

MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Product Name: Titanium**Formula :** Ti**Product Code:** R-Ti-1001**Chemical Family:** Metal**Synonyms:** Titanium Metal**Atomic weight:** 47.87**Manufacturer:**

Rhexon Metals Co., Ltd.

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(0086) 120 (24 Hours)

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS No.	Wt%
Ti	7440-32-6	100

SECTION 3 HAZARDS IDENTIFICATION

ROUTES OF ENTRYInhalation Skin Eyes Ingestion Others **CARCINOGEN LISTED IN**

NO DATA

POTENTIAL HEALTH EFFECTS:**Inhalation:**

Acute: Prolonged inhalation may cause mild irritation to the lungs and respiratory tract.

Chronic: May cause fibrotic lung changes.

Skin:

Acute: May cause abrasive irritation.

Chronic: No chronic health effects recorded.

Eyes:

Acute: May cause abrasive irritation.

Chronic: No chronic health effects recorded.

Ingestion:

Acute: Relatively non-toxic poorly absorbed from the alimentary tract.

Chronic: No chronic health effects recorded.

Signs and Symptoms:

Inhalation: Prolonged exposure may cause a red, dry, throat, coughing and shortness of breath.

Skin: May cause redness and itching.

Eyes: May cause redness, itching and watering.

Ingestion: No acute or chronic health effects recorded.

Target Organs: No target organs recorded.

SECTION 4 FIRST AID MEASURES

Eyes: Hold eyelids apart and flush eyes with lukewarm clear water for at least 15 minutes. Seek medical attention if symptoms persist.

Skin: Remove contaminated clothing and brush materials off skin. Wash affected area with mild soap and water. Wash clothing before reuse. Seek medical attention if irritation persists.

Inhalation: Move victim to fresh air. Keep warm and quiet. If breathing is difficult, give oxygen and seek medical attention immediately.

Ingestion: If patient is conscious, give 1-2 glasses of water or milk and induce vomiting. Seek immediate medical attention. Never induce vomiting or give anything by mouth to an unconscious person.

SECTION 5 FIRE FIGHTING MEASURE

Flammable Properties:

Flash point: Not Applicable

Method used: Not flammable

Explosive limits: LEL/UEL: Not applicable

Auto-ignition Temperature: 1200°C (2192F)

Unusual Fire and Explosion Hazards:

May burn in an atmosphere of carbon dioxide, nitrogen or air.

May react violently with BrF₃; CuO; PbO; (Ni + KClO₃), metal oxy salts; halocarbons; halogens; CO₂ metal carbonates; Al; AgF; O₂; nitryl fluoride; HNO₃; O₂; KClO₃; KNO₃; KMnO₄; steam at 704F; trichloroethylene; trichlorotri-fluoroethane. Titanium, in the absence of moisture, burns slowly, but evolves much heat. Water applied to hot titanium may evolve hydrogen, causing an explosion.

Extinguishing Media: Flammable solid in powdered form. If involved in fire, do not use water, carbon dioxide or halogenated extinguishers. Use dry chemical extinguishing agents, dry sand or dry ground dolomite.

Special Fire Fighting Procedures: Firefighters must wear full face and

self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Keep good general ventilation. Isolate spill and clean up with vacuum. Avoid conditions which create fumes or fine dust. Do not sweep solids and raise dust levels. Put material in appropriate waste container. An approved air purifying respirator with particulate cartridge and other personal protective equipment such as rubber gloves are recommended.

SECTION 7 HANDLING AND STORAGE

Handling: Mixing, blending, milling or grinding of dry powder should be performed only under argon or helium. Keep powder away from open flames and other sources of ignition. Try to maintain humidity above 50% to prevent electrostatic buildup. Maintain a supply of 'coarse' (rock type) salt and/or 'Class D' (FOR METAL FIRES) fire extinguisher located near processing and storage areas. No smoking in area. Use non-sparking metal tools and equipment. Keep work areas clean and free of waste. Contact lenses may pose a hazard; soft lenses may absorb irritants and concentrate them. Practice good personal hygiene. Avoid transfer of material from hands to mouth while eating, drinking or smoking.

Storage: Store this material in a cool, dry and well-ventilated area. Keep containers tightly closed.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Local and general exhaust ventilation is recommended to control any airborne contaminants and to reduce potential exposure.

Personal protection

Eyes: wear chemical safety glasses or goggles

Skin: gloves are recommended when handling solids

Respirator: A NIOSH approved air purifying respirator with a particulate filter or a HEPA dust mask is recommended under certain circumstances where airborne concentrations are expected to be elevated or when ventilation is not available. Avoid breathing dust.

Other: avoid the use of contact lens in high fume and dust areas. Maintain good housekeeping. Clear up spills immediately. Source of clear water should be available. Good person hygiene is essential. Avoid eating, drinking, or smoking in the work area. Wash hand thoroughly with soap and water immediately upon leaving the working area.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Dark gray powder or silver-gray pieces

Odor: no odor

Boiling Point: 3287°C (5948.6 F)

Melting Point: 1650°C (3002F) to 1670°C (3038F)

Specific Gravity: 4.507 g/cm³

Solubility in water: insoluble

PH: No data

Percent volatile: no data

SECTION 10 STABILITY AND REACTIVITY

General: stable

Conditions to Avoid: Dispersion in air

Incompatible Materials: Air, BrF₃, CuO, PbO, (Ni + KClO₃), metal oxy salts, halocarbons, halogens. CO₂, metal carbonates, Al, AgF, O₂ nitryl fluoride, HNO₃, KClO₃, KNO₃, KMnO₄, steam (>700C), trichloroethylene, trichlorotri-fluoroethane, oxygen, carbon black, carbon dioxide and nitrogen, sodium chlorate. Water applied to hot titanium may evolve hydrogen, causing an explosion.

Hazardous Decompositions or byproducts: Metal fumes and titanium oxides.

Hazardous Polymerization: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMAITON

Carcinogenicity

Occupational Safety & Health Administration (OSHA) NO
U.N. International Agency for Research on Cancer (IRAC) NO

Irritancy of product : may be a irritancy

Sensitization to product: not established

Reproductive toxicity: not establish

Mutagenicity: not established

Teratogenicity: not established

synergistic products: not established

SECTION 12 ECOLOGICAL INFORMAITON

Do not allow material to be released to the environment without proper governmental permits.

SECTION 13 DISPOSAL CONSIDERATIONS

Consult local or national regulations to ensure proper disposals

SECTION 14 TRANSPORT INFORMATION

Not a hazardous material for transportation. Transport in accordance with applicable regulations and requirements.

SECTION 15 OTHER INFORMATION

HMIS Hazard Rating

Minimal 0 ; Slight 1 ; Moderate 2; Serious 3; Extreme 4

Health	1
Flammability	0
Reactivity:	0

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