

SAFETY DATA SHEET

1. Chemical Product and Company Identification

ProductName Ti[N(CH₃)₂]₄ (tetrakis (dimethylamino) titanium, TDMAT, Code #:TIR13LB)

Reference NO. TIR13LAG-001

Creation Date 2025/11/13

Company information 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

Flammable Liquids : Category2

Self-heating substances and mixtures : Category2

HEALTH HAZARDS

Skin corrosion/irritation : Category2

Serious eye damage/Eye Irritation : Category2

ENVIRONMENTAL HAZARDS

Not Classification criteria.

[GHS LABEL ELEMENTS]

Pictogram



Signal Word : Danger

Hazard Statement : Highly flammable liquid and vapour(H225)
: Self-heating in large quantities; may catch fire(H252)
: Causes skin irritation(H315)
: Causes serious eye irritation(H319)

Precautionary Statement

Safety measures : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.(P210)
: Keep container tightly closed.(P233)
: Keep cool.(P235)
: Ground and bond container and receiving equipment.(P240)
: Use explosion-proof electrical/ventilating/lighting equipment. (P241)
: Use non-sparking tools.(P242)

- : Take action to prevent static discharges.(P243)
- : Wash the competent authority to specify parts of the body to be washed after handling. thoroughly after handling.(P264)
- : Wear protective gloves/protective clothing/eye protection/face protection.(P280)
- First aid measures : Specific treatment.(P321)
 - : IF ON SKIN: Wash with plenty of water(P302+P352)
 - : IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.(P303+P361+P353)
 - : 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 skin irritation occurs: Get medical advice/attention. (P332+P313)
 - : If eye irritation persists: Get medical advice/attention. (P337+P313)
 - : Take off contaminated clothing and wash it before reuse. (P362+P364)
 - : In case of fire: Use appropriate media to extinguish. (P370+P378)
- Storage : Maintain air gap between stacks or pallets.(P407)
 - : Store bulk masses the competent authority to specify mass and temperature using applicable scale.(P413)
 - : Store separately.(P420)
 - : Store in a well-ventilated place. Keep cool.(P403+P235)
- 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(4+) tetrakis(dimethylazanide)	100.00	3275-24-9

4. First aid measures

- Inhalation : Remove the exposed person immediately and provide fresh air. Get medical attention.
- Skin contact : Remove immediately all contaminated clothing. Wipe off the product immediately by tissue or soft cloth, etc. Promptly flush contaminated skin with soap or mild detergent and water. Contact physician 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	: Carbon dioxide, dry sand, dry chemical powder. : Perlite, metal fire extinguishers
Unsuitable extinguishing media ※	: Straight discharge (water) : Water, water foam
Special hazards arising from the substance or mixture	: Danger to generate irritating, corrosive and toxic gases during fire. : Upon contact with water, it immediately undergoes hydrolysis to produce amines. : Heating may cause an explosion. : Reacts violently with water, liberating toxic, flammable gas.
Special fire fighting procedures	: Suffocate the fire with dry sand or similar materials. Remove containers to safe place if possible. Do not use water to extinguish the fire. : Depending on the situation, withdraw from area and let fire burn.
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 the material in a dry inert gas atmosphere, utilizing glove bag or glove box. Keep away from moisture and oxygen when handling. Air and moisture sensitive. Light sensitive. Keep away from heat, sparks and naked flame. Electrically ground all equipment when handling this material and use only non-sparking tools.
Precautions for safe handling	: Air and moisture sensitive. Light sensitive. Keep away from heat, sparks and naked flame. Electrically ground all equipment when handling this material and use only non-sparking tools. Make the electrical equipment explosion-proof.
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 any heat, direct sunlight, sparks, and flames.
: Keep away from moisture and maintain the state before opening (such as storing in inert gas or in mineral oil).
- Safe container packaging materials : No information available

8. Exposure controls / Personal protection

Control parameters

Chemical name	ACGIH	OSHA
Titanium(4+) tetrakis(dimethylazanide)	-	-

- 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 gas mask with a filter (for ammonia).
: Wear appropriate NIOSH/MSHA-approved respirator such as a gas mask with a filter (for organic 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 : Orange
- Odour : Ammonia odor
- Melting point/Freezing point : No information available
- Boiling point, initial boiling point and boiling range : 23°C
- Flammability : 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 : Decomposition
- Partition coefficient (n-octanol/water) : No information available
- Vapor pressure : 13.3Pa(23°C)
- Density/Specific gravity : 1g/cm³
- Relative vapor density : No information available

Particle characteristics : No information available
Other : F.W. : 224.2

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 : The mixture of vapor/air is explosive.
There is a risk of fire or explosion due to contact with acid / oxidizing agents.
: There is a risk of fire or explosion due to contact with acid, alcohol, oxidant, water.
Conditions to avoid : Keep away from direct sunlight. Store in a cool, dark place.
: High temperature, heat, ignition source.
: Humidity, moisture.
Incompatible materials : Water
: Oxygen, oxidizing agents, acids
Hazardous decomposition products : No information available

11. Toxicological information

Acute toxicity(oral)
No information available
Acute toxicity(dermal)
No information available
Acute toxicity(inhalation:gases)
No information available
Acute toxicity(inhalation:vapours)
No information available
Acute toxicity(inhalation:dusts and mists)
No information available
Skin corrosion/Skin irritation
Titanium(4+)
tetrakis(dimethylazanide) : Category2
Serious eye damage/Eye Irritation
Titanium(4+)
tetrakis(dimethylazanide) : Category2A
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)
No information available
Specific target organ toxicity(repeated exposure)
No information available
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 : 3148

Guideline Number : 138

Shipping name : WATER-REACTIVE LIQUID, N.O.S.

UN Class : Class4 Flammable solids; substances liable to spontaneous combustion; substances which, on contact with water, emit flammable gases

Packing group : II

Subsidiary risk(s) : -

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".