



# SAFETY DATA SHEET

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

**Product name:** Tributyl Orthoformate  
**Product code:** 00269  
**Company:** TCI (Shanghai) DEVELOPMENT CO., LTD.  
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**Revision number:** 1

## 2. HAZARDS IDENTIFICATION

### Classification of the GHS

#### PHYSICAL HAZARDS

Flammable liquids

Category 4

#### HEALTH HAZARDS

Skin corrosion/irritation

Category 2

Serious eye damage/eye irritation

Category 2A

#### ENVIRONMENTAL HAZARDS

Not classified

### GHS label elements

#### Pictograms or hazard symbols



#### Signal word

Warning

#### Hazard statement

Combustible liquid

Causes skin irritation

Causes serious eye irritation

#### Precautionary statements

##### [Prevention]

Keep away from flames and hot surfaces.

Wash hands thoroughly after handling.

Wear protective gloves and eye/face protection.

##### [Response]

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/attention.

IF ON SKIN: Gently wash with plenty of soap and water.

If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash before reuse.

##### [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):** Tributyl Orthoformate  
**Percent:** >95.0%(GC)  
**CAS Number:** 588-43-2  
**Synonyms:** Orthoformic Acid Tributyl Ester , Tributoxymethane  
**Chemical Formula:** C<sub>13</sub>H<sub>28</sub>O<sub>3</sub>

#### 4. FIRST AID MEASURES

|                                    |                                                                                                                                                                                |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Inhalation:</b>                 | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention 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>                  | Get medical advice/attention 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, carbon dioxide.                                                                                                                                                                                                                                               |
| <b>Extinguishing media not to be used:</b>            | Water (It may scatter and spread fire.)                                                                                                                                                                                                                                           |
| <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 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.                                                           |
| <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. |
| <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

##### Handling

|                                 |                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Technical measures:</b>      | Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent generation of vapor or mist. Keep away from flames and hot surfaces. Take measures to prevent the build up of electrostatic charge. Use explosion-proof equipment. Wash hands and face thoroughly after handling. Use a closed system, ventilation. |
| <b>Advice on safe handling:</b> | Avoid contact with skin, eyes and clothing.                                                                                                                                                                                                                                                                                                       |

##### Storage

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

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

|                                      |                                                                                                                                               |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Engineering controls:</b>         | Install a closed system or local exhaust as possible so that workers should not be exposed directly. Also install safety shower and eye bath. |
| <b>Personal protective equipment</b> |                                                                                                                                               |
| <b>Respiratory protection:</b>       | Vapor respirator. Follow local and national regulations.                                                                                      |

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**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:** No data available  
**pH:** No data available  
**Melting point/freezing point:** No data available  
**Boiling Point/Range:** 247 °C  
**Flash Point:** 89°C  
**Explosive limits**  
**Lower:** No data available  
**Upper:** No data available  
**Density:** 0.87  
**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, acids  
**Hazardous Decomposition Products:** Carbon monoxide, Carbon dioxide

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

**Hazards Class:** Does not correspond to the classification standard of the United Nations  
**UN-No:** Not Listed

#### 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.

#### 16. OTHER INFORMATION

**The reference company name of written contents**

**Company:** TCI (Shanghai) DEVELOPMENT CO., LTD.  
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