

### PRODUCT IDENTIFICATION



**Product Name:** Ethylene Glycol Semiconductor Grade

**CAS Number:** 107-21-1

**Molecular Formula:** C<sub>2</sub>H<sub>6</sub>O<sub>2</sub>

**Molecular Weight:** 62.07 g/mol

**Grade:** Semiconductor

**Purity / Concentration:** 100%

**Synonyms:** Ethylene Glycol, EG

### PRODUCT OVERVIEW

Alliance Chemical offers high-purity Ethylene Glycol in Semiconductor Grade, featuring a rigorous assay of 99.95% and ultra-low impurity levels. This clear, colorless liquid is engineered for critical applications requiring precise thermal control and minimal contamination.

**Grade Significance:** Semiconductor grade indicates an exceptionally high level of purity with trace metals and ions held to near-undetectable levels, ensuring no unintended chemical reactions or contamination occur in delicate manufacturing environments.

### CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	99.95	99.9	—	GC
Color (APHA)	APHA	5	—	10	ASTM D1209
Specific Gravity (20°C)	g/mL	1.113	1.113	1.116	ASTM D4052
Residue After Ignition	%	0.0001	—	0.0005	Gravimetric
Water Content	%	0.01	—	0.02	Karl Fischer
Heavy Metals (as Pb)	ppm	0.05	—	0.1	ICP-MS
Iron (Fe)	ppm	0.05	—	0.1	ICP-MS
Chloride (Cl <sup>-</sup> )	ppm	0.1	—	0.2	Ion Chromatography
Sulfate (SO <sub>4</sub> <sup>2-</sup> )	ppm	0.1	—	0.2	Ion Chromatography
Acidity Meq Per G	meq/g	0.0001	—	0.0002	Titration
Carbonyl Compounds As Hcho	ppm	0.2	—	1	Spectrophotometry

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

## PHYSICAL & CHEMICAL PROPERTIES

<b>Appearance</b>	Clear, colorless, transparent liquid	<b>Odor</b>	Slightly sweet odor
<b>Form</b>	Liquid	<b>Boiling Point</b>	197°C (386.6°F)
<b>Melting / Freezing Point</b>	-13°C (8.6°F)	<b>Flash Point</b>	111°C (231.8°F)
<b>Specific Gravity</b>	1.113	<b>Solubility</b>	Highly miscible with water, polar organic solvents
<b>Molecular Formula</b>	C <sub>2</sub> H <sub>6</sub> O <sub>2</sub>	<b>Molecular Weight</b>	62.07 g/mol
<b>Vapor Pressure (20°C)</b>	0.06 mmHg	<b>Viscosity (25°C)</b>	20.1 cP
<b>Refractive Index (20°C)</b>	1.431	<b>Density (25°C)</b>	1.114 g/mL

## APPLICATIONS

- Semiconductor Manufacturing** — Functions as a high-performance coolant in fabrication equipment to maintain stable thermal conditions during sensitive processes.
- Industrial Thermal Management** — Used as a reliable heat transfer fluid in industrial systems that demand long-term thermal stability and consistent performance.
- Automotive** — Provides effective antifreeze and cooling properties to protect engines and cooling systems from extreme temperatures.
- Chemical Processing** — Serves as a versatile solvent for various chemical reactions where a high-purity, stable medium is required.

## STORAGE & HANDLING

Proper storage is essential to maintain the integrity of this semiconductor-grade material and prevent potential degradation. Because this product is harmful if swallowed, it must be stored in a cool, well-ventilated area away from incompatible materials to minimize safety risks.

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