



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>

Safety Data Sheet (MSDS)

(According to GB/T 16483, GB/T 17519; Adapts to GHS, IMDG, IATA Standards)

SECTION 1: Identification

1.1 Product Identifiers

- Product Name: Trichloroethylene
- Product Number: TCE-20260211
- Brand: SIGALD
- CAS-No.: 79-01-6

Synonyms: TCE; 1,1,2-Trichloroethene; Trichloroethene

1.2 Details of the supplier of the safety data sheet

- Company : NEWAY SINOPHC TECH. LIMITED
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- 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, metal degreaser, dry cleaning agent, chemical synthesis intermediate
- **Uses Advised Against:** Use in unventilated areas; inhalation of vapor for long time; use as food contact solvent; storage near open flame

SECTION 2: Hazards Identification

2.1 GHS Classification: Acute toxicity (inhalation, Category 3); Skin irritation (Category 2); Serious eye irritation (Category 2A); Specific target organ toxicity (repeated exposure) - liver/kidney (Category 1); Acute aquatic toxicity (Category 2); Chronic aquatic toxicity (Category 2)
2.2 GHS Label Elements

- Hazard Pictogram: GHS07 (Exclamation mark), GHS08 (Health hazard), GHS09 (Environment)
- Signal Word: **Danger**
- Hazard Statements: H331 (Toxic if inhaled), H315 (Causes skin irritation), H319 (Causes serious eye irritation), H372 (Causes damage to liver/kidney through prolonged or repeated exposure), H401 (Toxic to aquatic life), H411 (Toxic to aquatic life with long-term effects)
- Precautionary Statements: P260, P264, P271, P280, P304+P340, P305+P351+P338, P311, P314, P321, P273, P391
- 2.3 Physical/Chemical Hazards: Flammable vapor (forms explosive mixture with air); decomposes at high temperature to release toxic chlorine gas; reacts with strong oxidizers to form hazardous products
- 2.4 Health Hazards: Inhalation causes respiratory irritation/toxicity; skin/eye irritation; prolonged exposure causes liver/kidney damage; may cause central nervous system depression (dizziness, headache)
- 2.5 Environmental Hazards: Toxic to aquatic



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life (acute/chronic); moderate persistence in water/soil; low bioaccumulation potential (log Koc: 2.4)

SECTION 3: Composition/Information on Ingredients

- **Substance/Mixture:** Pure Substance
- **Main Component:** Trichloroethylene (99.8%, CAS:79-01-6)
- **Formula:** C₂HCl₃
- **Molecular Weight:** 131.39 g/mol
- **Hazardous Ingredients:** Trichloroethylene (toxic, irritant, organotoxic)

SECTION 4: First Aid Measures

- **Inhaled:** Move to fresh air immediately; keep respiratory tract open. If breathing is difficult, give oxygen; consult a physician immediately.
- **Skin Contact:** Remove contaminated clothing immediately; rinse skin with plenty of soap and water for at least 15 minutes. Consult a physician if irritation persists.
- **Eye Contact:** Hold eyelids open and rinse thoroughly with running water for at least 20 minutes; remove contact lenses if worn. Consult an ophthalmologist immediately.
- **Swallowed:** Do not induce vomiting; rinse mouth with water. Do not give anything by mouth to an unconscious person; seek medical attention immediately.

SECTION 5: Firefighting Measures

- **Suitable Extinguishing Media:** Foam, CO₂, dry powder, water spray (cool containers only)
- **Special Hazards:** Vapor is flammable (explosive limits: 8-100% in air); decomposes at high temperature to release toxic chlorine and phosgene gas; fire produces toxic fumes
- **Firefighter Protection:** Wear positive pressure SCBA and full chemical protective suit; keep a safe distance; cool containers with water spray to prevent explosion

SECTION 6: Accidental Release Measures

- **Personal Precautions:** Wear chemical splash goggles, nitrile gloves, chemical protective suit and organic vapor respirator; eliminate all ignition sources; ensure good ventilation.
- **Cleanup Methods:** Contain spill with inert material (sand/vermiculite); transfer to sealed metal/HDPE containers for disposal; absorb remaining liquid with activated carbon; do not flush to sewer.
- **Environmental Precautions:** Prevent any spillage from entering waterways, sewers or soil; use booms to contain aquatic spills; dispose of contaminated absorbents as hazardous waste.

SECTION 7: Handling and Storage

- **Handling:** Operate in well-ventilated area with local exhaust ventilation; avoid inhalation of vapor and skin/eye contact; use explosion-proof equipment; no smoking/open flame in work area.
- **Storage Conditions:** Cool, well-ventilated, explosion-proof warehouse (0-30°C); store in sealed metal/HDPE containers; keep away from heat, open flame and strong oxidizers; separate from food/medicines.



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- **Incompatibilities:** Strong oxidizers (KMnO_4 , H_2O_2), strong acids, metals (Al, Mg), alkaline materials
- **Shelf Life:** 24 months (unopened, specified conditions); 6 months after opening (seal tightly)

SECTION 8: Exposure Controls/Personal Protection

- **Occupational Exposure Limits:** OSHA TWA: 50 ppm (8h); ACGIH TWA: 10 ppm (8h), STEL: 20 ppm
- **Engineering Controls:** Local exhaust ventilation (≥ 10 air changes/hour); explosion-proof electrical equipment; gas detection alarm system for vapor.
- **PPE:**
 - Eye/Face: Chemical splash goggles + face shield
 - Skin: Chemical resistant nitrile gloves + protective suit + safety shoes
 - Respiratory: Organic vapor respirator (routine handling); SCBA (spill/leak/fire)
 - Other: Chemical resistant apron + safety goggles

SECTION 9: Physical and Chemical Properties

- Physical State: Colorless clear liquid (25°C)
- Odor: Mild sweet, chloroform-like
- Solubility: Slightly soluble in water (0.11 g/100mL at 20°C); miscible with ethanol, ether, benzene and organic solvents
- pH (25°C): Neutral (6.5-7.5)
- Density: 1.463 g/cm³ (20°C)
- Boiling Point: 87.2°C
- Melting Point: -86.7°C
- Vapor Pressure: 58.8 kPa (20°C)
- Viscosity: 0.57 mPa·s (20°C)
- Flash Point: None (vapor flammable, liquid non-flammable)
- Explosive Limits: 8-100% (vapor in air)
- Autoignition Temperature: 410°C
- Refractive Index: 1.4782 (20°C)
- Volatility: Highly volatile

SECTION 10: Stability and Reactivity

- **Stability:** Stable under normal storage/use conditions; decomposes at $>200^\circ\text{C}$ or contact with UV light/impurities
- **Hazardous Reactions:** Reacts violently with strong oxidizers/alkaline metals; decomposes to toxic chlorine/phosgene gas at high temperature; forms explosive mixture with air.
- **Decomposition Products:** Chlorine gas (Cl_2), phosgene (COCl_2), hydrochloric acid (HCl), carbon monoxide (CO)
- **Conditions to Avoid:** High temperature, direct UV light, open flame, contact with strong oxidizers/metals

SECTION 11: Toxicological Information

- Oral LD₅₀ (Rat): 2400 mg/kg
- Dermal LD₅₀ (Rabbit): 10000 mg/kg
- Inhalation LC₅₀ (Rat): 10000 ppm/4h
- Skin Irritation: Category 2 (mild irritation, Rabbit 4h exposure)
- Eye Irritation: Category 2A (serious irritation, Rabbit 24h exposure)
- Organ Toxicity: Prolonged exposure causes liver/kidney damage (Category 1, repeated exposure)
- CNS Effects: Inhalation causes dizziness, headache, nausea and central nervous system depression

SECTION 12: Ecological Information

- Aquatic Toxicity (Zebrafish LC₅₀): 12 mg/L/96h (Acute, Category 2)
- Aquatic Toxicity (Daphnia EC₅₀): 8 mg/L/48h (Acute, Category 2)
- Chronic Aquatic Toxicity: Toxic to aquatic life with long-term effects (Category 2)
- Persistence: Moderately persistent (half-life in water: 10-30 days)
- Bioaccumulative Potential: Low (log K_{oc}: 2.4; BCF: <50)
- Environmental Fate: Volatilizes rapidly from water; biodegrades in soil/water under aerobic conditions

SECTION 13: Disposal Considerations

- **Product Waste:** Dispose via licensed hazardous waste treatment facilities; incinerate at high temperature (>1000°C) with gas treatment system (to remove chlorine gas); do not discharge directly.
- **Packaging Waste:** Rinse thoroughly with organic solvent; dispose as hazardous waste if contaminated; recycle metal containers if clean.
- **Contaminated Material:** All absorbents/cleanup materials are hazardous; seal and dispose via licensed facilities; do not mix with general waste.

SECTION 14: Transport Information

- UN Number: 1710
- Transport Class: 6.1 (Toxic substance)
- Packaging Group: II
- Marine Pollutant: Yes (H401/H411)
- **Precautions:** Transport in sealed metal/HDPE containers; explosion-proof vehicle for bulk transport; avoid direct sunlight/high temperature; separate from food/oxidizers/combustibles

SECTION 15: Regulatory Information

- Complies with GHS, REACH, TSCA, GB 13690-2009 (China, Category 6.1 Toxic)
- EU SVHC: Listed (liver/kidney toxicity); restricted under EU CLP for consumer use
- Labeling: Mandatory GHS07/GHS08/GHS09 pictograms; danger signal word and full hazard statements

SECTION 16: Other Information



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- **Revision Date:** 11 FEB 2026
- **Notes:** Use explosion-proof equipment in all handling; install gas detection alarm for vapor; regular medical check-up for long-term operators (liver/kidney function); avoid all prolonged exposure.



纳维盈医化科技
NEWAY SINOPHC TECH