



# SAFETY DATA SHEET

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

**Product name:** Thiophene  
**Product code:** T0223  
**Company:** TCI (Shanghai) DEVELOPMENT CO., LTD.  
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**Responsible Department:** Sales Department  
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**Revision number:** 1

## 2. HAZARDS IDENTIFICATION

### Classification of the GHS

#### PHYSICAL HAZARDS

Flammable liquids

Category 2

#### HEALTH HAZARDS

Acute toxicity (Oral)

Category 4

#### ENVIRONMENTAL HAZARDS

Acute aquatic toxicity

Category 3

Chronic aquatic toxicity

Category 3

### GHS label elements

#### Pictograms or hazard symbols



Signal word

Danger

Hazard statement

Highly flammable liquid and vapour  
Harmful if swallowed  
Harmful to aquatic life  
Harmful to aquatic life with long lasting effects

### Precautionary statements

#### [Prevention]

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Keep container tightly closed.  
Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against ignition by the static discharge and the spark.  
Avoid release to the environment.

#### [Response]

Do not eat, drink or smoke when using this product.  
Wash hands thoroughly after handling.  
Wear protective gloves/eye protection/face protection.  
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
Rinse mouth.  
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

#### [Storage]

Store in a well-ventilated place. Keep cool.

#### [Disposal]

Dispose of contents/container through a waste management company authorized by the local government

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

|                    |                                 |
|--------------------|---------------------------------|
| Substance/mixture: | Substance                       |
| Component(s):      | Thiophene                       |
| Percent:           | >98.0%(GC)                      |
| CAS Number:        | 110-02-1                        |
| Chemical Formula:  | C <sub>4</sub> H <sub>4</sub> S |

### 4. FIRST AID MEASURES

|                             |                                                                                                                                                                                |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Inhalation:                 | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.                                          |
| Skin contact:               | Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention.                          |
| Eye contact:                | 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. |
| Ingestion:                  | Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.                                                                                                      |
| Symptoms/effects:           | cough, dizziness, sore throat, redness, pain                                                                                                                                   |
| Protection of first-aiders: | A rescuer should wear personal protective equipment, such as rubber gloves and air-tight goggles.                                                                              |

### 5. FIRE-FIGHTING MEASURES

|                                                |                                                                                                                                                                                                                                                                                                                                     |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suitable extinguishing media:                  | Dry chemical, foam, water spray, carbon dioxide.                                                                                                                                                                                                                                                                                    |
| Extinguishing media not to be used:            | Solid streams of water                                                                                                                                                                                                                                                                                                              |
| Specific hazards:                              | Take care as it may decompose upon combustion or in high temperatures to generate poisonous fume.                                                                                                                                                                                                                                   |
| Specific methods:                              | 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: Keep containers cool by spraying with water. Eliminate all ignition sources if safe to do so. |
| Special protective equipment for firefighters: | When extinguishing fire, be sure to wear personal protective equipment.                                                                                                                                                                                                                                                             |

### 6. ACCIDENTAL RELEASE MEASURES

|                                                                      |                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personal precautions, protective equipment and emergency procedures: | Use personal protective equipment. 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.                                                                            |
| Environmental precautions:                                           | Prevent product from entering drains.                                                                                                                                                                                                                                                       |
| Methods and materials for containment and cleaning up:               | Absorb spilled material in dry sand or inert absorbent before recovering it into an airtight container. 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. |
| Prevention of secondary hazards:                                     | Remove all sources of ignition. Fire-extinguishing devices should be prepared in case of a fire. Use spark-proof tools and explosion-proof equipment.                                                                                                                                       |

### 7. HANDLING AND STORAGE

#### Handling

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Technical measures:      | Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent generation of vapor or mist. Keep away from heat/sparks/open flame/hot surfaces. -No smoking. Take measures to prevent the build up of electrostatic charge. Use explosion-proof equipment. Wash hands and face thoroughly after handling.<br>Use a closed system if possible. Use a ventilation, local exhaust if vapor or aerosol will be generated. |
| Advice on safe handling: | Avoid contact with skin, eyes and clothing.                                                                                                                                                                                                                                                                                                                                                                                                          |

#### Storage

## 7. HANDLING AND STORAGE

- Storage conditions:** Keep container tightly closed. Store in a cool, dark and well-ventilated place. 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:** Vapor respirator. Follow local and national regulations.
- Hand protection:** Protective gloves.
- Eye protection:** Safety glasses. A face-shield, if the situation requires.
- Skin and body protection:** Protective clothing. Protective boots, if the situation requires.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state (20°C):** Liquid
- Form:** clear
- Color:** Colorless - Almost colorless
- Odor:** Pungent
- pH:** No data available
- Melting point/freezing point:** -38 °C
- Boiling Point/Range:** 84 °C
- Flash Point:** -1°C
- Explosive limits**
- Lower:** 1.5%
- Upper:** 12.5%
- Vapor Pressure:** 5.3kPa/12.5°C
- Vapor Density:** 2.9
- Density:** 1.07
- Solubility:** Miscible with : Ethanol Ether Acetone Benzene  
Soluble in : and other organic solvents.  
Insoluble in: Water (3020mg/L 25°C)
- log Pow =** 1.81
- Autoignition Temperature:** 395°C

## 10. STABILITY AND REACTIVITY

- Stability:** Stable under proper conditions.
- Reactivity:** No special reactivity has been reported.
- Incompatible materials:** oxidizing agents
- Hazardous Decomposition Products:** Carbon monoxide, Carbon dioxide, Sulphur oxides

## 11. TOXICOLOGICAL INFORMATION

- Acute Toxicity:** ihl-mus LC50:9500 mg/m<sup>3</sup>/2H  
ihl-rat LCLo:2000 ppm/6H  
orl-rat LD50:1400 mg/kg  
skn-gpg LD50:>20 mL/kg
- 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
- RTECS Number:** XM7350000

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity:

|                   |                                                                           |
|-------------------|---------------------------------------------------------------------------|
| <b>Fish:</b>      | 48h LC50:15.6 ppm (Oryzias latipes)<br>96h LC50:31 mg/L (Oryzias latipes) |
| <b>Crustacea:</b> | 48h EC50:20 mg/L (Daphnia magna)                                          |
| <b>Algae:</b>     | 72h EC50:50 mg/L (Selenastrum capricornutum)                              |

**Persistence / degradability:** 0 % (by BOD), 0 % (by UV-VIS)

**Bioaccumulative potential(BCF):** 1.8 - 3.2 (conc. 150 ppb), <9.0 (conc. 15 ppb)

### Mobility in soil

|                                                   |      |
|---------------------------------------------------|------|
| <b>log Pow:</b>                                   | 1.81 |
| <b>Soil adsorption (Koc):</b>                     | 230  |
| <b>Henry's Law constant(PaM<sup>3</sup>/mol):</b> | 294  |

## 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 but exert extra care in igniting as this material is highly flammable. Observe all federal, state and local regulations when disposing of the substance

## 14. TRANSPORT INFORMATION

|                              |                      |
|------------------------------|----------------------|
| <b>Hazards Class:</b>        | 3: Flammable liquid. |
| <b>UN-No:</b>                | 2414                 |
| <b>Proper shipping name:</b> | Thiophene            |
| <b>Packing group:</b>        | II                   |

## 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.:** 32110

## 16. OTHER INFORMATION

### The reference company name of written contents

|                    |                                                                            |
|--------------------|----------------------------------------------------------------------------|
| <b>Company:</b>    | TCI (Shanghai) DEVELOPMENT CO., LTD.                                       |
| <b>Address:</b>    | No.96 Pu Gong Road, Shanghai Chemical Industry Park, Shanghai 201507 China |
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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.