

Shanghai Aladdin Biochemical Technology Co., Ltd.  
No. 809, Chuhua Branch Road, Fengxian District, Shanghai

# SAFETY DATA SHEET

Version: v1  
Revision Date: 2024-01-22  
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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifiers

Product name : Titanium tetrachloride  
Product Number : T118447  
Brand : aladdin  
CAS-No. : 7550-45-0

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances.

### 1.3 Details of the supplier of the safety data sheet

Company : Shanghai Aladdin Biochemical Tech Co., Ltd  
Address : 36 Xinjinqiao Road, Shanghai  
Telephone : 400-620-6333  
Fax : no data available

### 1.4 Emergency telephone number

Emergency Phone : 0532-83889090

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute Dermal Toxicity (Category 5)

Acute Dermal Toxicity - Vapors (Category 2)

Skin Corrosion/Irritation (Category 1 B)

Serious Eye Damage/Eye Irritation (Category 1)

Specific target organ toxicity - (single exposure) (Category 3)

### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

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H313	May be harmful in contact with skin
H314	Causes severe skin burns and eye damage
H330	Fatal if inhaled
H335	May cause respiratory irritation
Precautionary statement(s)	
P264	Wash hands [and ...] thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	[In case of inadequate ventilation] Wear respiratory protection.
P310	Immediately call a POISON CENTER or doctor/physician.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off Immediately all contaminated clothing. Rinse SKIN with water [or shower].
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.
P362+P364	Take off contaminated clothing and wash it before reuse.
P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container to an approved waste disposal plant.

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms	: Titanium chloride; TTC
Formula	: TiCl <sub>4</sub>
Molecular weight	: 189.68
CAS No.	: 7550-45-0
EC-NO.	: 231-441-9

Component	Classification	Concentration
Titanium tetrachloride	no data available	99.99% metals basis

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General advice

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Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

If inhaled

If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Remove to fresh air. Immediate medical attention is required.

In case of skin contact

Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required

In case of eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse

If swallowed

Do NOT induce vomiting. Call a physician or poison control center immedia

#### 4.2 Most important symptoms and effects, both acute and delayed

Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforati

#### 4.3 Indication of any immediate medical attention and special treatment needed

no data available

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### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

Suitable extinguishing media

CO 2, dry chemical, dry sand, alcohol-resistant foam

Unsuitable extinguishing media

Water

#### 5.2 Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes. Reacts violently with water.

#### 5.3 Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors

#### 5.4 Further information

no data available

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### SECTION 6: Accidental release measures

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

Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas.

Keep people away from and upwind of spill/lea

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## 6.2 Environmental precautions

Should not be released into the environment.

## 6.3 Methods and materials for containment and cleaning up

Keep in suitable, closed containers for disposal. Soak up with inert absorbent material. Do not expose spill

## 6.4 Reference to other sections

For disposal see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Do not get in eyes, on skin, or on clothing. Wear personal protective equipment/face protection. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Do not allow contact with water.

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

Corrosives area. Keep under nitrogen. Keep away from water or moist air. Keep containers tightly closed in a dry, cool and well-ventilated place

### 7.3 Specific end use(s)

no data available

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Component	ACGIH TLV	OSHA PEL	NIOSH	European Union
Titanium tetrachloride	Ceiling: 0.5 ppm	-	-	-

### 8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

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Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU)2016/425 and the standard EN 374 derived from it.

#### Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN(EU).

#### Control of environmental exposure

If it is safe, prevent further leakage or spillage and do not allow the product to enter the sewer system.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

a) Appearance	no data available
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	-24.1°C
f) Initial boiling point and boiling range	136.4°C
g) Flash point	no data available
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	1.73
n) Water solubility	no data available
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties N	no data available
t) Oxidizing properties N	no data available

### 9.2 Other safety information

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no data available

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Moisture sensitive.

### 10.3 Possibility of hazardous reactions

None under normal processing. Reacts violently with water.

### 10.4 Conditions to avoid

Exposure to moist air or water. Incompatible products. Exposure to moisture.

### 10.5 Incompatible materials

Water. Strong oxidizing agents. Alcohols.

### 10.6 Hazardous decomposition products

Hydrogen chloride gas

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Titanium tetrachloride	LD50 = 464 mg/kg ( Rat )	3160 mg/kg ( Rabbit )	0.46 mg/L/4h ( Rat )

Skin corrosion/irritation

Category 1 B

Serious eye damage/eye irritation

Category 1

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

There are no known carcinogenic chemicals i

Reproductive toxicity

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no data available  
Specific target organ toxicity - single exposure  
no data available  
Specific target organ toxicity - repeated exposure  
no data available  
Aspiration hazard  
no data available  
Additional Information

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## SECTION 12: Ecological information

### 12.1 Toxicity

Reacts with water so no ecotoxicity data for the substance is avail

### 12.2 Persistence and degradability

Persistence is unlikely, based on information available.

### 12.3 Bioaccumulative potential

Product does not bioaccumulate due to reaction with water

### 12.4 Mobility in soil

no data available

### 12.5 Results of PBT and vPvB assessment

no data available

### 12.6 Other adverse effects

Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not flush to sewer. Large amounts will affect pH and harm aquatic organisms.

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## SECTION 13:

### 13.1 Disposal considerations

Product

Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations

Contaminated packaging

Dispose of this container to hazardous or special waste collection point.

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## SECTION 14: Transport information

DOT (US)

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UN number: 1838	Packing group: I	Class: 6.1 (8)
Proper shipping name: TITANIUM TETRACHLORIDE	Reportable Quantity(RQ): no data available	Poison Inhalation Hazard: no data available
Environmental Hazards: no data available		
IMDG		
UN number: 1838	Packing group: I	EMS-No: no data available
Proper shipping name: TITANIUM TETRACHLORIDE		
IATA		
UN number: 1838	Packing group: I	Class: 6.1 (8)
Proper shipping name: TITANIUM TETRACHLORIDE		

## SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

## SECTION 16: Other information

Further information

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