

Technical Data Sheet (TDS)

1. Product Overview

- Product Name: Methyl Formate
- English Name: Methyl Formate; Formic Acid Methyl Ester
- CAS Number: 107-31-3
- Formula: C₂H₄O₂
- Molecular Weight: 60.05 g/mol
- Product Characteristics: Colorless clear liquid with a pungent odor. High-purity ester solvent with excellent solubility for polar compounds. Chemically stable under normal conditions, extremely flammable, and moderately toxic.

2. Technical Specifications

Item	Specification
Appearance	Colorless clear liquid
Purity (GC)	≥ 99.0%
Water Content	≤ 0.1%
Density (20°C)	0.974-0.976 g/cm ³
Boiling Range	31.0-33.0°C
Flash Point (Closed Cup)	-19°C
Viscosity (20°C)	0.32 mPa s
Non-Volatile Residue	≤ 0.005%
Heavy Metals (Pb)	≤ 0.5 ppm
Heavy Metals (As)	≤ 0.1 ppm
Acidity (as HCOOH)	≤ 0.001%

3. Product Advantages

1. High Purity: Low impurity content ensures stable performance in chemical synthesis.
2. Excellent Solvency: Dissolves polar organic compounds, ideal for extraction and reactions.
3. High Volatility: Fast evaporation rate, suitable for low-residue applications.
4. Reactivity: Versatile intermediate for organic synthesis reactions.

4. Application Fields

- Chemical Synthesis: Precursor for formic acid, methanol, and pharmaceutical intermediates.
- Industrial Solvent: Coatings, adhesives, and cellulose nitrate solvents.
- Laboratory Research: Analytical reagent, reaction solvent, and extraction agent.
- Refrigeration: Refrigerant (low-temperature applications).

5. Usage Methods

- Dosage: Adjust according to application (50-100% concentration; avoid dilution with water).
- Application: Use in closed systems for synthesis; employ spray or immersion for cleaning.

- Optimal Conditions: Operate at 10-20°C in well-ventilated areas; strictly eliminate ignition sources.

6. Packaging & Storage

- Packaging Specifications: 1L HDPE bottles, 5L HDPE cans, 20L steel drums (UN-approved).
- Storage Conditions: Store in cool, dry, well-ventilated warehouses (temperature $\leq 25^{\circ}\text{C}$). Keep sealed, away from heat, sparks, and oxidizing agents.
- Shelf Life: 6 months (unopened, under specified storage conditions).
- Transportation: Classified as flammable hazardous goods; transport per relevant regulations.

7. Safety & Protection

- Extremely flammable: No smoking near storage/use areas; prohibit open flames and static electricity.
- Wear full PPE: Chemical safety goggles, nitrile rubber gloves, anti-static clothing, and organic vapor respirator.
- Avoid inhalation and skin contact; ensure local exhaust ventilation.
- 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 process optimization.