



Titanium, Mineral & Chemicals

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MSDS (Material Safety Data Sheet)

Titanium Dioxide (TiO₂) Rutile

Section 1 : Product and Company Identification

Synonyms: Titanium Dioxide, Rutile,

CAS No.: 13463-67-7

Molecular Weight: 79.90

Chemical Formula: TiO₂

HS Number : 2823-00-9000

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Section 2 : Composition/Information on Ingredients

Component : Titanium Dioxide

CAS number : 13463-67-7

HS Number : 2823-00-9000

Percentage : 95.5 % ~

Hazardous : No

Section 3 : Hazards Identification

EMERGENCY OVERVIEW

CAUSES IRRITATION TO EYES

NFPA Ratings (Scale 0-4): HEALTH=0 FIRE=0 REACTIVITY=0

EC Classification (Assigned):

R 36/38, EC Classification may be inconsistent with independently-researched data.

Color : white

Physical Form: powder

Odor: odorless

Major Health Hazards: respiratory irritation, eye irritation, mucous membrane irritation

POTENTIAL HEALTH EFFECTS:

INHALATION:

Short Term Exposure: no.

Long Term Exposure: same as effects reported in short term exposure.

SKIN CONTACT:

Short Term Exposure : no.

Long Term Exposure : same as effects reported in short term exposure.

EYE CONTACT:

Short Term Exposure : irritation.

Long Term Exposure : same as effects reported in short term exposure.

INGESTION:

Short Term Exposure : no.

Long Term Exposure : same as effects reported in short term exposure.

CHRONIC EXPOSURE : RESULTS OF EPIDEMIOLOGY STUDY SHOWED THAT EMPLOYEES WHO HAD BEEN EXPOSED TO TITANIUM DIOXIDE PIGMENTS WERE AT NO GREATER RISK OF DEVELOPING LUNG CANCER THAN WERE EMPLOYEES WHO NOT BEEN EXPOSED TO TITANIUM DIOXIDE

CARCINOGEN STATUS:N

OSHA: N

NTP: N

IARC: N

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

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

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 none 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: TiO₂

Specific Gravity: 3.82-4.2

pH: neutral

% 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 Data: ND

Toxicity Data: ND.

Local Effects: irritation eye

Tumorigenic Data: ND

Mutagenic Data: ND

Reproductive Effects Data: ND

Section 12 : Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

Section 13 : Transport Information

No hazard class in the world