

## Safety Data Sheet (MSDS)

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

### SECTION 1: Identification

#### 1.1 Product Identifiers

- Product Name: Toluene
- Product Number: TOL-20260208
- Brand: CHEMIPURE
- CAS-No.: 108-88-3
- Synonyms: Methylbenzene; Toluol

#### 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 without protection.

### SECTION 2: Hazards Identification

#### 2.1 GHS Classification

- Flammable liquids (Category 2)
- Acute toxicity - Inhalation (Category 3)
- Skin irritation (Category 2)
- Eye irritation (Category 2)
- Carcinogenicity (Category 2B)
- Aquatic toxicity (Category 2)

#### 2.2 GHS Label Elements

- Hazard Pictogram: Flame; Irritant; Carcinogen; Environment
- Signal Word: Warning

- Hazard Statements: H225 (Highly flammable liquid and vapor); H332 (Harmful if inhaled); H315 (Causes skin irritation); H319 (Causes serious eye irritation); H351 (Suspected of causing cancer); 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/face protection); P304+P340 (If inhaled: Remove to fresh air and keep at rest); P308+P313 (If exposed or concerned: Get medical advice); P391 (Collect spillage); P403+P233 (Store in a well-ventilated place; keep container tightly closed)

2.3 Physical & Chemical Hazards: Highly flammable vapor; forms explosive mixtures with air (1.2-7.0% v/v).2.4 Health Hazards: Harmful if inhaled; causes skin/eye irritation; long-term exposure may cause cancer (IARC Group 2B) and central nervous system effects.2.5 Environmental Hazards: Toxic to aquatic organisms; may persist in the environment.2.6 Other Hazards: None.

### **SECTION 3: Composition/Information on Ingredients**

- Substance / Mixture: Pure substance
- Active Component: Toluene (CAS 108-88-3)
- Concentration:  $\geq 99.5\%$
- Impurities:  $\leq 0.5\%$  (Aromatic hydrocarbon isomers)

### **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: Remove contaminated clothing. Rinse skin thoroughly with plenty of running water for 15 minutes. Seek medical advice if irritation persists.
- Eye Contact: Hold eyes open and rinse continuously with plenty of running water for 15 minutes. Remove contact lenses if present. Seek medical attention promptly.
- 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<sub>2</sub>), 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**



## NEWAY SINOPHC TECH. LIMITED

ADD:RM. 204, BUILDING 3, NO. 188, AONA RD., CHINA (SHANGHAI) PILOT FREE TRADE ZONE.  
Email:marketing01@newayphc.com; Phone:+86-021-50350029 <https://www.newayphc.com>

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- 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. Do not siphon by mouth.
- 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, halogens.

### SECTION 8: Exposure Controls/Personal Protection

- Engineering Controls: Install local exhaust ventilation; use explosion-proof equipment. Maintain adequate air circulation.
- Personal Protective Equipment:
  - Eye/Face Protection: Chemical safety goggles and face shield (for large-scale handling).
  - Skin Protection: Nitrile rubber gloves, anti-static protective clothing, and safety shoes.
  - Respiratory Protection: Respirator with organic vapor cartridge (when ventilation is insufficient).
- Exposure Limits: TWA (8h): 100 ppm (OSHA); STEL (15min): 150 ppm (OSHA); IARC Group 2B (Suspected carcinogen).

### SECTION 9: Physical and Chemical Properties

- Physical State: Liquid
- Color: Colorless
- Odor: Characteristic aromatic odor
- Melting Point:  $-95^{\circ}\text{C}$
- Boiling Point:  $110.6^{\circ}\text{C}$
- Flash Point (Closed Cup):  $4^{\circ}\text{C}$
- Autoignition Temperature:  $480^{\circ}\text{C}$
- Density ( $20^{\circ}\text{C}$ ):  $0.867\text{ g/cm}^3$
- Viscosity ( $20^{\circ}\text{C}$ ):  $0.59\text{ mPa}\cdot\text{s}$
- Water Solubility: Slightly soluble ( $0.5\text{ g/L}$  at  $25^{\circ}\text{C}$ )

- Vapor Pressure (20°C): 3.9 kPa
- Explosive Limits: 1.2-7.0% (v/v)

## SECTION 10: Stability and Reactivity

- Stability: Stable under normal conditions.
- Hazardous Reactions: No hazardous reactions under normal use.
- Conditions to Avoid: Heat, sparks, open flames, strong oxidizers.
- Incompatible Materials: Oxidizing agents (e.g., hydrogen peroxide, nitric acid), halogens.
- Hazardous Decomposition Products: Carbon monoxide, carbon dioxide (when burned).

## SECTION 11: Toxicological Information

- Acute Toxicity: Oral (Rat, LD<sub>50</sub>): 636 mg/kg; Inhalation (Rat, LC<sub>50</sub>): 49 g/m<sup>3</sup> (4h).
- Skin Irritation: Causes moderate skin irritation; may cause dryness or cracking with prolonged contact.
- Eye Irritation: Causes serious eye irritation; may cause temporary corneal damage.
- Chronic Toxicity: Classified as suspected carcinogen (IARC Group 2B); long-term exposure may cause central nervous system depression and liver/kidney effects.
- Reproductive Toxicity: Limited data; may cause developmental toxicity in high doses.

## SECTION 12: Ecological Information

- Aquatic Toxicity: Fish (Rainbow Trout, LC<sub>50</sub>): 120 mg/L (96h); Daphnia (EC<sub>50</sub>): 150 mg/L (48h).
- Biodegradability: Moderately biodegradable (BOD<sub>5</sub> /COD = 0.2-0.4).
- Bioaccumulative Potential: Moderate bioaccumulation (log K<sub>oc</sub> = 2.7).
- Environmental Fate: Volatilizes moderately from water; persists in soil.

## SECTION 13: Disposal Considerations

- Waste Treatment: Dispose of as hazardous waste in accordance with local, national, and international regulations (e.g., RCRA, REACH). Do not incinerate without proper equipment.
- Packaging Waste: Rinse containers thoroughly with compatible solvent; dispose of as hazardous waste or recycle per regulations.

## SECTION 14: Transport Information

- UN Number: 1294
- UN Proper Shipping Name: TOLUENE
- Transport Hazard Class: 3 (Flammable liquid)
- Packaging Group: II
- Marine Pollutant: Yes

- 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; Occupational Disease Prevention and Control Law.
- International Regulations: GHS (Rev. 9); REACH (EU, listed); TSCA (US, listed); IMDG Code; IATA-DGR; IARC Group 2B (Suspected carcinogen).

## **SECTION 16: Other Information**

- Revision Date: 08 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.