

## Technical Data Sheet (TDS)

### 1. Product Overview

- Product Name: Chloroform (Trichloromethane)
- English Name: Chloroform; Trichloromethane
- CAS Number: 67-66-3
- Formula:  $\text{CHCl}_3$
- Molecular Weight: 119.38 g/mol
- Product Characteristics: Colorless clear liquid with a characteristic sweet odor. High-purity halogenated hydrocarbon solvent with excellent solubility for organic compounds. Chemically stable under normal conditions, low flammability, and highly toxic.

### 2. Technical Specifications

Item	Specification
Appearance	Colorless clear liquid
Purity (GC)	$\geq 99.5\%$
Water Content	$\leq 0.05\%$
Density (20°C)	1.483-1.485 g/cm <sup>3</sup>
Boiling Range	61.0-62.0°C
Flash Point (Closed Cup)	None (Non-flammable under normal conditions)
Viscosity (20°C)	0.56 mPa·s
Non-Volatile Residue	$\leq 0.005\%$
Heavy Metals (Pb)	$\leq 0.5$ ppm
Heavy Metals (As)	$\leq 0.1$ ppm
Acidity (as HCl)	$\leq 0.001\%$

### 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. Low Flammability: Safer than aliphatic 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: Coatings, adhesives, inks, and metal cleaning (specialized applications).
- Laboratory Research: Analytical reagent, extraction solvent, and NMR spectroscopy solvent.
- Medical & Pharmaceutical: Historical anesthetic (limited current use); pharmaceutical purification.

### 5. Usage Methods

- Dosage: Adjust according to application (20-100% concentration; dilute with compatible solvents if needed).



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- Application: Use in closed systems for synthesis; employ immersion or 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 ≤ 25°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.

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