

# MATERIAL SAFETY DATA SHEET

## Titanium Oxide

### Section 1 - Chemical Product and Company Identification

<b>MSDS Name:</b>	Titanium Oxide
<b>Synonyms:</b>	Titanium Dioxide
Company Identification: (INDIA)	Veritas House, 70 Mint Road, Fort, Mumbai - 400 001. INDIA
For information in the INDIA, call:	Tel: +91 - 22 - 2275 5555 / 6184 0000, Fax: +91 - 22 - 2275 5556 / 6184 0001

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	%	EINECS#
13463-67-7	Titanium(IV) oxide	>98%	236-675-5

<b>Hazard Symbols:</b>	XN
	
<b>Risk Phrases:</b>	40

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

*Limited evidence of a carcinogenic effect.*

#### Potential Health Effects

<b>Eye:</b>	Causes mild eye irritation.
<b>Skin:</b>	Causes mild skin irritation. May be harmful if absorbed through the skin.
<b>Ingestion:</b>	May cause irritation of the digestive tract. May be harmful if swallowed. Ingestion of large amounts may cause pain, constipation or diarrhea. May cause ataxia (failure of muscular coordination), increased blood pressure, hallucinations, hypermotility, muscle contraction/spasticity, fatigue, psychosis, and tremors.
<b>Inhalation:</b>	May be harmful if inhaled. May cause blood changes. May cause irritation of the upper respiratory tract and bronchi.
<b>Chronic:</b>	Prolonged or repeated exposure may cause lung irritation, chest pain, and pulmonary edema. Limited evidence of a carcinogenic effect.

### Section 4 - First Aid Measures

<b>Eyes:</b>	Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
<b>Skin:</b>	Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
<b>Ingestion:</b>	Get medical aid. Wash mouth out with water.
<b>Inhalation:</b>	Remove from exposure and move to fresh air immediately.
<b>Notes to Physician:</b>	

## Section 5 - Fire Fighting Measures

<b>General Information:</b>	As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.
<b>Extinguishing Media:</b>	Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

## Section 6 - Accidental Release Measures

<b>General Information:</b>	Use proper personal protective equipment as indicated in Section 8.
<b>Spills/Leaks:</b>	Vacuum or sweep up material and place into a suitable disposal container.

## Section 7 - Handling and Storage

<b>Handling:</b>	Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.
<b>Storage:</b>	Store in a cool, dry place. Keep container closed when not in use.

## Section 8 - Exposure Controls, Personal Protection

<b>Engineering Controls:</b>	Use adequate ventilation to keep airborne concentrations low.
<b>Exposure Limits</b>	CAS# 13463-67-7: United Kingdom, WEL - TWA: 10 mg/m3 TWA (total inhalable); 4 mg/m3 TWA (respirable) United Kingdom, WEL - STEL: 30 mg/m3 STEL (total inhalable); 12 mg/m3 STEL (respirable) United States OSHA: 15 mg/m3 TWA (total dust) Belgium - TWA: 10 mg/m3 VLE France - VME: 10 mg/m3 VME (as Ti) Malaysia: 10 mg/m3 TWA Netherlands: 10 mg/m3 MAC Russia: 10 mg/m3 TWA (aerosol) Spain: 10 mg/m3 VLA-ED

### Personal Protective Equipment

<b>Eyes:</b>	Wear chemical splash goggles.
<b>Skin:</b>	Wear appropriate protective gloves to prevent skin exposure.
<b>Clothing:</b>	Wear appropriate protective clothing to prevent skin exposure.
<b>Respirators:</b>	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

## Section 9 - Physical and Chemical Properties

<b>Physical State:</b>	Powder
<b>Color:</b>	white to off-white
<b>Odor:</b>	odorless
<b>pH:</b>	~ 7
<b>Vapor Pressure:</b>	Not available
<b>Viscosity:</b>	Not available
<b>Boiling Point:</b>	2900 deg C @760mmHg ( 5,252.00°F)

<b>Freezing/Melting Point:</b>	1855 deg C ( 3,371.00°F)
<b>Autoignition Temperature:</b>	Not available
<b>Flash Point:</b>	Not available
<b>Explosion Limits: Lower:</b>	Not available
<b>Explosion Limits: Upper:</b>	Not available
<b>Decomposition Temperature:</b>	Not available
<b>Solubility in water:</b>	Insoluble
<b>Specific Gravity/Density:</b>	4.230
<b>Molecular Formula:</b>	O2Ti
<b>Molecular Weight:</b>	79.88

## Section 10 - Stability and Reactivity

<b>Chemical Stability:</b>	Stable under normal temperatures and pressures.
<b>Conditions to Avoid:</b>	Incompatible materials.
<b>Incompatibilities with Other Materials</b>	Strong oxidizing agents, strong acids, alkali metals, alkaline earth metals, aluminum, zinc.
<b>Hazardous Decomposition Products</b>	Not available
<b>Hazardous Polymerization</b>	Will not occur.

## Section 11 - Toxicological Information

<b>RTECS#:</b>	CAS# 13463-67-7: XR2275000
<b>LD50/LC50:</b>	RTECS: Not available. Other: oral rat LD50 > 10 g/kg oral rat LD50 > 12 g/kg oral rat LD50 > 20 g/kg oral mouse LD50 > 10 g/kg inh rat TLo = 250 mg/m3/6H/2Y inh rat LD > 2.29 mg/L/4H inh rat LD > 3.56 mg/L/4H inh rat LC > 6.82 mg/L skin rabbit LD > 10g/kg skin guinea pig LD50 >= 10 g/kg skin rabbit: not irritating skin rabbit: slightly irritating skin human: low irritancy eye rabbit: not irritating eye rabbit: slightly irritating eye rabbit: mild irritation skin guinea pig: not sensitizing skin human: not sensitizing
<b>Carcinogenicity:</b>	Titanium(IV) oxide - IARC: Group 3 (not classifiable)
<b>Other:</b>	The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information. Mutagenicity: Ames-test: negative. Possible carcinogen.

## Section 12 - Ecological Information

<b>Ecotoxicity:</b>	Fish: Leuciscus idus: >=1000 mg/L; 48H; LC0 static Daphnia: Daphnia: 3 mg/L; 30D; EC0 Daphnia: Daphnia: 1000 mg/L; 18D; EC100 Daphnia: Daphnia: 500 mg/L; 30D; EC100
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## Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

## Section 14 - Transport Information

	IATA	IMO	RID/ADR
<b>Shipping Name:</b>	Not regulated.	Not regulated.	Not regulated.

<b>Hazard Class:</b>			
<b>UN Number:</b>			
<b>Packing Group:</b>			

## Section 15 - Regulatory Information

### European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN

#### Risk Phrases:

- R 40 Limited evidence of a carcinogenic effect.

#### Safety Phrases:

- S 36/37 Wear suitable protective clothing and gloves.

### WGK (Water Danger/Protection)

- CAS# 13463-67-7: 0

### Canada

- CAS# 13463-67-7 is listed on Canada's DSL List

### US Federal

- TSCA
- CAS# 13463-67-7 is listed on the TSCA Inventory.

## Section 16 - Other Information

<b>MSDS Creation Date:</b>	July 26, 2015
<b>Revision #1 Date</b>	

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