

PRODUCT IDENTIFICATION



Product Name: Perchloroethylene (PCE, PERC)

CAS Number: 127-18-4

Molecular Formula: C₂Cl₄

Molecular Weight: 165.8 g/mol

Grade: Technical Grade

Purity / Concentration: 100%

Synonyms: Tetrachloroethylene, PERC

PRODUCT OVERVIEW

Perchloroethylene (PCE), also known as Tetrachloroethylene, is a high-purity Technical Grade solvent characterized by its 100% assay and exceptional stability. With a low moisture content of 0.01% and minimal acidity, this colorless liquid is a premier choice for industrial cleaning and chemical synthesis applications.

Grade Significance: Technical Grade signifies that this product is manufactured to meet consistent industrial standards, ensuring reliable performance and purity for heavy-duty commercial and manufacturing 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	6	0	15	ASTM D1209
Specific Gravity (20°C)	g/mL	1.6227	0.78	0.88	Hydrometer @ 25°C
Water Karl Fischer	%	0.01	0	0.01	ASTM E203 / ISO 6296
Acidity As Acetic	ppm	4	—	10	Titration

Values based on 2 batches tested. ND = Not Detected.

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Colorless liquid with a mild, sweet odor	Odor	Sweet, chloroform-like odor
Form	Liquid	Boiling Point	250 °F at 760 mmHg (NTP, 1992)
Melting / Freezing Point	-2 °F (NTP, 1992)	Flash Point	No flash point in conventional closed tester.
Specific Gravity	1.623	Solubility	Slightly soluble in water, soluble in organic solvents
Molecular Formula	C ₂ Cl ₄	Molecular Weight	165.8 g/mol
Vapor Pressure (20°C)	8 mmHg	Viscosity (25°C)	0.89 cP
Refractive Index (20°C)	1.462	Density (25°C)	1.622 g/mL
Decomposition Temp.	Not readily decomposed; decomposes on strong heating		

APPLICATIONS

1. **Dry Cleaning** — Widely utilized as a primary solvent for garment care due to its superior ability to dissolve oils and remove stubborn stains.
2. **Metalworking** — Employed for vapor degreasing and cleaning of metal parts to ensure surfaces are free of grease and contaminants before finishing.
3. **Chemical Manufacturing** — Functions as a versatile chemical intermediate and precursor in the synthesis of various fluorocarbons and specialized solvents.
4. **Laboratory Research** — Used in analytical settings for precise extraction processes and chromatography applications where high-purity solvent characteristics are required.

STORAGE & HANDLING

Perchloroethylene should be stored in a cool, dry, and well-ventilated area to prevent degradation and manage its chemical properties. Proper containment is critical to mitigate safety risks, as the substance causes skin and eye irritation upon contact.

- Store in a cool, dry place away from heat sources and direct sunlight.
- Use containers made of HDPE or glass to prevent chemical reactions.
- 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
- 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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