

Technical Data Sheet (TDS)

1. Product Overview

- Product Name: Formic Acid
- English Name: Formic Acid; Methanoic Acid
- CAS Number: 64-18-6
- Formula: CH₂O₂
- Molecular Weight: 46.03 g/mol
- Product Characteristics: Colorless clear liquid with a pungent odor. High-purity carboxylic acid with strong corrosivity and reducing properties. Chemically reactive, stable under normal conditions, flammable, and toxic.

2. Technical Specifications

Item	Specification
Appearance	Colorless clear liquid
Purity (GC)	≥ 99.0%
Water Content	≤ 0.5%
Density (20°C)	1.220-1.222 g/cm ³
Boiling Range	100.0-101.5°C
Flash Point (Closed Cup)	69°C
Viscosity (20°C)	1.54 mPa s
Non-Volatile Residue	≤ 0.005%
Heavy Metals (Pb)	≤ 0.5 ppm
Heavy Metals (As)	≤ 0.1 ppm
Iron (Fe)	≤ 0.5 ppm

3. Product Advantages

1. High Purity: Low impurity content ensures stable performance in chemical synthesis.
2. Strong Reactivity: Reducing properties make it suitable for redox reactions and esterification.
3. Excellent Solvency: Dissolves polar and non-polar compounds, ideal for industrial processes.
4. Versatile Application: Multi-functional in synthesis, cleaning, and processing.

4. Application Fields

- Chemical Synthesis: Precursor for formate salts, formamide, and pharmaceutical intermediates.
- Industrial Processing: Leather tanning, textile dyeing, and metal cleaning.
- Laboratory Research: Analytical reagent, reducing agent, and pH adjuster.
- Agriculture: Fumigant and preservative for grains (diluted grade).

5. Usage Methods

- Dosage: Adjust according to application (10-100% concentration; dilute with water for low-corrosivity use).
- Application: Use in closed systems for synthesis; handle with corrosion-resistant equipment.

- Optimal Conditions: Operate at 15-25°C in well-ventilated areas; avoid contact with bases and oxidizers.

6. Packaging & Storage

- Packaging Specifications: 5L HDPE cans, 20L HDPE drums, 200L HDPE drums, 1000L IBC totes (UN-approved).
- Storage Conditions: Store in cool, dry, well-ventilated warehouses (temperature $\leq 30^{\circ}\text{C}$). Keep sealed, away from heat, sparks, and oxidizing agents.
- Shelf Life: 12 months (unopened, under specified storage conditions).
- Transportation: Classified as corrosive hazardous goods; transport per relevant regulations.

7. Safety & Protection

- Corrosive and toxic: No smoking near storage/use areas; prohibit open flames.
- Wear full PPE: Chemical safety goggles, face shield, nitrile rubber gloves, and chemical-resistant clothing.
- Avoid inhalation, skin contact, or ingestion; 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 corrosion control.