Safety Data Sheet (MSDS)

(According to GB/T 16483, GB/T 17519, and GHS Standards)

SECTION 1: Identification

1.1 Product Identifiers

- Product Name: Formic Acid (Methanoic Acid)
- Product Number: FA-20260301
- Brand: TECHPURE
- CAS-No.: 64-18-6
- Synonyms: Methanoic Acid; Formylic Acid

1.2 Details of the supplier of the safety data sheet

- Company : NEWAY SINOPHC TECH. LIMITED
- RM. 204, BUILDING 3, NO. 188, AONA RD., CHINA (SHANGHAI)PILOT FREE TRADE ZONE.
- Telephone : +86-021-50350029
- Fax : +86-021-50350029

1.3 Emergency telephone

Emergency Phone # : +86-021-50350029
(CHEMTREC)

1.4 Uses & Restrictions

- Identified Uses: Industrial solvent, chemical synthesis intermediate, laboratory reagent, agricultural fumigant.
- Uses Advised Against: Food contact, medicinal purposes, and use in unventilated enclosed spaces.

SECTION 2: Hazards Identification

2.1 GHS Classification

- Flammable liquids (Category 3)
- Acute toxicity - Oral (Category 3)
- Skin corrosion/irritation (Category 1)
- Eye damage/eye irritation (Category 1)
- Aquatic toxicity (Category 1)

2.2 GHS Label Elements

- Hazard Pictogram: Flame; Skull and crossbones; Corrosion; Environment
- Signal Word: Danger
- Hazard Statements: H226 (Flammable liquid and vapor); H301 (Toxic if swallowed); H314 (Causes severe skin burns and eye damage); H400 (Very toxic to aquatic life)

- Precautionary Statements: P210 (Keep away from heat, hot surfaces, sparks, open flames); P260 (Do not breathe vapor); P280 (Wear protective gloves/eye protection/face protection/respiratory protection); P301+P330+P331 (If swallowed: Rinse mouth. Do not induce vomiting); P305+P351+P338 (If in eyes: Rinse cautiously with water for several minutes); P391 (Collect spillage); P403+P233 (Store in a well-ventilated place; keep container tightly closed) 2.3 Physical & Chemical Hazards: Flammable vapor; forms explosive mixtures with air (18.0-57.0% v/v); strong corrosivity and reducing properties.2.4 Health Hazards: Toxic if swallowed; causes severe skin/eye burns; inhalation of vapors may cause respiratory irritation.2.5 Environmental Hazards: Very toxic to aquatic organisms; persistent in the environment.2.6 Other Hazards: None.

SECTION 3: Composition/Information on Ingredients

- Substance / Mixture: Pure substance
- Active Component: Formic Acid (CAS 64-18-6)
- Concentration: ≥ 99.0%
- Impurities: ≤ 1.0% (Water, trace organic acids)

SECTION 4: First Aid Measures

- Inhaled: Remove to fresh air immediately. Keep patient calm; give oxygen if breathing is difficult. Seek emergency medical attention.
- Skin Contact: Remove contaminated clothing. Rinse skin thoroughly with plenty of running water for 15-20 minutes. Seek medical advice.
- Eye Contact: Hold eyes open and rinse continuously with plenty of running water for 15 minutes. Remove contact lenses if present. Seek emergency medical attention.
- Swallowed: Do not induce vomiting. Rinse mouth with water. Seek immediate medical attention; bring this MSDS.

SECTION 5: Firefighting Measures

- Suitable Extinguishing Media: Dry powder, carbon dioxide (CO_2), foam, water spray.
- Unsuitable Extinguishing Media: None.
- Special Hazards: Vapors are heavier than air and may travel to ignition sources. Toxic fumes (carbon monoxide) generated when burning.
- Advice for Firefighters: Wear self-contained breathing apparatus and full protective clothing. Cool containers with water spray from a safe distance.

SECTION 6: Accidental Release Measures

- Personal Precautions: Evacuate non-essential personnel. Wear full PPE and ensure good ventilation. Eliminate all ignition sources.
- Environmental Precautions: Prevent spillage from entering drains, watercourses, or soil. Neutralize with alkaline absorbents before disposal.

- Clean-Up Methods: Small spills: Absorb with inert alkaline materials (e.g., sodium bicarbonate) and dispose of as hazardous waste. Large spills: Contain with dikes; neutralize with alkali and transfer to sealed containers for disposal.

SECTION 7: Handling and Storage

- Handling Precautions: Operate in well-ventilated areas with corrosion-resistant electrical equipment. Avoid skin/eye contact and inhalation. Use acid-resistant tools.
- Storage Conditions: Store in cool, dry, well-ventilated warehouses (temperature ≤ 30℃). Keep container tightly closed. Store away from oxidizing agents, heat, and ignition sources.
- Incompatibilities: Strong bases, oxidizing agents, metals.

SECTION 8: Exposure Controls/Personal Protection

- Engineering Controls: Install local exhaust ventilation; use corrosion-resistant equipment. Maintain negative pressure in handling areas.
- Personal Protective Equipment:
  - Eye/Face Protection: Chemical safety goggles and face shield.
  - Skin Protection: Nitrile rubber gloves, chemical-resistant protective clothing, and safety shoes.
  - Respiratory Protection: Respirator with organic vapor cartridge (P100) when ventilation is insufficient.
- Exposure Limits: TWA (8h): 5 ppm (OSHA); STEL (15min): 10 ppm (OSHA).

SECTION 9: Physical and Chemical Properties

- Physical State: Liquid
- Color: Colorless
- Odor: Pungent, acrid odor
- Melting Point: 8.4℃
- Boiling Point: 100.8℃
- Flash Point (Closed Cup): 69℃
- Autoignition Temperature: 410℃
- Density (20℃): 1.221 g/cm³
- Viscosity (20℃): 1.54 mPa·s
- Water Solubility: Fully miscible
- Vapor Pressure (20℃): 5.9 kPa
- Explosive Limits: 18.0-57.0% (v/v)

SECTION 10: Stability and Reactivity

- Stability: Stable under normal conditions.
- Hazardous Reactions: Reacts violently with strong bases and oxidizers; reacts with metals to release hydrogen gas.
- Conditions to Avoid: Heat, sparks, open flames, strong bases.

- Incompatible Materials: Strong bases (e.g., sodium hydroxide), oxidizing agents (e.g., hydrogen peroxide), metals (magnesium, aluminum).
- Hazardous Decomposition Products: Carbon monoxide, carbon dioxide (when burned).

SECTION 11: Toxicological Information

- Acute Toxicity: Oral (Rat, LD_{50}): 1100 mg/kg; Inhalation (Rat, LC_{50}): 15000 ppm (4h).
- Skin Corrosion/Irritation: Causes severe skin burns and irritation.
- Eye Damage/Irritation: Causes severe eye damage and permanent corneal injury.
- Chronic Toxicity: Long-term exposure may cause respiratory and liver/kidney damage.
- Reproductive Toxicity: No known reproductive toxicity at recommended exposure levels.

SECTION 12: Ecological Information

- Aquatic Toxicity: Fish (Rainbow Trout, LC_{50}): 800 mg/L (96h); Daphnia (EC_{50}): 1000 mg/L (48h).
- Biodegradability: Fully biodegradable (BOD_5/COD = 0.6-0.7).
- Bioaccumulative Potential: Low bioaccumulation (log Koc = 0.1).
- Environmental Fate: Volatilizes slowly from water; biodegradable in soil.

SECTION 13: Disposal Considerations

- Waste Treatment: Dispose of as hazardous waste in accordance with local, national, and international regulations. Neutralize with alkali before disposal.
- Packaging Waste: Rinse containers thoroughly with water; dispose of as hazardous waste or recycle.

SECTION 14: Transport Information

- UN Number: 1779
- UN Proper Shipping Name: FORMIC ACID
- Transport Hazard Class: 8 (Corrosive substances)
- Packaging Group: II
- Marine Pollutant: Yes
- Transport Precautions: Transport in UN-approved hazardous goods containers. Avoid direct sunlight, high temperature, and collision. Do not transport with bases or oxidizers.

SECTION 15: Regulatory Information

- National Regulations (China): Hazardous Chemical Safety Management Regulation; Environmental Protection Law; Occupational Disease Prevention and Control Law.
- International Regulations: GHS (Rev. 9); REACH (EU, listed); TSCA (US, listed); IMDG Code; IATA-DGR.

SECTION 16: Other Information

- Revision Date: 01 MAR 2026

- Disclaimer: This MSDS is based on current scientific data. The supplier is not liable for damages caused by improper use or non-compliance with safety precautions.

纳维盈医化科技
NEWAY SINOPHC TECH