

Safety Data Sheet (MSDS)

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

SECTION 1: Identification

1.1 Product Identifiers

- Product Name: Acetic Anhydride
- Product Number: AAH-20260302
- Brand: TECHPURE
- CAS-No.: 108-24-7
- Synonyms: Ethanoic Anhydride; Acetic Oxide

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
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1.3 Emergency telephone

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

1.4 Uses & Restrictions

- Identified Uses: Industrial acetylating agent, chemical synthesis intermediate, laboratory reagent.
- 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 4)
- Skin corrosion/irritation (Category 1)
- Eye damage/eye irritation (Category 1)
- Aquatic toxicity (Category 1)

2.2 GHS Label Elements

- Hazard Pictogram: Flame; Corrosion; Environment
- Signal Word: Danger
- Hazard Statements: H226 (Flammable liquid and vapor); H302 (Harmful 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 (2.0-10.3% v/v); strong corrosivity; reacts violently with water to release acetic acid.
- 2.4 Health Hazards: Harmful 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: Acetic Anhydride (CAS 108-24-7)
- Concentration: $\geq 99.5\%$
- Impurities: $\leq 0.5\%$ (Water, trace acetic acid)

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 (CO₂), 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. Reacts with water to release corrosive acid.
- Advice for Firefighters: Wear self-contained breathing apparatus and full protective clothing. Cool containers with water spray from a safe distance; avoid direct water contact with spilled product.

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 anhydrous tools; avoid contact with water.
- Storage Conditions: Store in cool, dry, well-ventilated warehouses (temperature $\leq 30^{\circ}\text{C}$). Keep container tightly closed. Store away from water, oxidizing agents, heat, and ignition sources.
- Incompatibilities: Water, 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 to pale yellow
- Odor: Pungent, vinegar-like odor
- Melting Point: -73.1°C
- Boiling Point: 139.5°C
- Flash Point (Closed Cup): 54°C
- Autoignition Temperature: 388°C
- Density (20°C): 1.082 g/cm^3
- Viscosity (20°C): $0.97\text{ mPa}\cdot\text{s}$
- Water Solubility: Reacts violently (hydrolyzes to acetic acid)
- Vapor Pressure (20°C): 0.6 kPa
- Explosive Limits: 2.0-10.3% (v/v)

SECTION 10: Stability and Reactivity

- Stability: Stable under normal conditions; hydrolyzes in contact with water.

- Hazardous Reactions: Reacts violently with water, strong bases, and oxidizers; reacts with metals to release hydrogen gas.
- Conditions to Avoid: Heat, sparks, open flames, water, strong bases.
- Incompatible Materials: Water, 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, LD₅₀): 1780 mg/kg; Inhalation (Rat, LC₅₀): 1000 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, LC₅₀): 500 mg/L (96h); Daphnia (EC₅₀): 800 mg/L (48h).
- Biodegradability: Moderately biodegradable (BOD₅ /COD = 0.4-0.5) after hydrolysis.
- Bioaccumulative Potential: Low bioaccumulation (log K_{oc} = 0.3).
- Environmental Fate: Hydrolyzes rapidly in water to acetic acid; persists in dry 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 compatible solvent; dispose of as hazardous waste or recycle.

SECTION 14: Transport Information

- UN Number: 1715
- UN Proper Shipping Name: ACETIC ANHYDRIDE
- 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 water, 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.



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SECTION 16: Other Information

- Revision Date: 02 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.

