



## Safety Data Sheet

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### Section 1. Identification of the substance/mixture and of the company/undertaking

Product identifier:

Product name: Titanium,powder

SDS No. : 78631E-2

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

Research and Development

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN

Division: Chemical Safety Management Department

Telephone number: +81-6-6946-8061

FAX: +81-6-6946-1607

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### Section 2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

PHYSICAL AND CHEMICAL HAZARDS

Flammable solids: Category 1

Self-heating substances and mixtures: Category 1

(Note) GHS classification without description: Not classified/Classification not possible

Label elements



Signal word: Danger

HAZARD STATEMENT

H228 Flammable solid

H251 Self-heating; may catch fire

PRECAUTIONARY STATEMENT

Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P235 Keep cool.

P240 Ground and bond container and receiving equipment.

P241 Use explosion-proof electrical/ventilating/lighting equipment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

P370 + P378 In case of fire: Use appropriate media to extinguish.

Storage

P407 Maintain air gap between stacks or pallets.

P410 Protect from sunlight.

P413 Store bulk masses greater than specified value at temperatures not exceeding specified values.

P420 Store separately.



Specific adverse human health effects  
See "11. Toxicological Information".

**Section 3. Composition/information on ingredients**

Mixture/Substance selection:

Substance

Ingredient name	Content (%)	CAS No.	ENCS	Chemical formula
Titanium	≥ 99	7440-32-6	-	Ti

Note : The figures shown above are not the specifications of the product.

**Section 4. First-aid measures**

Descriptions of first-aid measures

**IF INHALED**

Remove person to fresh air and keep comfortable for breathing.  
Call a POISON CENTER/doctor/physician if you feel unwell.

**IF ON SKIN**

Take off immediately all contaminated clothing. Rinse skin with water or shower.  
If skin irritation or rash occurs: Get medical advice/attention.

**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 SWALLOWED**

Rinse mouth.  
Call a POISON CENTER/doctor/physician if you feel unwell.

**Section 5. Fire-fighting measures**

Extinguishing media

**Suitable extinguishing media**

Use appropriate extinguishing media suitable for surrounding facilities.  
In case of fire, use dry powder, dry sand to extinguish.  
\*Fire Service Act Group 2 Hazardous Materials (iron powder, metal powder or magnesium)

**Unsuitable extinguishing media**

Indoor Fire Plug System or Outdoor Fire Plug System  
Sprinkler System  
Steam Extinguishing System or Water Spray Extinguishing System  
Foam Extinguishing System  
Carbon Dioxide/ Halon Extinguishing System  
Dry Chemical Extinguishing System- Using Phosphates, etc.  
Fire Extinguisher Discharging Jet Water/Spraying Water  
Fire Extinguisher Discharging Jet Loaded Liquid/Spraying Loaded Liquid  
Fire Extinguisher Discharging Foam  
Fire Extinguisher Discharging Carbon Dioxide/Halogenide  
Fire Extinguisher Discharging Dry Extinguishing agents- Using Phosphates, etc.  
Water Bucket or Water Tank



\*Cabinet Order Concerning the Control of Hazardous Materials (Attached Table 5) Iron Powder, Metal Powder or Magnesium or Those Containing One of them

Specific hazards arising from the substance or mixture

Fire may produce irritating, corrosive and/or toxic gases.

Runoff from fire control or dilution water may cause pollution.

See "10.Stability and Reactivity".

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame retardant clothing.

Wear protective gloves/protective clothing/eye protection/face protection.

Firefighters should wear self-contained breathing apparatus with a full facepiece operated in the positive pressure mode.

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## Section 6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Keep unauthorized personnel away.

Ventilate area until material pick up is complete.

Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses, low areas or rivers. To be careful not discharged to the environment without being properly handled waste water contaminated.

Methods and materials for containment and cleaning up

Sweep up, place in a bag and hold for waste disposal.

Preventive measures for secondary accident

Collect spillage.

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## Section 7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Ground and bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

Wear protective gloves/protective clothing/eye protection/face protection.

Wash hands et al thoroughly after handling.

When using do not eat, drink or smoke.

Any incompatibilities



See "10.Stability and Reactivity".

#### Storage

##### Conditions for safe storage

Keep container tightly closed.

Maintain air gap between stacks or pallets.

Store bulk masses greater than specified value at temperatures not exceeding specified values.

Store in a cool, dry place. Do not store in direct sunlight.

Storage in accordance with local/national regulation.

##### (Incompatible storage condition)

Protect from sunlight.

Store separately.

##### Container and packaging materials for safe handling

Use closed unbreakable containers.

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## Section 8. Exposure controls/personal protection

#### Control parameters

Control value and concentration standard value are not available in ISHA.

#### Adopted value

(Other inorganic and organic dust (third class dust ))

JSOH Respirable dust 2mg/m<sup>3</sup>, Total dust 8mg/m<sup>3</sup>

#### Exposure controls

##### Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.

Washing facilities should be available.

##### Individual protection measures

Recommend to use protective equipment in conformity with the standards.

Use appropriate protective equipment in accordance with local/national regulation.

##### Respiratory protection

Wear respiratory protection (dust-proof mask/gas mask). Select chemical cartridge corresponding to type of gases when using a gas mask.

##### Hand protection

Wear impervious protective glove.

##### Eye protection

Wear eye/face protection. Wear safety goggles in cases gas is generated.

##### Skin and body protection

Wear protective clothing.

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## Section 9. Physical and Chemical Properties

#### Information on basic physical and chemical properties

Physical state: Powder

Color: Gray to silver-gray

Odor data is not available.

Melting point/Freezing point: 1660°C

Boiling point or initial boiling point data is not available.

Boiling range data is not available.

Flammability (gases, liquids and solids) data is not available.



Lower and upper explosion limit/flammability limit data is not available.

Flash point data is not available.

Auto-ignition temperature data is not available.

Decomposition temperature data is not available.

pH data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: Insoluble

Solubility in solvent data is not available.

n-Octanol/water partition coefficient data is not available.

Vapor pressure data is not available.

Density and/or relative density: 4.54g/cm<sup>3</sup>

Relative vapor density (Air=1) data is not available.

Particle characteristics data is not available.

Other information

Other information is not available.

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## Section 10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

Not available.

Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

Incompatible materials

Strong acids, Strong oxidizing agents, Halogen, Chlorinated solvent

Hazardous decomposition products

Titanium oxide

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## Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity data is not available.

Irritant properties

Skin corrosion/irritation data is not available.

Serious eye damage/irritation data is not available.

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenic effects data is not available.

Reproductive toxicity data is not available.

Specific target organ toxicity (STOT)

STOT-single exposure data is not available.

STOT-repeated exposure data is not available.

Aspiration hazard data is not available.

Information on other hazards

May cause lung disorders by massive inhalation of powdered substance.



-e.g. fibrosis of lung tissue, cough, sputum, breath shortness, dyspnea, decline of lung function, interstitial lung disease, pneumothorax

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**Section 12. Ecological Information**

## Toxicity

Toxicity data is not available.

## Persistence and degradability

Persistence and degradability data is not available.

## Bioaccumulative potential

Bioaccumulative potential data is not available.

## Mobility in soil

Mobility in soil data is not available.

## Other adverse effects

Ozone depleting chemical data is not available.

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**Section 13. Disposal considerations**

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

## Waste treatment methods

Dispose of contents/container as industrial waste. Accordance with local/national regulation.

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**Section 14. Transport Information**

UN Number or ID Number : 2546

UN Proper Shipping Name :

TITANIUM POWDER, DRY

Class or division (Transport hazard class) : 4.2

Packing group : II

ERG GUIDE No.: 135

## IMDG Code (International Maritime Dangerous Goods Regulations)

UN Number or ID Number : 2546

UN Proper Shipping Name :

TITANIUM POWDER, DRY

Class or division (Transport hazard class) : 4.2

Packing group : II

## IATA (Dangerous Goods Regulations)

UN Number or ID Number : 2546

UN Proper Shipping Name :

TITANIUM POWDER, DRY

Class or division (Transport hazard class) : 4.2

Hazard labels : Spont. comb.

Packing group : II

## Environmental hazards

Marine pollutants (yes/no) : no



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**Section 15. Regulatory Information**

Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Toxic Substances Control Act (TSCA) Inventory

Chemicals listed in TSCA Inventory

Applicable

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

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**Section 16. Other information**

References and sources for data

Globally Harmonized System of classification and labelling of chemicals, UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 22nd edit., 2021 UN

IMDG Code, 2022 Edition (Incorporating Amendment 41-22)

IATA Dangerous Goods Regulations (65th Edition) 2024

2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2024 TLVs and BEIs. (ACGIH)

JIS Z 7252 : 2019

JIS Z 7253 : 2019

2023 Recommendation on TLVs (JSOH)

Supplier's data/information

General Disclaimer

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Unauthorized translation or modification is prohibited.

Please provide SDS to customers for selling or transferring.

All chemicals have unknown hazard. Handle the product with care.

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Data published in Japan (National Institute of Technology and Evaluation (NITE) Chemical Risk Information Platform (NITE-CHRIP), up to FY2023).