



TCI (Shanghai) DEVELOPMENT CO., LTD.

Revision number: 1

Revision date: 09/05/2019

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## SAFETY DATA SHEET

### 1. IDENTIFICATION

**Product name:** Ferrocene  
**Product code:** D0444  
**Company:** TCI (Shanghai) DEVELOPMENT CO., LTD.  
**Address:** No.96 Pu Gong Road, Shanghai Chemical Industry Park, Shanghai 201507 China  
**Responsible Department:** Sales Department  
**Telephone:** +86-(0)21-67121386  
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**Revision number:** 1

### 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

#### PHYSICAL HAZARDS

Flammable solids Category 1

#### HEALTH HAZARDS

Acute toxicity (Oral) Category 4  
Skin corrosion/irritation Category 3  
Serious eye damage/eye irritation Category 2B  
Specific target organ toxicity  
- Single exposure [Category 3] Respiratory tract irritation  
Specific target organ toxicity  
- Repeated exposure [Category 2] Nose  
ENVIRONMENTAL HAZARDS Not classified

Label elements

Pictograms or hazard symbols



Signal word  
Hazard statements

Danger  
Flammable solid  
Harmful if swallowed  
Causes mild skin irritation  
Causes eye irritation  
May cause damage to organs through prolonged or repeated exposure : Nose  
May cause respiratory irritation

Precautionary statements  
[Prevention]

Keep away from heat, sparks, open flames and hot surfaces. -No smoking.  
Ground and bond container and receiving equipment.  
Use explosion-proof electrical, ventilating and lighting equipment.  
Do not breathe dust, fume, mist, vapors or spray.  
Use only outdoors or in a well-ventilated area.  
Do not eat, drink or smoke when using this product.  
Wash hands and face thoroughly after handling.

[Response]

Wear protective gloves, eye protection.  
IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth.

If skin irritation occurs: Get medical advice or attention.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.

IF IN EYES: 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 or attention.

Get medical advice or attention if you feel unwell.

**[Storage]**

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

**[Disposal]**

Dispose of contents and container in accordance with local, regional, national regulations.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Substance/mixture:</b>	Substance
<b>Components:</b>	Ferrocene
<b>Percent:</b>	>98.0%(GC)
<b>CAS RN:</b>	102-54-5
<b>Synonyms:</b>	Bis(cyclopentadienyl)iron , Dicyclopentadienyl Iron
<b>Chemical Formula:</b>	C <sub>10</sub> H <sub>10</sub> Fe

**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 if you feel unwell.
<b>Skin contact:</b>	Remove/Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.
<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>	Call a POISON CENTER or doctor/physician if you feel unwell. 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>Precautions for firefighters:</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 personal protective equipment. Keep people away from and upwind of spill/leak. 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>	Sweep dust to collect it into an airtight container, taking care not to disperse it. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.
<b>Prevention of secondary hazards:</b>	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

### Precautions for safe handling

**Technical measures:** Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dispersion of dust. Keep away from heat/sparks/open flame/hot surfaces. -No smoking. Take measures to prevent the build up of electrostatic charge. Wash hands and face thoroughly after handling. Use a closed system if possible. Use a local exhaust if dust or aerosol will be generated.

**Advice on safe handling:** Avoid contact with skin, eyes and clothing.

### Conditions for safe storage, including any incompatibilities

**Storage conditions:** Keep container tightly closed. Store in a cool, dark and well-ventilated place. Store locked up. Store away from incompatible materials such as oxidizing agents.

**Packaging material:** Comply with laws.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering controls:** Install a closed system or local exhaust. Also install safety shower and eye bath.

### **Exposure limits:**

**ACGIH TLV(TWA):** 10 mg/m<sup>3</sup>

**OSHA PEL(TWA):** 15 mg/m<sup>3</sup> (td), 5 mg/m<sup>3</sup> (rf)

### **Personal protective equipment**

**Respiratory protection:** Dust 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):** Solid

**Form:** Crystal - Powder

**Colour:** Yellow - Yellow red

**Odour:** Characteristic

**pH:** No data available

**Melting point/freezing point:** 176°C

**Boiling point/range:** 249°C

**Flash point:** No data available

**Flammability or explosive limits:**

**Lower:** No data available

**Upper:** No data available

**Vapour pressure:** 4Pa/40°C

**Relative density:** No data available

**Solubility(ies):**

**[Water]** Insoluble

**[Other solvents]**

**Soluble:** Ether, Alcohols

## 10. STABILITY AND REACTIVITY

**Chemical stability:** Stable under proper conditions.

**Possibility of hazardous reactions:** No special reactivity has been reported.

**Conditions to avoid:** Spark, Open flame, Static discharge

**Incompatible materials:** Oxidizing agents, Strong acids

**Hazardous decomposition products:** Carbon monoxide, carbon dioxide etc

**11. TOXICOLOGICAL INFORMATION**

<b>Acute Toxicity:</b>	ipr-mus LD50:335 mg/kg ipr-rat LD50:500 mg/kg orl-mus LD50:832 mg/kg orl-rat LD50:1320 mg/kg
<b>Skin corrosion/irritation:</b>	No data available
<b>Serious eye damage/irritation:</b>	No data available
<b>Germ cell mutagenicity:</b>	mno-sat 10 ug/plate (-S9) sln-dmg-par 100 ppm
<b>Carcinogenicity:</b>	ims-rat TDLo:5175 mg/kg/2Y-I
<b>IARC =</b>	No data available
<b>NTP =</b>	No data available
<b>Reproductive toxicity:</b>	No data available
<b>RTECS Number:</b>	LK0700000

**12. ECOLOGICAL INFORMATION**

<b>Ecotoxicity:</b>	
<b>Fish:</b>	No data available
<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 (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 dissolve or mix material with a combustible solvent and 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>	4.1: Flammable solid.
<b>UN-No:</b>	1325
<b>Proper shipping name:</b>	Flammable solid, organic, n.o.s.
<b>Packing group:</b>	II

**15. REGULATORY INFORMATION**

**Regulations on the Control over Safety of Dangerous Chemicals (State Council announces on January 26, 2002 and revised on February 16,2011):** Safe use and production, the storage of a dangerous chemical, transport, loading and unloading were prescribed.

**16. OTHER INFORMATION****The reference company name of written contents**

<b>Company:</b>	TCI (Shanghai) DEVELOPMENT CO., LTD.
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<b>Department:</b>	Technical Information Department
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This SDS was prepared sincerely on the basis of the information we could obtain, 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. The 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.