

MSDS (Material Safety Data Sheet)  
Titanium Dioxide Rutile  
(CR-601)

**Section 1: Product and Company Identification**

English name of the product: Rutile titanium dioxide

Types: CR-601

Molecular formula: TiO<sub>2</sub>

Revise date: 2019-06-20

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**Section 2: Composition/Information on Ingredients**

Main composition: mixture

Hazardous components within the meaning of EEC directive 67/548 and CLP regulation and related classification.

composition information

composition informationName of chemical	CAS Number	Concentration (%)
Titanium dioxide	13463-67-7	93-96
Silicon dioxide	7631-86-9	0-0.3
Aluminum hydroxide	21645-51-2	2.5-3.5
Zirconium dioxide	1314-23-4	0.2-1.0

Note: Above data are based on dry powder. Please refer to the company's brochure for detailed physical and chemical properties.

**Section 3: Hazards Identification**

Classification of pure substances and mixtures: According to the GHS standard, The product does not need to be classified.

Label elements and precautionary statements: According to the GHS standard, The product does not need to add the hazard warning label, Other hazards but not included in the classification.

Inroads: inhalation, ingestion, contacting

Perniciousness to health: Temporary inhaling TiO<sub>2</sub> may irritate the person's nose, the throat and the lungs, causing cough and difficulties in breath. Long period inhaling will make the

situation worse. Eye contact will make the person tear and pain or make the sight blurred. It has no corrosion and irritation to the human's skin which will not absorb the product. There is no evidence showing the product could cause toxic symptoms and it is not a carcinogenic substance. It is a non-toxic and harmless material in normal industry applications.

Harmfulness to the environment: no evidence

Dangerousness causing fire or explosion: no evidence

#### Section 4: First Aid Measures

Skin contact: Wash off with water (Soapy water is better).

Eye contact: Rinse with a lot of water, ensuring thoroughly washed. If necessary, send the victim to the doctor.

Inhalation: Remove the victim to open area. If necessary, send the victim to the hospital.

Ingestion: No special harmfulness mentioned. If necessary, send the victim to the hospital.

Emergency personnel protection: n/a

Tip to heal person: Not point out special interference, not require special protective equipment.

The most important symptom/effect of acute and delayed: Irritation.

#### Section 5: Fire Fighting Measures

Characteristics of danger: n/a

Dangerous burning products: n/a

Fire-fighting methods and fire extinguishing agent: no limits for using what kind of fire extinguisher. Use suitable fire extinguishing chemicals for specific area.

Notice for fire-fighting: The product itself does not burn. Use extinguishing measures which are appropriate to local circumstances and the surrounding environment.

#### Section 6: Accidental Release Measures

Emergency Action: Avoid breathing in dust.

Personal protection: Wear protection face guard.

Environmental precautions: Take measures to prevent further leakage or overflow according to the safety regulations. And make sure not to pollute the water source.

Cleaning-up methods: Collect the dust using vacuum cleaner, avoiding the dust flying, and treating the dust as the residues.

#### Section 7: Handling and Storage

##### Handling

Safety for handling: Avoid inhaling, ingesting and contacting the product.

Personal protection: Wear protecting face guard and respirators, making the inhaling and contacting the dust to a minimum.

##### Storage

Basic requirement for storage: The product should be stored in dry and ventilating area. Product is packed in bags which are put on 1000-kilo transport pallet on which another 1000-kilo pallet could be put but no more. The bags should be well protected from damaging.

Storage limit: n/a

Fire and explosion precautions: inapplicable

Packing considerations: No special mention

#### Section 8: Contact Control/Personal Protection

##### Contact Control

Material	Max. concentration (mg/m3)	Average concentration (mg/m3)		Regulations
		Total dust	Dust breathed out	

TiO2	—	8	—	GBZ2.1-2007
TiO2	10	—	—	GB 11522-89

Engineering Measures: Use sufficient ventilation to keep employees exposure below recommended limits.

#### Personal Protection

Protection to the breathing system: When facing concentrative dusts, employees should wear specially designed dust protection respirators.

Eye protection: Use safety glasses with side-shields.

Body protection: n/a

Hand protection: Wear suitable gloves.

Skin protection: Usually unnecessary but if long period contacting the powder, the person who has an allergy to powder should use skin care cream.

Other protection: n/a

Other attention: Wash hands after working with the product.

### Section 9: Physical and Chemical Properties

#### Appearance and characteristics

Status: powdered solid

Color: white

Odor: no

pH: inapplicable

Smelting point: about 1830°C

Boiling point: 3000°C

Relative density: 4.1

Relative vapor density: inapplicable

Saturated vapor pressure: inapplicable

Heat of combustion: inapplicable

Critical temperature: inapplicable

Critical pressure: inapplicable

Distribution fact of octyl alcohol/water: inapplicable

Flash point: n/a

Ignition temperature: inapplicable

Up-limit of explosion: inapplicable

Lower-limit of explosion: inapplicable

Dissolubility: not dissolve in water. Inapplicable to other solvents.

Ratio of vaporization: inapplicable

Main applications: Used in coatings, plastics and so on.

#### Section 10: Stability and Reactivity

Stability: stable

Conditions to avoid contacting: inapplicable

Materials to be avoided: none

Harmfulness of polymerization: impossible to happen

Products of decomposition: inapplicable

Incompatibility with other materials: no suitable prediction

#### Section 11: Toxicological Information

Acute toxicity: n/a

Semi-acute and chronic toxicity: n/a

Irritation: slight irritation to skin and middling irritation to eyes

Possibility to cause allergic reaction: n/a

Possibility of mutation: n/a

Possibility to cause deformity: n/a

Carcinogenic possibility: It was reevaluated as pertaining to Group2B:“possibly carcinogenic to humans” by International Agency for Research on Cancer(IARC).The revaluation was based on inadequate evidence in humans and sufficient evidence in experimental animals for carcinogenicity of TiO<sub>2</sub>. The premise of the conclusion obtained from sufficient evidence to animals is based on long period contacting and inhaling high concentrate dyes and superfine TiO<sub>2</sub> particles.

Other issues: no important acute toxicity data available

### **Section 12: Ecological Information**

Ecotoxicity to environment: n/a

Biodegradation: inapplicable

Biogenous decomposition: inapplicable

Bioaccumulation: inapplicable

Other harmful affects: n/a

### **Section 13: Disposal Considerations**

Properties of the waste:non-dangerous

Disposal methods: per local regulations, putting it into anapproved area

Items to pay attention: n/a

### **Section 14: Transport Information**

Not classified as dangerous product according to transport regulations.

### **Section 15: Regulatory Information**

Nation’s regulations: GB 11522-89 “Hygiene Standard of TiO<sub>2</sub>Dust in The Workshop”.

International Regulations: Safety, health and environmental regulations/legislation specific for the substance or mixture. Dir. 67/548/EEC (Classification, packaging and labelling of dangerous substances). Dir. 99/45/EEC (Classification, packaging and labelling of dangerous preparations). Dir. 98/24/EC(Risks related to chemical agents at work). Dir. 2000/39/EC (Occupational exposure limit values); Dir. 2006/8/CE. Regulation (CE) n. 1907/2006 (REACH), Regulation (CE) n. 1272/2008 (CLP), Regulation (CE) n. 790/2009 (1° ATP CLP), Regulation (EU) n. 453/2010 (Annex I).

Chemical Safety Assessment: No

### **Section 16: Other Information**

References: inapplicable

Note for editing: It is according to relative regulations and standards to modify the original edition.

Revision: 2019-06-20

**Other notice:**The product may not be directly added to food or pharmaceuticals and is not suggested to be used in medical applications. For further information, please contact the Sales Department and technical personnel of the Company.

Please refer to brochures of all types products for their physical and chemical properties or contact our sales representatives or contact the company by communication means.

**The present MSDS** is only suitable for above-mentioned types of products and has nothing to do with other materials or other combined applications in any process. The information is only used for safely



## *Jiangsu Jinhai Hezhong Titanium Co., Ltd.*

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operating, handling, storing, transporting and treating the products and it is not used for product quality guarantee