

# SAFETY DATA SHEETS

## According to the UN GHS revision 9

Version: 1.0  
Creation Date: July 15, 2019  
Revision Date: July 15, 2019

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### 1. SECTION 1: Identification

#### 1.1. GHS Product identifier

**Product name** Titanium tetrachloride

#### 1.2. Other means of identification

**Product number** -

**Other names** Titanium tetrachloride;

#### 1.3. Recommended use of the chemical and restrictions on use

**Identified uses** Industrial and scientific research use.

**Uses advised against** no data available

#### 1.4. Supplier's details

**Company** Shandong Sincere Chemical Co., Ltd.

**Address** No.21 Industrial North Road, Licheng District,  
Jinan City, Shandong Province, China.

**Telephone** (+86) 188-6575-9396

#### 1.5. Emergency phone number

**Emergency phone number** (+86) 188-6575-9396

**Service hours** Monday to Friday, 9am-5pm (Standard time zone:  
UTC/GMT +8 hours).

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### 2. SECTION 2: Hazard identification

#### 2.1. Classification of the substance or mixture

Skin corrosion, Sub-category 1B

#### 2.2. GHS label elements, including precautionary statements

**Pictogram(s)**



**Signal word**

Danger

**Hazard statement(s)**

H314 Causes severe skin burns and eye damage

**Precautionary statement(s)**

**Prevention**

P260 Do not breathe  
dust/fume/gas/mist/vapours/spray. P264 Wash ...  
thoroughly after handling. P280 Wear protective  
gloves/protective clothing/eye protection/face  
protection/hearing protection/...

**Response**

P301+P330+P331 IF SWALLOWED: Rinse

mouth. Do NOT induce vomiting.P363 Wash contaminated clothing before reuse.P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.P316 Get emergency medical help immediately.P321 Specific treatment (see ... on this label).P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Storage**  
**Disposal**

P405 Store locked up.  
P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**2.3. Other hazards which do not result in classification**

no data available

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### **3. SECTION 3: Composition/information on ingredients**

#### **3.1. Substances**

<b>Chemical name</b>	<b>Common names and synonyms</b>	<b>CAS number</b>	<b>EC number</b>	<b>Concentration</b>
Titanium tetrachloride	Titanium tetrachloride	7550-45-0	231-441-9	99.0%

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### **4. SECTION 4: First-aid measures**

#### **4.1. Description of necessary first-aid measures**

Medical attention is required. Consult a doctor. Show this safety data sheet (SDS) to the doctor in attendance.

**If inhaled**

Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer for medical attention.

**Following skin contact**

Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention .

**Following eye contact**

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

**Following ingestion**

Rinse mouth. Do NOT induce vomiting. Refer for medical attention .

#### **4.2. Most important symptoms/effects, acute and delayed**

no data available

#### **4.3. Indication of immediate medical attention and special treatment needed, if necessary**

no data available

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### **5. SECTION 5: Fire-fighting measures**

#### **5.1. Suitable extinguishing media**

Use dry chemical, carbon dioxide or alcohol-resistant foam.

#### **5.2. Specific hazards arising from the chemical**

Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.

#### **5.3. Special protective actions for fire-fighters**

In case of fire in the surroundings, use appropriate extinguishing media. In case of fire: keep drums, etc., cool by spraying with water. NO direct contact with water.

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### **6. SECTION 6: Accidental release measures**

#### **6.1. Personal precautions, protective equipment and emergency procedures**

Evacuate danger area! Consult an expert! Personal protection: complete protective clothing including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Ventilation. Do NOT use water. Collect leaking and spilled liquid in sealable acid resistant containers as far as possible. Absorb remaining liquid in dry sand or inert absorbent. Then store and dispose of according to local regulations.

#### **6.2. Environmental precautions**

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

#### **6.3. Methods and materials for containment and cleaning up**

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

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### **7. SECTION 7: Handling and storage**

#### **7.1. Precautions for safe handling**

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

#### **7.2. Conditions for safe storage, including any incompatibilities**

Separated from food and feedstuffs. Dry. Well closed.

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### **8. SECTION 8: Exposure controls/personal protection**

### 8.1. Control parameters

#### Occupational Exposure limit values

no data available

#### Biological limit values

no data available

### 8.2. Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

### 8.3. Individual protection measures, such as personal protective equipment (PPE)

#### Eye/face protection

Wear face shield or eye protection in combination with breathing protection.

#### Skin protection

Protective gloves. Protective clothing.

#### Respiratory protection

Use ventilation, local exhaust or breathing protection.

#### Thermal hazards

no data available

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## 9. SECTION 9: Physical and chemical properties and safety characteristics

<b>Physical state</b>	Liquid.
<b>Colour</b>	Colourless to yellow.
<b>Odour</b>	no data available
<b>Melting point/freezing point</b>	-24.1 °C.
<b>Boiling point or initial boiling point and boiling range</b>	136.4 °C. Remarks:Not determinable.
<b>Flammability</b>	no data available
<b>Lower and upper explosion limit/flammability limit</b>	no data available
<b>Flash point</b>	8°C
<b>Auto-ignition temperature</b>	no data available
<b>Decomposition temperature</b>	no data available
<b>pH</b>	no data available
<b>Kinematic viscosity</b>	dynamic viscosity (in mPa s) = 0.8. Temperature:20°C.
<b>Solubility</b>	In water: < 5 µg/L. Remarks:Not determinable.
<b>Partition coefficient n-octanol/water</b>	no data available
<b>Vapour pressure</b>	12 hPa. Temperature:20 °C. Remarks:Vapour

	pressure "p" [Torr] can be calculated by following equation : $\log p = 1.75 \log T - 1764.65/T - 0.000665 T + 2.90055$ with p in mmHg (Torr) and T in °C valid between 20 °C and 135 °C.
<b>Density and/or relative density</b>	1.73 g/cm <sup>3</sup> . Temperature:20 °C.
<b>Relative vapour density</b>	no data available
<b>Particle characteristics</b>	no data available

## 10. SECTION 10: Stability and reactivity

### 10.1. Reactivity

no data available

### 10.2. Chemical stability

no data available

### 10.3. Possibility of hazardous reactions

Decomposes on heating. This produces toxic fumes including hydrogen chloride. Reacts violently with water. This produces heat and corrosive fumes including hydrogen chloride (see ICSC 0163). Contact with air generates hydrochloric acid. Attacks many metals in the presence of water.

### 10.4. Conditions to avoid

no data available

### 10.5. Incompatible materials

no data available

### 10.6. Hazardous decomposition products

no data available

## 11. SECTION 11: Toxicological information

### Acute toxicity

- Oral: LD100 - rat - 464 mg/kg bw.
- Inhalation: LC50 - rat (male) - 0.46 mg/L air (analytical).
- Dermal: LD50 - rabbit - 3 160 mg/kg bw.

### Skin corrosion/irritation

no data available

### Serious eye damage/irritation

no data available

### Respiratory or skin sensitization

no data available

### Germ cell mutagenicity

no data available

### Carcinogenicity

no data available

### Reproductive toxicity

no data available

**STOT-single exposure**

The substance is corrosive to the eyes, skin and respiratory tract. Corrosive on ingestion. Inhalation of the vapour may cause lung oedema. See Notes. The effects may be delayed. Medical observation is indicated.

**STOT-repeated exposure**

The substance may have effects on the lungs and respiratory tract. This may result in impaired functions.

**Aspiration hazard**

No indication can be given about the rate at which a harmful concentration of this substance in the air is reached on evaporation at 20°C.

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## 12. SECTION 12: Ecological information

### 12.1. Toxicity

- Toxicity to fish: LL50 - *Pimephales promelas* - > 1 000 mg/L - 96 h.  
Remarks: "Ti-pure" Titanium dioxide RPS.
- Toxicity to daphnia and other aquatic invertebrates: NOELR - other aquatic crustacea: *Acartia tonsa* - >= 10 000 mg/L - 48 h.
- Toxicity to algae: NOELR - *Pseudokirchneriella subcapitata* (previous names: *Raphidocelis subcapitata*, *Selenastrum capricornutum*) - > 1 mg/L - 72 h.
- Toxicity to microorganisms: EC50 - activated sludge, domestic - 5.2 pH - 3 h.  
Remarks: Respiration rate.

### 12.2. Persistence and degradability

no data available

### 12.3. Bioaccumulative potential

no data available

### 12.4. Mobility in soil

no data available

### 12.5. Other adverse effects

no data available

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## 13. SECTION 13: Disposal considerations

### 13.1. Disposal methods

**Product**

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

**Contaminated packaging**

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

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## 14. SECTION 14: Transport information

### 14.1. UN Number

ADR/RID: UN1838 (For reference only, please check.)      IMDG: UN1838 (For reference only, please check.)      IATA: UN1838 (For reference only, please check.)

### 14.2. UN Proper Shipping Name

ADR/RID: TITANIUM TETRACHLORIDE (For reference only, please check.)      IMDG: TITANIUM TETRACHLORIDE (For reference only, please check.)      IATA: TITANIUM TETRACHLORIDE (For reference only, please check.)

### 14.3. Transport hazard class(es)

ADR/RID: 6.1 (For reference only, please check.)      IMDG: 6.1 (For reference only, please check.)      IATA: 6.1 (For reference only, please check.)

### 14.4. Packing group, if applicable

ADR/RID: I (For reference only, please check.)      IMDG: I (For reference only, please check.)      IATA: I (For reference only, please check.)

### 14.5. Environmental hazards

ADR/RID: No      IMDG: No      IATA: No

### 14.6. Special precautions for user

no data available

### 14.7. Transport in bulk according to IMO instruments

no data available

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## 15. SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
Titanium tetrachloride	Titanium tetrachloride	7550-45-0	231-441-9
<b>European Inventory of Existing Commercial Chemical Substances (EINECS)</b>			
Listed.			
<b>EC Inventory</b>			
Listed.			
<b>United States Toxic Substances Control Act (TSCA) Inventory</b>			
Listed.			
<b>China Catalog of Hazardous chemicals 2015</b>			
Listed.			
<b>New Zealand Inventory of Chemicals (NZIoC)</b>			
Listed.			
<b>Philippines Inventory of Chemicals and Chemical Substances (PICCS)</b>			
Listed.			
<b>Vietnam National Chemical Inventory</b>			
Listed.			
<b>Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)</b>			
Listed.			
<b>Korea Existing Chemicals List (KECL)</b>			
Listed.			

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## 16. SECTION 16: Other information

### Information on revision

**Creation Date** July 15, 2019

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### Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

### References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

### Other Information

Reacts violently with fire extinguishing agents such as water. Depending on the degree of exposure, periodic medical examination is suggested. The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential. Immediate administration of an appropriate inhalation therapy by a doctor or a person authorized by him/her, should be considered. The decomposition products of this substance may cause effects on the environment.

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*Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document*



*is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any damage resulting from handling or from contact with the above product.*