

## Safety Data Sheet (MSDS)

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

### SECTION 1: Identification

#### 1.1 Product Identifiers

- Product Name: Acetylene (Ethyne)
- Product Number: ACE-20260305
- Brand: TECHPURE
- CAS-No.: 74-86-2
- Synonyms: Ethyne; Acetylen

#### 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 welding/cutting, chemical synthesis, laboratory reagent.
- Uses Advised Against: Unauthorized use as breathing gas, and use in unventilated enclosed spaces.

### SECTION 2: Hazards Identification

#### 2.1 GHS Classification

- Flammable gases (Category 1)
- Explosive (Category 1)
- Acute toxicity - Inhalation (Category 4)

#### 2.2 GHS Label Elements

- Hazard Pictogram: Flame; Explosion; Gas cylinder
- Signal Word: Danger
- Hazard Statements: H220 (Extremely flammable gas); H224 (Extremely flammable liquid and vapor); H332 (Harmful if inhaled); H411 (Toxic to aquatic life with long-lasting effects)
- Precautionary Statements: P210 (Keep away from heat, hot surfaces, sparks, open flames); P230 (Keep container tightly closed); P260 (Do not breathe the gas); P304+P340 (If inhaled: Remove to fresh air and keep at rest); P403+P233 (Store in a well-ventilated place; keep container tightly closed)

2.3 Physical & Chemical Properties: Extremely flammable; forms explosive mixtures with air (2.5-82.0% v/v); may decompose explosively at high pressure (> 1.5 MPa). 2.4 Health Hazards: Harmful if inhaled; may cause dizziness and nausea. 2.5 Environmental Hazards: Toxic to aquatic life; long-lasting effects. 2.6 Other Hazards: Explosion risk at high pressure or contact with oxidizers.

### SECTION 3: Composition/Information on Ingredients

- Substance / Mixture: Pure substance (dissolved in acetone)
- Active Component: Acetylene (CAS 74-86-2)
- Concentration:  $\geq 98.5\%$
- Carrier: Acetone (CAS 67-64-1) (5-10% in cylinder)
- Impurities:  $\leq 1.5\%$  (Ethylene, methane, water, phosphine)

### SECTION 4: First Aid Measures

- Inhaled: Remove to fresh air immediately. Keep patient calm; give oxygen if breathing is difficult. Seek medical attention if symptoms persist.
- Skin Contact: No special treatment (gas phase); avoid cold burns from rapid expansion.
- Eye Contact: No special treatment (gas phase); flush with water if contaminated by liquid droplets.
- Swallowed: Not applicable (gas).

### SECTION 5: Firefighting Measures

- Suitable Extinguishing Media: Dry powder, carbon dioxide (CO<sub>2</sub>), foam.
- Unsuitable Extinguishing Media: Water jet (may spread fire).
- Special Hazards: Vapors are lighter than air; may accumulate in high places. Explosive when mixed with air or exposed to high pressure.
- Advice for Firefighters: Wear self-contained breathing apparatus and full protective clothing. Cool cylinders with water spray from a safe distance; do not extinguish until gas flow is stopped.

### SECTION 6: Accidental Release Measures

- Personal Precautions: Evacuate non-essential personnel. Wear appropriate PPE and gas detection equipment. Eliminate all ignition sources.
- Environmental Precautions: Prevent gas from entering watercourses or confined spaces.
- Clean-Up Methods: Ventilate area thoroughly; use gas detectors to confirm safety before re-entering.

### SECTION 7: Handling and Storage

- Handling Precautions: Operate in well-ventilated areas with explosion-proof electrical equipment. Use leak-proof connections and pressure regulators (max pressure  $\leq 1.5$  MPa).
- Storage Conditions: Store in cool, dry, well-ventilated warehouses (temperature  $\leq 30^{\circ}\text{C}$ ). Keep cylinders upright, secured, and away from heat, sparks, and oxidizers.

- Incompatibilities: Oxidizing agents, halogens, copper, silver.

## **SECTION 8: Exposure Controls/Personal Protection**

- Engineering Controls: Install local exhaust ventilation and gas leak detection systems.
- Personal Protective Equipment:
  - Eye/Face Protection: Safety glasses.
  - Skin Protection: Flame-resistant clothing and gloves.
  - Respiratory Protection: Not required under normal use; use self-contained breathing apparatus in confined spaces.
- Exposure Limits: TWA (8h): 500 ppm (OSHA).

## **SECTION 9: Physical and Chemical Properties**

- Physical State: Gas (dissolved in acetone)
- Color: Colorless
- Odor: Faint garlic-like odor (impure); odorless (pure)
- Melting Point: -80.8°C
- Boiling Point: -84.0°C
- Flash Point: -17.7°C
- Autoignition Temperature: 305°C
- Density (Gas, 20°C, 1 atm): 1.17 kg/m<sup>3</sup>
- Water Solubility: Slightly soluble (131 mg/L at 25°C)
- Vapor Pressure: > 1013 kPa (20°C)
- Explosive Limits: 2.5-82.0% (v/v)

## **SECTION 10: Stability and Reactivity**

- Stability: Stable when dissolved in acetone; decomposes explosively at > 1.5 MPa or high temperature.
- Hazardous Reactions: Reacts violently with oxidizing agents, halogens, copper, and silver.
- Conditions to Avoid: Heat, sparks, open flames, high pressure (> 1.5 MPa).
- Incompatible Materials: Oxidizing agents (e.g., oxygen, chlorine), halogens, copper, silver.
- Hazardous Decomposition Products: Carbon monoxide (incomplete combustion).

## **SECTION 11: Toxicological Information**

- Acute Toxicity: Inhalation (Rat, LC<sub>50</sub>): > 40,000 ppm (4h) (asphyxiant).
- Skin Irritation: No irritation.
- Eye Irritation: No irritation.
- Chronic Toxicity: No known chronic toxic effects.
- Reproductive Toxicity: No known reproductive toxicity.

## **SECTION 12: Ecological Information**

- Aquatic Toxicity: Fish (Zebrafish, LC<sub>50</sub>): > 3000 mg/L (96h).

- Biodegradability: Not biodegradable in water.
- Bioaccumulative Potential: No bioaccumulation potential.
- Environmental Fate: Volatilizes rapidly from water; persists in atmosphere.

### **SECTION 13: Disposal Considerations**

- Waste Treatment: Dispose of as hazardous waste in accordance with local regulations. Burn in approved incineration facilities.
- Packaging Waste: Return empty cylinders to supplier for recycling or proper disposal.

### **SECTION 14: Transport Information**

- UN Number: 1001
- UN Proper Shipping Name: ACETYLENE, DISSOLVED
- Transport Hazard Class: 2.1 (Flammable gases)
- Packaging Group: I
- Marine Pollutant: No
- Transport Precautions: Transport in approved gas cylinders. Secure cylinders upright; avoid collision and high temperature.

### **SECTION 15: Regulatory Information**

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

### **SECTION 16: Other Information**

- Revision Date: 05 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.