of organic compounds.
- Food and Beverage** — Acts as an effective moisture-retaining agent that enhances the texture and extends the shelf life of various food products.
- Pharmaceutical** — Functions as a high-quality solvent for active pharmaceutical ingredients, ensuring stability and solubility in diverse dosage forms.
- Automotive and Industrial** — Serves as a reliable, non-toxic antifreeze and heat transfer fluid for cooling systems requiring inhibited corrosion protection.

STORAGE & HANDLING

Propylene glycol is hygroscopic, meaning it readily absorbs moisture from the air, which can alter its specific gravity and water content specifications. Proper sealing in a cool, dry environment is essential to maintain its high purity and prevent contamination that could compromise sensitive analytical results.

- Store in a cool, dry place away from direct sunlight.
- Use containers made of HDPE or glass to prevent contamination.
- Avoid contact with strong oxidizing agents.
- Ensure proper ventilation when handling to minimize inhalation exposure.
- Use appropriate personal protective equipment (PPE) such as gloves and safety 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

No GHS pictograms assigned.

Hazard Statements:

- Not Classified
- Reported as not meeting GHS hazard criteria by 6762 of 6899 companies (only 2% companies provided GHS information). For more detailed information, please visit ECHA C&L website.

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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