

Technical Data Sheet (TDS)

1. Product Overview

- Product Name: Carbon Tetrachloride (Tetrachloromethane)
- English Name: Carbon Tetrachloride; Tetrachloromethane
- CAS Number: 56-23-5
- Formula: CCl₄
- Molecular Weight: 153.82 g/mol
- Product Characteristics: Colorless clear liquid with a faint sweet odor. High-purity halogenated hydrocarbon solvent with excellent solubility for organic compounds. Chemically stable under normal conditions, non-flammable, and highly toxic.

2. Technical Specifications

Item	Specification
Appearance	Colorless clear liquid
Purity (GC)	≥ 99.5%
Water Content	≤ 0.05%
Density (20°C)	1.593-1.595 g/cm ³
Boiling Range	76.0-77.0°C
Flash Point (Closed Cup)	None (Non-flammable)
Viscosity (20°C)	0.97 mPa·s
Non-Volatile Residue	≤ 0.005%
Heavy Metals (Pb)	≤ 0.5 ppm
Heavy Metals (As)	≤ 0.1 ppm
Acidity (as HCl)	≤ 0.001%

3. Product Advantages

1. High Purity: Low impurity content ensures reliability in precision chemical processes and analysis.
2. Superior Solvency: Dissolves oils, waxes, resins, and organic intermediates, ideal for extraction and synthesis.
3. Non-Flammable: Safer than flammable solvents for high-risk industrial environments.
4. Chemical Stability: Inert to most common reagents under standard operating conditions.

4. Application Fields

- Chemical Synthesis: Intermediate for pharmaceuticals, agrochemicals, and fluorinated compounds.
- Industrial Solvent: Specialized coatings, adhesives, and metal cleaning (controlled applications).
- Laboratory Research: Analytical reagent, extraction solvent, and NMR spectroscopy solvent.
- Industrial Processing: Dry cleaning (historical use; limited current application due to toxicity).

5. Usage Methods

- Dosage: Adjust according to application (10-100% concentration; dilute with compatible solvents if needed).
- Application: Use in closed systems for synthesis; employ precision dispensing for laboratory use.
- Optimal Conditions: Operate at 15-25°C in well-ventilated areas; avoid high temperatures (> 60°C) and strong bases.

6. Packaging & Storage

- Packaging Specifications: 1L HDPE bottles, 5L HDPE cans, 20L steel drums, 200L steel drums (UN-approved).
- Storage Conditions: Store in cool, dry, well-ventilated warehouses (temperature $\leq 30^{\circ}\text{C}$). Keep sealed, away from heat, oxidizing agents, and strong bases.
- Shelf Life: 12 months (unopened, under specified storage conditions).
- Transportation: Classified as toxic hazardous goods; transport per relevant regulations.

7. Safety & Protection

- Highly toxic and carcinogenic: Avoid inhalation, skin contact, or ingestion; ensure local exhaust ventilation.
- Wear full PPE: Chemical safety goggles, nitrile rubber gloves, chemical-resistant clothing, and organic vapor respirator.
- Do not mix with strong bases or oxidizers; avoid sunlight to prevent decomposition.
- In case of exposure, follow first aid measures in MSDS and seek medical attention immediately.

8. Quality Assurance

- Manufactured under ISO 9001 quality management system.
- Each batch is accompanied by a COA for compliance verification.
- Provide technical support for safe application and risk management.