

GHS Safety Data Sheet

SDS No. : TIO01GAEG

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Section 1. Identification of the substance or mixture and of the supplier

Product Information

Product name: TiO₂ Titanium(IV) oxide

Product	Purity	Form	Size or Shape
TIO21PB	95%	rutile, fine powder	ca.1 μm
TIO13PB	99.9%(3N)	rutile, powder	ca.2 μm
TIO14PB	99.99%(4N)	rutile, powder	ca.2 μm
TIO20PB	4N	rutile, powder	ca.0.5 μm
TIO17PB	99%(2N)	anatase, powder	—
TIO19PB	4N	brookite, powder	—
TIO03GB	99.9%(3N)	rutile, grains	—
TIO04GB	4N	rutile, grains	—
TI009_TIOR3004	3N	rod & tablet	φ 10×t5 (mm)
TI009_TIOR3003	3N	rod & tablet	φ 20×t5 (mm)
TI012_TIOT3039	3N	target	φ 101.6×t5 (mm)
TI012_TIOT3090	3N	target	φ 152.4×t5 (mm)

Company Information:

Manufacturer : Kojundo Chemical Laboratory Co., Ltd.

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Recommended uses and restrictions on use: For research purposes

Section 2. Hazards identification

GHS Classification

Health Hazards	Environmental Hazards	Physical Hazards
Carcinogenicity : Category 2 Specific target organ toxicity, repeated exposure: Category1	Hazardous to the aquatic environment, chronic toxicity :Category 4	Flammable solids : Not classified Pyrophoric solids : Not classified Self-heating substances and mixtures : Not classified Substances and mixtures which, in contact with water, emit flammable gases : Not classified

GHS Label: C



Pictograms or symbols:

Warning word: DANGER

Hazard information	Description of precaution
Suspected of causing cancer Causes damage to organs (respiratory tract) through prolonged or repeated exposure	Obtain special instructions. Read and understand all safety precautions before handling. Wear protective gloves/protective clothing/eye protection/respiratory protection/face protection during handling. Avoid breathing dust/mist/gas/fume/vapors/spray. Do not eat, drink or smoke when using this product, and wash hands thoroughly after handling.



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May cause long lasting harmful effects to aquatic life

Avoid release to the environment and collect spillage.
Call a POISON CENTER or doctor/physician if you feel unwell.
Dispose of contents/ container in accordance with local/national regulations.

Section 3. Composition / information on ingredients

Chemical or common name: Titanium(IV) oxide
Synonyms: Titanium dioxide
Chemical formula: TiO₂
Single Substance or Compound: Single substance
Composition: 100%
CAS #: 13463-67-7
RTECS#: XR2275000
TSCA inventory : Listed
EINECS: 2366755

Section 4. First aid measures

Eye contact: Promptly wash eyes with plenty of water while lifting the eye lids.
Continue to rinse for at least 15 minutes and get medical attention.
Skin contact: Promptly flush contaminated skin with soap or mild detergent and water.
Contact physician if irritation continues.
Inhalation: Remove the exposed person immediately and provide fresh air.
Get medical attention.
Ingestion: Rinse mouth and throat with water. Get medical attention immediately.

Section 5. Fire fighting measures

Extinguishing media:
Use media appropriate for surrounding fire.
Fire fighting: The product is not combustible.
Self-contained breathing apparatus and full protective clothing should be used, if the material is involved in fire.

Section 6. Accidental release measures

Personal Precautions:
Workers should use protective wears to prevent contact with the spilt adhesive and inhalation of its vapor/dusts.
Environmental hazard precautions:
Shut off leak if without risk.
Prevent flow out to river, etc. so as not to badly affect.
Method for containment and cleaning up:
Indoor leakage: Ventilate as much as possible until the cleaning is completed.
Outdoor leakage: Work from the windward and evacuate the leeward crowd.
Gather up, pack in closed DOT-approved waste container as much as possible.
Carefully collect remnant and move to a safe place.

Section 7. Handling and storage

Precautions to be taken in handling:

Safe handling: Use protective wears and local ventilation equipment, if inhalation or skin contact is foreseen.
Avoid prolonged or repeated exposure.



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Precautions to be taken in storage:

General precautions: Store the material in a sealed container.
Store in a cool, dry, well ventilated and dark place away from incompatible materials.

Section 8. Exposure controls / personal protection

Exposure guideline:

Chemical Name	ACGIH(2019) TLV-TWA mg/m ³	OSHA(2006) PEL-TWA mg/m ³
Titanium dioxide T ; Total dust	10	15(T)

Facility measures: Local ventilation of closed work room or total proper ventilation to prevent inhalation.

Protective ware: Wear appropriate NIOSH/MSHA-approved respirator, safety goggles, impervious gloves, protective wear, protective boots.

Section 9. Physical and chemical properties

Appearance: White solid, odorless
Chemical formula: TiO₂
Formula weight: 79.9
Melting point: 1843 °C
Density: 4.23 g/cm³ (rutile), 3.90 g/cm³ (anatase), 4.13 g/cm³ (brookite)
Solubility: Insoluble ; water
Soluble ; Sulfuric acid, alkali
Flammable: Non-combustible substance
Oxidation: None

Section10. Stability and reactivity

Stability: Stable in closed container.

Reactivity:

Incompatibility: Strong acids, lithium, zinc powder, aluminum powder, potassium, sodium, calcium.

Section11. Toxicological information

Acute toxicity

(Oral, dermal, inhalation-dust): GHS : Not classified.; Falls below the lowest level.
Oral rat LD₅₀ > 2000 mg/kg (SIDS(2015))
Dermal hamster LD₅₀ > 10000 mg/kg (HSDB(Access on May 2016))
Inhalation-dust rat LC₅₀ > 5.09 mg/L (SIDS(2015))

Skin corrosive / irritation: GHS : Not classified.; Falls below the lowest level.

Serious eye damage / irritation: GHS : No data available

Respiratory sensitization: GHS : Category 1 ;
May cause allergy or asthma symptoms or breathing difficulties if inhaled

Skin sensitization: GHS : No data available

Germ cell mutagenicity: GHS : No data available

Carcinogenicity: GHS : Category 2 ; Suspected of causing cancer

Carcinogenicity:

Chemical Name	ACGIH (2019)	IARC (2018)	NTP (2016)
Titanium dioxide	A4	2B	—

ACGIH A4 Not classifiable as a Human Carcinogen.

IARC 2B The agent is possibly carcinogenic to humans.



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Reproductive toxicity:	GHS : No data available
Specific target organ toxicity	
— single exposure:	GHS : No data available
— repeated exposure:	GHS : Category 1 ; Causes damage to organs (respiratory tract) through prolonged or repeated exposure
Aspiration hazard:	GHS : No data available

Section12. Ecological information

Ecotoxicity:

Hazardous to the aquatic environment

- acute toxicity: GHS : Not classified.; Falls below the lowest level.
Algae(Pseudokirchneriella subcapitata) ELC50(72h) > 100 mg /L (SIDS(2015))
- chronic toxicity: GHS : Category 4 ;
May cause long lasting harmful effects to aquatic life

Hazardous to the ozone layer GHS : No data available
No Freon or Halon

Fish toxicity: No data available

Degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

Section13. Disposal considerations

Disposal method: User of the product should contract with the local government or licensed 'Industrial Waste Haulers' for disposal of waste.

Section 14. Transport information

UN classification: Non-hazards

UN number: None

HS code: 2823.00

Marine pollution: None

Precautions: Container should be transported in a secure position, in a well-ventilated vehicle.

Section 15. Regulatory information

TSCA inventory: listed.

Please refer to any other local / national measures that may be relevant.

Section 16. Other information

The information described above is believed to be correct. However, Kojundo Chemical Lab. makes no representation, warranty nor guarantee of any kind with respect to the information on this data sheet or any use of the product based upon this information.



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