



# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

**Product name:** Trimethylhexamethylene Diisocyanate (2,2,4- and 2,4,4- mixture)  
**Product code:** T1176  
**Company:** TCI (Shanghai) DEVELOPMENT CO., LTD.  
**Address:** No.96 Pu Gong Road, Shanghai Chemical Industry Park, Shanghai 201507 China  
**Responsible Department:** Sales Department  
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**Revision number:** 1

## 2. HAZARDS IDENTIFICATION

### Classification of the GHS

#### PHYSICAL HAZARDS

Not classified

#### HEALTH HAZARDS

Acute toxicity (Oral)

Category 3

Acute toxicity (Dermal)

Category 3

Acute toxicity (Inhalation)

Category 3

Respiratory sensitization

Category 1

Skin sensitization

Category 1

#### ENVIRONMENTAL HAZARDS

Not classified

### GHS label elements

#### Pictograms or hazard symbols



#### Signal word

Danger

#### Hazard statement

Toxic by inhalation, in contact with skin and if swallowed  
 May cause allergy or asthma symptoms or breathing difficulties if inhaled  
 May cause an allergic skin reaction

#### Precautionary statements

##### [Prevention]

Avoid breathing.  
 Use only outdoors or in a well-ventilated area.  
 Do not eat, drink or smoke when using this product.  
 Contaminated work clothing should not be allowed out of the workplace.  
 Wash hands thoroughly after handling.  
 In case of inadequate ventilation wear respiratory protection.

##### [Response]

Wear protective gloves and eye/face protection.  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician.  
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth.  
 IF ON SKIN: Gently wash with plenty of soap and water.  
 If skin irritation or rash occurs: Get medical advice/attention.  
 Remove/Take off immediately all contaminated clothing.  
 Wash contaminated clothing before reuse.  
 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

## 2. HAZARDS IDENTIFICATION

<b>[Storage]</b>	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
<b>[Disposal]</b>	Dispose of contents/container through a waste management company authorized by the local government

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

<b>Substance/mixture:</b>	Substance
<b>Component(s):</b>	Trimethylhexamethylene Diisocyanate (2,2,4- and 2,4,4- mixture)
<b>Percent:</b>	>97.0%(GC)
<b>CAS Number:</b>	28679-16-5
<b>Chemical Formula:</b>	C <sub>11</sub> H <sub>18</sub> N <sub>2</sub> O <sub>2</sub>

## 4. FIRST AID MEASURES

<b>Inhalation:</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician.
<b>Skin contact:</b>	Remove/Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. Call a POISON CENTER or doctor/physician.
<b>Eye contact:</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
<b>Ingestion:</b>	Immediately call a POISON CENTER or doctor/physician. Rinse mouth.
<b>Protection of first-aiders:</b>	A rescuer should wear personal protective equipment, such as rubber gloves and air-tight goggles.

## 5. FIRE-FIGHTING MEASURES

<b>Suitable extinguishing media:</b>	Dry chemical, foam, water spray, carbon dioxide.
<b>Extinguishing media not to be used:</b>	Solid streams of water
<b>Specific hazards:</b>	Take care as it may decompose upon combustion or in high temperatures to generate poisonous fume.
<b>Specific methods:</b>	Fire-extinguishing work is done from the windward and the suitable fire-extinguishing method according to the surrounding situation is used. Uninvolved persons should evacuate to a safe place. In case of fire in the surroundings: Remove movable containers if safe to do so.
<b>Special protective equipment for firefighters:</b>	When extinguishing fire, be sure to wear personal protective equipment.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions, protective equipment and emergency procedures:</b>	Use extra personal protective equipment (self-contained breathing apparatus). Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc.
<b>Environmental precautions:</b>	Prevent product from entering drains.
<b>Methods and materials for containment and cleaning up:</b>	Absorb spilled material in a suitable absorbent (e.g. rag, dry sand, earth, saw-dust). In case of large amount of spillage, contain a spill by bunding. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

## 7. HANDLING AND STORAGE

### Handling

<b>Technical measures:</b>	Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent generation of vapor or mist. Wash hands and face thoroughly after handling. Use a closed system if possible. Use a ventilation, local exhaust if vapor or aerosol will be generated.
<b>Advice on safe handling:</b>	Avoid contact with skin, eyes and clothing.

## 7. HANDLING AND STORAGE

### Storage

- Storage conditions:** Keep container tightly closed. Store in a cool, dark and well-ventilated place.  
Store under inert gas.  
Protect from moisture.  
Store locked up.  
Store away from incompatible materials such as oxidizing agents.
- Packaging material:** Law is followed.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Engineering controls:** Install a closed system or local exhaust. Also install safety shower and eye bath.
- Personal protective equipment**
- Respiratory protection:** Half or full facepiece respirator, self-contained breathing apparatus(SCBA), supplied air respirator, etc. Use respirators approved under appropriate government standards and follow local and national regulations.
- Hand protection:** Impervious gloves.
- Eye protection:** Safety goggles. A face-shield, if the situation requires.
- Skin and body protection:** Impervious protective clothing. Protective boots, if the situation requires.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state (20°C):** Liquid
- Form:** clear
- Color:** Colorless - Very pale yellow
- Odor:** No data available
- pH:** No data available
- Melting point/freezing point:** No data available
- Boiling Point/Range:** No data available
- Flash Point:** No data available
- Explosive limits**
- Lower:** No data available
- Upper:** No data available
- Density:** 1.02
- Solubility:** No data available

## 10. STABILITY AND REACTIVITY

- Stability:** Stable under proper conditions.
- Reactivity:** No special reactivity has been reported.
- Conditions to avoid:** Moisture-sensitive
- Incompatible materials:** oxidizing agents, bases, water
- Hazardous Decomposition Products:** Carbon monoxide, Carbon dioxide, Nitrogen oxides (NOx), Hydrogen cyanide

## 11. TOXICOLOGICAL INFORMATION

- Acute Toxicity:** No data available
- Skin corrosion/irritation:** No data available
- Serious eye damage/irritation:** No data available
- Germ cell mutagenicity:** No data available
- Carcinogenicity:**
- IARC =** No data available
- NTP =** No data available
- Reproductive toxicity:** No data available

## 12. ECOLOGICAL INFORMATION

- Ecotoxicity:**
- Fish:** No data available

## 12. ECOLOGICAL INFORMATION

<b>Crustacea:</b>	No data available
<b>Algae:</b>	No data available
<b>Persistence / degradability:</b>	No data available
<b>Bioaccumulative potential(BCF):</b>	No data available
<b>Mobility in soil</b>	
<b>log Pow:</b>	No data available
<b>Soil adsorption (Koc):</b>	No data available
<b>Henry's Law constant(PaM<sup>3</sup>/mol):</b>	No data available

## 13. DISPOSAL CONSIDERATIONS

Recycle to process, if possible. Consult your local regional authorities. You may be able to burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.

## 14. TRANSPORT INFORMATION

<b>Hazards Class:</b>	6.1: Toxic substance.
<b>UN-No:</b>	2328
<b>Proper shipping name:</b>	Trimethylhexamethylene diisocyanate
<b>Packing group:</b>	III

## 15. REGULATORY INFORMATION

**Safe management ordinance of dangerous chemical product (State Council announces on January 26, 2002):** Safe use and production, the storage of a dangerous chemical, transport, loading and unloading were prescribed.

**The list of a dangerous chemical(2002)/CN-No.:** 61654

## 16. OTHER INFORMATION

### The reference company name of written contents

<b>Company:</b>	TCI (Shanghai) DEVELOPMENT CO., LTD.
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This MSDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. Products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.