

SAFETY DATA SHEET

1. Chemical Product and Company Identification

ProductName TiCl4 (Code #:TIH02LB)

Reference NO. TIH02LAG-001

Creation Date 2025/11/17

Company Name : Kojundo Chemical Laboratory Co.,Ltd.
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Product Use For research purposes

Restriction of use Seek expert judgment when using the product for applications other than those recommended

2. Hazards identification

[GHS CLASSIFICATION]

PHYSICAL HAZARDS

Not Classification criteria.

HEALTH HAZARDS

Acute toxicity(oral) : Category3
 Acute toxicity(inhalation:vapours) : Category1
 Skin corrosion/irritation : Category1
 Serious eye damage/Eye Irritation : Category1
 Specific target organ toxicity(single exposure) : Category1 (Respiratory tract)
 Specific target organ toxicity(repeated exposure) : Category1 (Respiratory tract)

ENVIRONMENTAL HAZARDS

Not Classification criteria.

[GHS LABEL ELEMENTS]

Pictogram



Signal Word : Danger

Hazard Statement : Toxic if swallowed(H301)
 : Causes severe skin burns and eye damage(H314)
 : Fatal if inhaled(H330)
 : Causes damage to organs (Respiratory tract)(H370)
 : Causes damage to organs (Respiratory tract)(H372)

Precautionary Statement

Safety measures : Do not breathe dust/fume/gas/mist/vapours/spray.(P260)
 : Wash the competent authority to specify parts of the body to be washed after handling. thoroughly after handling.(P264)

- : Do not eat, drink or smoke when using this product.(P270)
 - : Use only outdoors or in a well-ventilated area.(P271)
 - : Wear protective gloves/protective clothing/eye protection/face protection.(P280)
 - : In case of inadequate ventilation wear respiratory protection. (P284)
- First aid measures :
- : Get medical advice/attention if you feel unwell.(P314)
 - : Specific treatment is urgent .(P320)
 - : Specific treatment.(P321)
 - : Wash contaminated clothing before reuse.(P363)
 - : IF SWALLOWED: Immediately call a POISON CENTER/doctor(P301+P310)
 - : IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. (P301+P330+P331)
 - : IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.(P303+P361+P353)
 - : IF INHALED: Remove person to fresh air and keep comfortable for breathing.(P304+P340)
 - : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.(P305+P351+P338)
 - : IF exposed or concerned: Call a POISON CENTER/doctor(P308+P311)
- Storage :
- : Store locked up.(P405)
 - : Store in a well-ventilated place. Keep container tightly closed. (P403+P233)
- Disposal :
- : Dispose of contents/container in accordance with local/regional/national/international regulation.(P501)

3. Composition/information on ingredients

Classification of the substance or mixture : Substance

Chemical name	Concentration(%)	CAS RN®
Titanium tetrachloride	100.00	7550-45-0

4. First aid measures

- Inhalation : Remove the exposed person immediately and provide fresh air. Get medical attention.
- Skin contact : Promptly flush contaminated skin with soap or mild detergent and water. Contact Dermatologist if irritation continues.
- Eye contact : Rinse cautiously with water for 15 minutes.Get medical attention from an ophthalmologist. When washing your eyes, hold your eyelids open with your fingers to allow water to reach every corner of your eyeballs and eyelids.
- Ingestion : Rinse mouth and throat with water. Get medical attention immediately.
- Necessary precautions for protection of person performing first aid measures : Rescue workers wear appropriate eye and skin protection equipment according to the situation.
- Special precautions for doctors : The doctor should carry out treatment that corresponds to the patient's symptoms.

5. Fire fighting measures

- Suitable extinguishing media : Perlite, metal fire extinguishers
- Unsuitable extinguishing media : Water, water foam
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- Special hazards arising from the substance or mixture : Danger to generate irritating, corrosive and toxic gases during fire.
: Upon contact with water, it hydrolyzes to produce hydrochloric acid.
- Special protective equipment and precautions for fire-fighters : Wear appropriate respiratory air and the protective clothing (heat resistance).

6. Accidental release measures

- Personal precautions, protective equipment and emergency procedures : Remove all ignition sources.
: Workers should use protective wears to prevent contact with the spilt adhesive and inhalation of its vapor/dusts.
Indoor leakage: Ventilate as much as possible until the cleaning is completed.
Outdoor leakage: Work from the windward and evacuate the leeward crowd.
- Environmental precautions : Prevent flow out to river, etc. so as not to badly affect.
- Methods and material for containment and cleaning up : Shut off leak if without risk.
Avoid unnecessary contacts with spills.
: Absorb or cover with vermiculite or other suitable absorbent, and dispose of DOT-approved waste containers as much as possible.
Carefully wash spill site with plenty of water after material pick up.
- Measures to prevent secondary disasters : Prevent leakage into sewer, rivers and etc., and take measures to prevent environmental pollution.

7. Handling and storage

Handling

- Technical measures : Handle it in a dry inert gas because it rapidly decomposes when reacting with moisture in the air.
- Precautions for safe handling : No information available
- Avoid contact : Use protective wears and local ventilation equipment, if inhalation or skin contact is foreseen.
Avoid prolonged or repeated exposure.
- Hygiene measures : Do not eat, drink or smoke when using this product.
: Wash hands thoroughly after handling.

Storage

- Safe storage conditions : Store the material in a sealed container.
Store in a cool, dry, well ventilated and dark place away from incompatible materials.
: Keep away from moisture and maintain the state before opening (such as storing in inert gas or in mineral oil).
: Do not use metal containers. Do not bring metal objects or metal products close.
- Safe container packaging materials : No information available

8. Exposure controls / Personal protection

Control parameters

Chemical name	ACGIH	OSHA
Titanium tetrachloride	-	-

Equipment	: Install the appropriate general ventilation equipment, local exhaust ventilation in the workplace.
Personal protection	
Respiratory protection	: Wear appropriate NIOSH/MSHA-approved respirator such as a gas mask with a filter (for acidic gases).
Hand protection	: Wear appropriate NIOSH/MSHA-approved impervious gloves.
Eye and face protection	: Wear appropriate NIOSH/MSHA-approved safety goggles.
Skin and body protection	: Wear appropriate NIOSH/MSHA-approved impervious protective wear, protective boots.
Special precautions	: Regularly check your protective gear. : The notes for the table are as follows. D: Dust, M: Mist, F: Fumes, I: Inhalable particles, R: Respirable particles, IFV: Inhalable particles and vapors, T: Total dust, V: Vapors, C: Ceiling limit

9. Physical and chemical properties

Physical state	: Liquid
Color	: Light yellow
Odour	: Irritating odor
Melting point/Freezing point	: -25°C
Boiling point, initial boiling point and boiling range	: 136.4°C
Flammability	: Non-combustible
Range of explosion (lower bound - upper bound)	: No information available
Flash point	: No information available
Autoignition temperature	: No information available
Decomposition temperature	: No information available
pH	: No information available
Kinematic viscosity	: No information available
Solubility	: No information available
Partition coefficient (n-octanol/water)	: No information available
Vapor pressure	: No information available
Density/Specific gravity	: 1.73g/cm ³
Relative vapor density	: No information available
Particle characteristics	: No information available
Other	: F.W. : 189.7 Oxidizing : None

10. Stability and reactivity

Reactivity	: Decomposes by reacting with moisture in the atmosphere.
Chemical stability	: Stable in closed container under inert gas (at room temperature).
Possibility of hazardous reactions	: No information available
Conditions to avoid	: Keep away from direct sunlight. Store in a cool, dark place. : Humidity, moisture.
Incompatible materials	: Water
Hazardous decomposition products	: No information available

11. Toxicological information

Acute toxicity(oral)	
Titanium tetrachloride	: Category3
Acute toxicity(dermal)	
No information available	
Acute toxicity(inhalation:gases)	
No information available	
Acute toxicity(inhalation:vapours)	
Titanium tetrachloride	: Category1
Acute toxicity(inhalation:dusts and mists)	
No information available	
Skin corrosion/Skin irritation	
Titanium tetrachloride	: Category1
Serious eye damage/Eye Irritation	
Titanium tetrachloride	: Category1
Respiratory sensitizer	
No information available	
Skin sensitizer	
No information available	
Germ cell mutagenicity	
No information available	
Carcinogenicity	
No information available	
Toxic to reproduction/Effects on or via lactation	
No information available	
Specific target organ toxicity(single exposure)	
Titanium tetrachloride	: Category1 (Respiratory tract)
Specific target organ toxicity(repeated exposure)	
Titanium tetrachloride	: Category1 (Respiratory tract)
Aspiration hazard	
No information available	

12. Ecological information

Hazard to the aquatic environment (acute)	
No information available	
Hazard to the aquatic environment (chronic)	
No information available	
Hazardous to the ozone layer	
No information available	
Ecotoxicity/Fish toxicity	
No information available	
Ecotoxicity/ Invertebrate toxicity	
No information available	
Ecotoxicity/ Algal toxicity	
No information available	
Persistence and degradability	
No information available	
Bioaccumulative potential	
No information available	
Mobility in soil	
No information available	

13. Disposal considerations

Remained waste	: Discard in accordance with the standards of the local government and relevant legislation.
A polluted container and packing	: When disposing of empty containers, empty containers are processed in accordance with the standards of the local government as well as the related laws and regulations and waste disposal method after contents are completely removed.

14. Transport information

UN number	: 1838
Guideline Number	: 137
Shipping name	: TITANIUM TETRACHLORIDE
UN Class	: Class6 Toxic and infectious substances
Packing group	: I
Subsidiary risk(s)	: 8
MARINE POLLUTANT	: Not applicable
Transport in bulk according to MARPOL 73/78,Annex II ,and the IBC code	: Not applicable
Special safety measures for transport or means of transport	: Follow "7. Handling and storage" : Check no leak of container, handle without overturning, falling and damaging,then reliably prevent from cargo shift.
Domestic regulations	
Ground transport	: Follow the transportation method specified in the Fire Service Law and the Industrial Safety and Health Law.
Marine transport	: Follow the transportation method specified in the Ship Safety Law.
Air transport	: Follow the transportation method specified in the Aviation Law.

15. Regulatory information

Follow relevant national and local regulations.

16. Other information

This " Safety Data Sheet(SDS)" is for provision of information, and it does not represent a guarantee the properties or safeties of the product.

Since not all materials and literature have been investigated, information may be omitted, and changes may occur in the content due to the discovery of new findings or corrections of previous theories.

The information contained herein is based on information in our possession, but we do not guarantee the completeness of the information.

It is subject to revision based on changes in laws and regulations and new findings.

When using this information for important decisions, we recommend that you carefully review the source of the information or verify it through testing.

Values of ingredients, content, physicochemical properties, etc., are not quality assurance values.

Prior to use, please investigate the laws and regulations of the organization, area and country where the product is to be used.

The information is intended to ordinary usage, in case of special handling, sufficient care should be taken.

※ We recommend not using fire extinguishing medias that are also listed as "Suitable extinguishing media".