



## MSDS (Material Safety Data Sheet) Rutile Titanium Dioxide

### Section 1: Product and Company Identification

Synonyms: Titanium Dioxide Rutile R-97、R-96、R-95、R-93、R-760、R-750、R-730

CAS No.: 13463-67-7

Molecular Weight: 79.90      Chemical Formula: TiO<sub>2</sub>

HS Number:3206111000      Revise date 2023-01

BOOM COMPANY

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### Section 2: Composition/Information on Ingredients

Component	TiO <sub>2</sub>	ZrO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>
CAS number	13463-67-7	1314-23-4	1344-28-1	14808-60-7
HS Number	3206111000			
Percentage	≥92.0%	0-4%	0-8%	0-6%
Hazardous	No	No	No	No

### Section 3: Hazards Identification

Emergency Overview      Color: white

Physical Form: powder      Odor: odorless      Chemically stability: stable

Product is non-combustible, does not present a fire hazard or other immediate concern for emergency responders, except of a slippery condition if product gets wet.

Warning-Potential Health Effects:

Eye contact: It (in powder) may cause mechanical eye irritation.

Skin contact: Powder may irritate skin if not wash off from skin promptly.

Skin absorption: Not expected to be absorbed through intact skin.

Ingestion: No adverse health effects anticipated by this route.

- a. Acute effects: Exposure to dust may cause temporary drying effect and/or mild irritation of nose, throat and lungs, and may aggravate pre-existing respiratory conditions.
- b. Chronic effects/Carcinogenicity: Titanium dioxide has been characterized by IARC as possibly carcinogenic to humans (group 2B) through inhalation. This classification is based on upon animal inhalation studies. Epidemiology studies do not suggest an increased risk of cancer in humans from occupational exposure to titanium dioxide.



#### Section 4: First Aid Measures

Inhalation: Remove to fresh air.

Ingestion: If swallowed, give several glasses of water to drink. Vomiting may occur spontaneously, but DO NOT INDUCE! Never give anything by mouth to an unconscious person. Get medical attention.

Skin Contact: Wipe off excess material from skin then flush skin with plenty of water. Remove contaminated clothing and shoes.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally.

NOTE TO PHYSICIAN: For inhalation, consider oxygen.

#### Section 5: Fire Fighting Measures

Flash point: N.A. Method: N.A. LEL: N.A UEL: N.A

Unusual fire hazards: None

Fire: Not considered to be a fire hazard. Will not burn.

Explosion: Sealed containers may rupture when heated.

Fire Extinguishing Media: Use any means suitable for extinguishing surrounding fire. Water spray may be used to keep fire exposed containers cool.

Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

Sealed containers of this material may rupture at moderate temperatures (release of water vapor).

#### Section 6: Accidental Release Measures

Soil Release: Dig holding area such as lagoon, pond or pit for containment. Cover with plastic sheet or tarp to minimize spreading and protect from contact with water.

Water Release: just wash out.

Occupational Release: Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

#### Section 7: Handling and Storage

Handling:

- a. Avoid contact with eyes.
- b. Do not breathe dust or mist.
- c. Avoid high concentrations of dust or mist air through the use of ventilation or other suitable controls.

Storage



Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage; observe all warnings and precautions listed for the product.

### Section 8: Exposure Controls/Personal Protection

Airborne Exposure Limits: None established.

Ventilation System: A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.

Personal Respirators (NIOSH Approved): For conditions of use where exposure to the dust or mist is apparent, a half-face dust/mist respirator may be worn. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls.

Eye Protection: Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

Clothing: Wear appropriate clothing.

Gloves: impervious gloves or specified by manufacturer

### Section 9: Physical and Chemical Properties

Appearance: white powder

Odor: Odorless. Color: white Solubility: Insoluble in water.

Molecular Weight: 79.90 Molecular Formula: TiO<sub>2</sub>

Specific Gravity: 3.9-4.2 PH: 6.5-8.5

Volatiles by volume @ 21C (70F): 0

Vapor Density (Air=1): No information found.

Vapor Pressure (mm Hg): No information found.

Evaporation Rate (BuAc=1): No information founded.

Coefficient of Water/Oil Distribution: Not available.

### Section 10: Stability and Reactivity

Stability: Stable under ordinary conditions of use and storage.

Reactivity: Stable at normal temperatures and pressure

Conditions to Avoid: Stable at normal temperatures and pressure

Polymerization: Will not polymerize.



Hazardous Decomposition Products: not occur

Hazardous Polymerization: Will not occur.

### Section 11: Toxicological Information

Irritation: Inhalation of dust or mist can cause irritation of eyes, nose, throat and lungs.

Eye contact: Powder/particle can cause mechanical irritation.

Skin contact: Can cause irritation if not wash off from skin promptly.

Skin absorption: Not expected to be absorbed through intact skin.

Ingestion: Not expected to produce adverse effects.

Effects of Chronic exposure

Titanium Dioxide: In lifetime inhalation studies of rats, airborne, respirable –size titanium dioxide particles have been shown to cause an increase in lungs tumors at concentrations associated with substantial particle lungs burdens and consequential pulmonary overload and inflammation. The potential for these adverse health effects appears to be closely related the particle size and the amount of exposed surface area that comes into contact with the lung. However, test with other laboratory such as mice and hamsters, indicate that rats are significantly more susceptible to the pulmonary overload and inflammation that causes lung cancer. Epidemiology studies do not suggest an increased risk of cancer in humans from occupational exposure to titanium dioxide.

Titanium dioxide has been characterized by IARC as possible carcinogenic to humans (Group 2B) through inhalation (Not ingestion) It has not been characterized as potential carcinogen by either NTP or OSHA.

Alumina oxide, Zirconium oxide, Silicon oxide: Inhalation of dust particles composed of these materials may cause drying of mucous membranes and irritation of nose, throat and lungs with nosebleeds, cough, difficulty breath or shortness of breath. Based on animal studies, long time inhalation exposure to high doses of ultrafine particles could lead pulmonary and inflammation and could be a factor in subsequent development of chronic lung disease. Silicon oxide does not induce the lung effects associated with crystalline silica. Medical conditions Aggravated: Respiratory disorder

Toxicity: titanium dioxide

Oral LD 50 >10,000 mg/kg (rat)

Dermal LD 50 >10,000 mg/kg (rabbit)

Inhalation LD (4 hr) >6.8 mg/l (rat)

### Section 12: Ecological Information

No data available.

### Section 13: Disposal Considerations



Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Dispose of container and unused contents in accordance with federal, state and local requirements.

**Section 14: Transport Information**

No regulated in Hazard class.

IMO/IMDG regulation information: not under IMO/IMDG.

**Section 15: Regulatory Information**

United States Regulatory Information.

SARA Listed: No

TSCA Inventory Item: Yes

Canada Regulatory Information

DSL: Yes

NDSL: No

**Section 16: Other Information**

Department: Research & Inspection Center of BOOM COMPANY.

Revision: 2023-01

Other Information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. We make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall we be liable for any claims, losses, or damages of any third party or for lost profits, or any special, indirect, incidental, consequential or exemplary damages, howsoever arising from using the above information.

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*Authorized Signature(s)*