

## Safety Data Sheet (MSDS)

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

### SECTION 1: Identification

#### 1.1 Product Identifiers

- Product Name: Styrene (Vinylbenzene)
- Product Number: STY-20260306
- Brand: TECHPURE
- CAS-No.: 100-42-5
- Synonyms: Vinylbenzene; Phenylethylene

#### 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: Polymer production, chemical synthesis, industrial solvent, 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 - 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: H226 (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/respiratory 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 (1.1-6.1% v/v); may polymerize spontaneously at high temperature or in sunlight. 2.4 Health Hazards: Harmful if inhaled; causes skin/eye irritation; long-term exposure may cause cancer (IARC Group 2B). 2.5 Environmental Hazards: Toxic to aquatic organisms; biodegradable with proper treatment. 2.6 Other Hazards: Polymerization risk without inhibitor.

### SECTION 3: Composition/Information on Ingredients

- Substance / Mixture: Pure substance
- Active Component: Styrene (CAS 100-42-5)
- Concentration:  $\geq 99.5\%$
- Additive: 4-tert-Butylcatechol (TBC) (50-100 ppm, polymerization inhibitor)
- Impurities:  $\leq 0.5\%$  (Ethylbenzene, toluene, water)

### 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 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 (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

- 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. 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 heat, sparks, oxidizing agents, and sunlight.
- Incompatibilities: Strong oxidizers, acids, bases, peroxides.

## **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 and face shield.
  - Skin Protection: Nitrile rubber gloves, protective clothing.
  - Respiratory Protection: Respirator with organic vapor cartridge (when ventilation is insufficient).
- Exposure Limits: TWA (8h): 50 ppm (OSHA); STEL (15min): 100 ppm (OSHA); IARC Group 2B (Suspected carcinogen).

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

- Physical State: Liquid
- Color: Colorless to pale yellow
- Odor: Sweet aromatic odor
- Melting Point:  $-30.6^{\circ}\text{C}$
- Boiling Point:  $145.2^{\circ}\text{C}$
- Flash Point (Closed Cup):  $31^{\circ}\text{C}$
- Autoignition Temperature:  $490^{\circ}\text{C}$
- Density ( $20^{\circ}\text{C}$ ):  $0.902\text{ g/cm}^3$
- Viscosity ( $20^{\circ}\text{C}$ ):  $0.76\text{ mPa}\cdot\text{s}$
- Water Solubility: Slightly soluble (320 mg/L at  $25^{\circ}\text{C}$ )
- Vapor Pressure ( $20^{\circ}\text{C}$ ): 0.7 kPa
- Explosive Limits: 1.1-6.1% (v/v)

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

- Stability: Stable with polymerization inhibitor; polymerizes spontaneously at  $> 60^{\circ}\text{C}$  or in sunlight.
- Hazardous Reactions: Reacts violently with strong oxidizers and peroxides.
- Conditions to Avoid: Heat, sparks, open flames, sunlight, high temperature.
- Incompatible Materials: Oxidizing agents, peroxides, strong acids, bases.
- Hazardous Decomposition Products: Carbon monoxide, carbon dioxide (when burned).

## SECTION 11: Toxicological Information

- Acute Toxicity: Oral (Rat, LD<sub>50</sub>): 6500 mg/kg; Inhalation (Rat, LC<sub>50</sub>): 2400 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: Classified as suspected carcinogen (IARC Group 2B); long-term 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, LC<sub>50</sub>): 1000 mg/L (96h); Daphnia (EC<sub>50</sub>): 1500 mg/L (48h).
- Biodegradability: Moderately biodegradable (BOD<sub>5</sub>/COD = 0.4-0.5).
- Bioaccumulative Potential: Moderate bioaccumulation (log K<sub>oc</sub> = 2.6).
- Environmental Fate: Volatilizes slowly from water; persists 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: 2055
- UN Proper Shipping Name: STYRENE, STABILIZED
- Transport Hazard Class: 3 (Flammable liquid)
- Packaging Group: II
- 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; 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: 06 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.