

Safety Data Sheet (MSDS)

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

SECTION 1: Identification

1.1 Product Identifiers

- Product Name: Cyclohexanone
- Product Number: CHN-20260223
- Brand: TECHPURE
- CAS-No.: 108-94-1
- Synonyms: Cyclohexanone; Ketoexamethylene

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.
- 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 irritation (Category 2)
- Eye irritation (Category 2)
- Aquatic toxicity (Category 2)

2.2 GHS Label Elements

- Hazard Pictogram: Flame; Irritant; Environment
- Signal Word: Warning
- Hazard Statements: H226 (Flammable liquid and vapor); H302 (Harmful if swallowed); H315 (Causes skin irritation); H319 (Causes serious eye irritation); H401 (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); P304+P340 (If inhaled: Remove to fresh air and keep at rest); 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 (1.1-9.4% v/v).2.4 Health Hazards: Harmful if swallowed; causes skin/eye irritation; excessive inhalation may cause dizziness and nausea.2.5 Environmental Hazards: Toxic to aquatic organisms; biodegradable with proper treatment.2.6 Other Hazards: None.

SECTION 3: Composition/Information on Ingredients

- Substance / Mixture: Pure substance
- Active Component: Cyclohexanone (CAS 108-94-1)
- Concentration: $\geq 99.5\%$
- Impurities: $\leq 0.5\%$ (Water, trace cyclic ketones)

SECTION 4: First Aid Measures

- Inhaled: Remove to fresh air immediately. Keep patient calm; seek medical attention if dizziness persists.
- Skin Contact: Remove contaminated clothing. Rinse skin thoroughly with running water for 15 minutes.
- Eye Contact: Hold eyes open and rinse continuously with plenty of running water for 15 minutes. Remove contact lenses if present. Seek 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.
- 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 appropriate PPE and ensure good ventilation. Eliminate all ignition sources.
- Environmental Precautions: Prevent spillage from entering drains, watercourses, or soil. Use absorbents to contain aquatic contamination.

- Clean-Up Methods: Small spills: Absorb with inert materials (sand, vermiculite) and dispose of as hazardous waste. Large spills: Contain with dikes; transfer to sealed containers for professional disposal.

SECTION 7: Handling and Storage

- Handling Precautions: Operate in well-ventilated areas with explosion-proof electrical equipment. Avoid skin/eye contact and inhalation. Use anti-static tools.
- Storage Conditions: Store in cool, dry, well-ventilated warehouses (temperature $\leq 30^{\circ}\text{C}$). Keep container tightly closed. Store away from oxidizing agents, heat, and ignition sources.
- Incompatibilities: Strong oxidizers, acids, alkalis.

SECTION 8: Exposure Controls/Personal Protection

- Engineering Controls: Install local exhaust ventilation; use explosion-proof equipment.
- Personal Protective Equipment:
 - Eye/Face Protection: Chemical safety goggles.
 - Skin Protection: Nitrile rubber gloves, protective clothing.
 - Respiratory Protection: Not required under normal handling; use respirator if ventilation is insufficient.
- Exposure Limits: TWA (8h): 50 ppm (OSHA); STEL (15min): 75 ppm (OSHA).

SECTION 9: Physical and Chemical Properties

- Physical State: Liquid
- Color: Colorless to pale yellow
- Odor: Mint-like odor
- Melting Point: -45°C
- Boiling Point: 155.6°C
- Flash Point (Closed Cup): 44°C
- Autoignition Temperature: 420°C
- Density (20°C): 0.948 g/cm^3
- Viscosity (20°C): $2.2\text{ mPa}\cdot\text{s}$
- Water Solubility: Slightly soluble (80 g/L at 25°C)
- Vapor Pressure (20°C): 0.4 kPa
- Explosive Limits: 1.1-9.4% (v/v)

SECTION 10: Stability and Reactivity

- Stability: Stable under normal conditions.
- Hazardous Reactions: Reacts violently with strong oxidizers and acids.
- Conditions to Avoid: Heat, sparks, open flames, strong oxidizers.
- Incompatible Materials: Oxidizing agents, acids, alkalis.
- Hazardous Decomposition Products: Carbon monoxide, carbon dioxide (when burned).

SECTION 11: Toxicological Information

- Acute Toxicity: Oral (Rat, LD₅₀): 1535 mg/kg; Inhalation (Rat, LC₅₀): 8000 ppm (4h).
- Skin Irritation: Causes moderate skin irritation; may cause dryness with prolonged contact.
- Eye Irritation: Causes serious eye irritation; temporary corneal discomfort.
- Chronic Toxicity: Long-term excessive exposure may cause liver/kidney damage.
- Reproductive Toxicity: No known reproductive toxicity at recommended exposure levels.

SECTION 12: Ecological Information

- Aquatic Toxicity: Fish (Rainbow Trout, LC₅₀): 1000 mg/L (96h); Daphnia (EC₅₀): 1200 mg/L (48h).
- Biodegradability: Moderately biodegradable (BOD₅ /COD = 0.4-0.5).
- Bioaccumulative Potential: Low bioaccumulation (log K_{oc} = 1.7).
- 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. Incinerate in facilities equipped with emission control systems.
- Packaging Waste: Rinse containers thoroughly with compatible solvent; dispose of as hazardous waste or recycle.

SECTION 14: Transport Information

- UN Number: 1145
- UN Proper Shipping Name: CYCLOHEXANONE
- Transport Hazard Class: 3 (Flammable liquid)
- Packaging Group: III
- Marine Pollutant: No
- Transport Precautions: Transport in UN-approved hazardous goods containers. Avoid direct sunlight, high temperature, and collision.

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: 23 FEB 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.