

### PRODUCT IDENTIFICATION



**Product Name:** Perchloroethylene ACS Grade

**CAS Number:** 127-18-4

**Molecular Formula:** C<sub>2</sub>Cl<sub>4</sub>

**Molecular Weight:** 165.8 g/mol

**Grade:** ACS Grade

**Purity / Concentration:** Not Available

**Synonyms:** Tetrachloroethylene, PERC

### PRODUCT OVERVIEW

Perchloroethylene ACS Grade is a high-purity, colorless solvent characterized by an exceptional 100.0% assay and minimal residue levels of 3 ppm. This volatile liquid is widely utilized in precision industrial cleaning, chemical synthesis, and specialized manufacturing applications.

**Grade Significance:** ACS Grade signifies that this product meets the rigorous purity standards set by the American Chemical Society, ensuring reliability and consistency for sensitive laboratory and industrial applications.

### CERTIFICATE OF ANALYSIS — TYPICAL VALUES

| PARAMETER               | UNIT | TYPICAL | MIN    | MAX    | TEST METHOD          |
|-------------------------|------|---------|--------|--------|----------------------|
| Assay Gc Fid            | %    | 100.0   | 99.5   | 100.5  | GC-FID               |
| Color (APHA)            | APHA | 4       | —      | 10     | ASTM D1209           |
| Specific Gravity (20°C) | g/mL | 1.6227  | 1.6207 | 1.6247 | Hydrometer @ 20°C    |
| Residue On Evaporation  | ppm  | 3       | —      | 10     | Evaporation          |
| Water Karl Fischer      | %    | 0.0015  | —      | 0.0050 | ASTM E203 / ISO 6296 |
| Acidity As Acetic       | ppm  | 1.5     | —      | 5      | Titration            |

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

### PHYSICAL & CHEMICAL PROPERTIES

|                                      |                                |                            |                                                                                               |
|--------------------------------------|--------------------------------|----------------------------|-----------------------------------------------------------------------------------------------|
| <b>Appearance</b>                    | Colorless, volatile liquid     | <b>Odor</b>                | Sweet, chloroform-like odor                                                                   |
| <b>Form</b>                          | Liquid                         | <b>Boiling Point</b>       | 250 °F at 760 mmHg (NTP, 1992)                                                                |
| <b>Melting / Freezing Point</b>      | -2 °F (NTP, 1992)              | <b>Flash Point</b>         | No flash point in conventional closed tester.                                                 |
| <b>Specific Gravity</b>              | 1.623                          | <b>Solubility</b>          | Soluble in organic solvents, insoluble in water                                               |
| <b>Molecular Formula</b>             | C <sub>2</sub> Cl <sub>4</sub> | <b>Molecular Weight</b>    | 165.8 g/mol                                                                                   |
| <b>Vapor Pressure (20°C)</b>         | 9.5 mmHg                       | <b>Viscosity (25°C)</b>    | 0.89 cP                                                                                       |
| <b>Refractive Index (20°C)</b>       | 1.461                          | <b>Density (25°C)</b>      | 1.622 g/mL                                                                                    |
| <b>Partition Coefficient (log P)</b> | 2.8                            | <b>Decomposition Temp.</b> | Not normally decompose at ambient; decompose at high temps, >200°C under oxidative conditions |

## APPLICATIONS

1. **Dry Cleaning** — Functions as a premier solvent for effectively removing complex stains and oils from sensitive fabrics without damaging textile fibers.
2. **Automotive Manufacturing** — Used as a powerful degreasing agent to remove contaminants from metal parts, ensuring clean surfaces for further processing or assembly.
3. **Adhesives and Sealants** — Acts as an essential solvent in the formulation of high-performance adhesives, providing the necessary consistency and drying properties.
4. **Chemical Synthesis** — Serves as a critical precursor for the synthesis of various fluorinated compounds and other specialized chemical intermediates.

## STORAGE & HANDLING

Proper storage is essential to maintain the high purity of the solvent and prevent the degradation of its chemical properties. Due to its classification as a skin and eye irritant, it must be kept in a cool, well-ventilated area to minimize hazardous vapor accumulation and ensure worker safety.

- Store in a cool, dry, well-ventilated area away from incompatible materials.
- Use containers made of HDPE or glass to prevent chemical reactions.
- Avoid exposure to light and heat to maintain chemical stability.
- Use appropriate personal protective equipment (PPE) including gloves and goggles during handling.
- Ensure proper ventilation in work areas to minimize inhalation exposure.

## AVAILABLE PACKAGING

- 1 Quart
- 1 Gallon
- 5 Gallon
- 55 Gallon

## SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: **Danger**



### Hazard Statements:

- H315: Causes skin irritation
- H317: May cause an allergic skin reaction
- H319: Causes serious eye irritation
- H336: May cause drowsiness or dizziness
- H351: Suspected of causing cancer
- H370: Causes damage to organs
- H373: May cause damage to organs through prolonged or repeated exposure
- H411: Toxic to aquatic life with long lasting effects

**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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