

Issue date 02-Feb-2015

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Version 4

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier**

**Product name** TIKON™ TR-33

**Other means of identification**

**Synonyms** Titanium dioxide

**CAS No** 13463-67-7

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Pigment

**Uses advised against** For use in industrial installations only

**Supplier**

Tronox Pigment Bunbury Ltd.  
 ABN: 50 008 683 627  
 Lot 350, Old Coast Road, Australind  
 WA 6233  
 TEL: (08) 9780-8333  
 FAX: (08) 9780-8500

**Emergency Telephone Number**

**Emergency telephone** SGS (APAC) +65 6542 9595 non toll-free  
 +800 ALERT-SGS (+800 253 78 747) toll free

**E-mail address** chemprodsteward@tronox.com

## Section 2: HAZARDS IDENTIFICATION

**Classification of the substance or mixture**

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

**Label Elements**

**Signal Word** None

**Other Information**

**Other Hazards** None known  
**Hazards not otherwise classified (HNOC)** Not applicable.

## Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Synonyms** Titanium dioxide

**CAS No** 13463-67-7

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Chemical name	weight-%	ENCS	ISHL No	CAS No
Titanium dioxide 13463-67-7	>80	X	Present (5)-5225, (1)-558 (ENCS inventory number, considered an existing	13463-67-7

			substance based on the Industrial Safety and Health Law)	
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#### Section 4: FIRST AID MEASURES

<b>General advice</b>	No hazards which require special first aid measures.
<b>Inhalation</b>	Remove to fresh air. If symptoms persist, call a physician.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water. Get medical attention if irritation develops and persists.
<b>Eye Contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If symptoms persist, call a physician.
<b>Ingestion</b>	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Rinse mouth. Consult a physician if necessary.
<b>Self-protection of the first aider</b>	Use personal protection recommended in Section 8.
<b>Symptoms</b>	No information available
<b>Note to physicians</b>	Treat symptomatically

#### Section 5: FIRE FIGHTING MEASURES

<b>Flammable properties</b>	Not flammable.
<b>Explosive properties</b>	Not an explosive.
<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable Extinguishing Media</b>	None known based on information supplied
<b>Specific hazards arising from the chemical</b>	Avoid creating dust
<b>Hazardous combustion products</b>	Non-combustible
<b>Special protective equipment for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

#### Section 6: ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	Avoid creating dust. Avoid contact with eyes and skin. Use personal protection recommended in Section 8.
<b>For emergency responders</b>	Evacuate personnel to safe areas. Approach area from upwind. Use personal protection recommended in Section 8.
<b>Environmental Precautions</b>	Do not flush into surface water or sanitary sewer system.
<b>Methods for Containment</b>	Prevent further leakage or spillage if safe to do so. Prevent dust cloud. Cover powder spill with plastic sheet or tarp to minimize spreading.
<b>Methods for cleaning up</b>	Take up mechanically, placing in appropriate containers for disposal.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

## Section 7: HANDLING AND STORAGE

### Handling

#### Advice on safe handling

Avoid generation of dust. Ensure adequate ventilation, especially in confined areas. Use with local exhaust ventilation. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

#### Local and General Ventilation

Use with local exhaust ventilation.

### Storage

#### Storage Conditions

Keep in properly labeled containers. Keep in a dry, cool and well-ventilated place.

#### Packaging materials

Product may be packaged in normal commercial packaging; paper or plastic material.

#### Technical measures

Use appropriate containment to avoid environmental contamination.

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Exposure guidelines

Personal, workplace, and environmental monitoring may be carried out to prevent exposure above recommended limits.

Chemical name	Japan	ISHL Working Environmental Evaluation Standards - Administrative Control Levels	ACGIH TLV
Titanium dioxide 13463-67-7	TWA: 0.3 mg/m <sup>3</sup>	-	TWA: 10 mg/m <sup>3</sup>

#### Derived No Effect Level (DNEL)

10 mg/m<sup>3</sup>

#### Engineering controls

Showers  
Eyewash stations  
Ventilation systems  
Extraction to remove dust at its source  
Ensure adequate ventilation, especially in confined areas

#### Personal protective equipment

##### Respiratory protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

##### Hand protection

Wear protective gloves.

##### Eye/face Protection

Wear safety glasses with side shields (or goggles).

##### Skin and Body Protection

Long sleeve clothing. Suitable protective clothing.

#### General hygiene considerations

Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Take off all contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace. Handle in accordance with good industrial hygiene and safety practice.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

#### Physical State

solid

#### Appearance

Powder

#### Color

white

#### Odor

None

#### Odor threshold

Not applicable

#### Property

#### Values

#### Remarks • Method

#### pH

Not applicable

#### Melting point/freezing point

1830 °C

Melting point / melting range

#### Boiling point / boiling range

2972 °C

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<b>Flash Point</b>		Not applicable
<b>Evaporation Rate</b>		Not applicable
<b>Flammability (solid, gas)</b>		Not flammable
<b>Flammability Limit in Air</b>		
Upper flammability limit:	Not flammable	
Lower flammability limit:	Not flammable	
<b>Vapor pressure</b>		Not applicable
<b>Vapor Density</b>		Not applicable
<b>Specific gravity</b>	3.7 - 4.1	(water = 1)
<b>Water solubility</b>	Insoluble in water	-
<b>Solubility(ies)</b>	Insoluble in common solvents	-
<b>Partition coefficient</b>		No data available
<b>Autoignition Temperature</b>		Not applicable
<b>Decomposition temperature</b>		Not applicable
<b>Kinematic viscosity</b>		Not applicable
<b>Dynamic viscosity</b>		Not applicable
<b>Explosive properties</b>	Not an explosive	
<b>Oxidizing properties</b>	None known	
<b>Softening point</b>	No information available	
<b>Molecular weight</b>	Not applicable	
<b>VOC content (%)</b>	None	
<b>Density</b>	~ 4 kg/L	
<b>Bulk Density</b>	No information available	

## Section 10: STABILITY AND REACTIVITY

<b>Reactivity</b>	None known based on information supplied
<b>Stability</b>	Stable under recommended storage conditions

### Explosion data

<b>Sensitivity to Mechanical Impact</b>	Not impact sensitive
<b>Sensitivity to Static Discharge</b>	Not sensitive

<b>Possibility of hazardous reactions</b>	None under normal processing
<b>Hazardous polymerization</b>	None under normal processing
<b>Conditions to Avoid</b>	Dust formation
<b>Incompatible Materials</b>	None known
<b>Hazardous decomposition products</b>	None under normal use conditions

## Section 11: TOXICOLOGICAL INFORMATION

### Acute Toxicity

<b>Product Information</b>	Product does not present an acute toxicity hazard based on known or supplied information. Information in this section is a summary of the conclusions of the chemical safety assessment conducted under REACH.
<b>Inhalation</b>	As a nuisance dust, prolonged exposures above recommended levels may cause adverse effects on the lung.
<b>Eye Contact</b>	No data available
<b>Skin contact</b>	Titanium dioxide does not penetrate either intact or abraded human skin.
<b>Ingestion</b>	No data available

### Numerical measures of toxicity - Component Information

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Titanium dioxide	> 5000 mg/kg ( Rat )	-	> 6,82 mg/L (Rat) 4 h

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Skin corrosion/irritation</b>	Titanium dioxide was not classifiable as a skin corrosive or irritant based on in vivo test results for titanium dioxide submitted in the European Union (REACH) joint submission registration dossier for the substance.
<b>Serious eye damage/eye irritation</b>	Titanium dioxide was not classifiable as an eye irritant based on in vivo test results for titanium dioxide submitted in the European Union (REACH) joint submission registration dossier for the substance.
<b>Sensitization</b>	No information available
<b>Germ Cell Mutagenicity</b>	Titanium dioxide was negative when tested in vitro in bacterial reverse mutation assays and in mammalian cell gene mutation and clastogenicity assays as well as when tested in vivo.
<b>Carcinogenicity</b>	Titanium dioxide is listed by IARC as possibly carcinogenic to humans (Group 2B). This listing is based on inadequate evidence of carcinogenicity in humans and sufficient evidence in experimental animals. In lifetime inhalation studies of rats, airborne respirable-size titanium dioxide particles have been shown to cause lung tumors at concentrations associated with substantial particle lung burdens and consequential pulmonary overload and inflammation. However, other laboratory animals such as mice and hamsters did not develop lung tumors under similar testing with titanium dioxide. Furthermore, human epidemiology studies do not suggest an association between occupational exposure to titanium dioxide and risk for cancer.

Chemical name	Japan	IARC
Titanium dioxide 13463-67-7	2	Group 2B

*Legend*

IARC (International Agency for Research on Cancer)  
Group 2B - Possibly Carcinogenic to Humans

<b>Reproductive Toxicity</b>	Titanium dioxide was not classifiable as a reproductive hazard based on in vivo test results for titanium dioxide submitted in the European Union (REACH) joint submission registration dossier for the substance.
<b>Developmental Toxicity</b>	None known
<b>Teratogenicity</b>	None known
<b>STOT - single exposure</b>	Titanium dioxide is not classifiable based on a lack of significant and/or severe toxic effects in humans or in experimental animals following acute exposures.
<b>STOT - repeated exposure</b>	Repeated inhalation exposures in rats to poorly soluble dusts such as titanium dioxide lead to a pattern of pulmonary effects including inflammation and fibrosis that are not observed in other rodent species, nonhuman primates, or humans under similar conditions. Therefore, titanium dioxide is not classifiable for repeated exposure.
<b>Target organ effects</b>	Lungs, Respiratory System.
<b>Aspiration Hazard</b>	Not applicable

**Section 12: ECOLOGICAL INFORMATION**

<b>Ecotoxicity</b>	Titanium dioxide is of low acute aquatic toxicity.
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<b>Persistence and degradability</b>	Titanium dioxide is persistent and does not bioaccumulate. Not readily biodegradable.
<b>Bioaccumulation</b>	Material does not bioaccumulate
<b>Mobility</b>	Not mobile. Insoluble in water.
<b>Other adverse effects</b>	No information available
<b>Endocrine Disruptor Information</b>	This product does not contain any known or suspected endocrine disruptors.

### Section 13: DISPOSAL CONSIDERATIONS

<b>Waste from residues/unused products</b>	Disposal should be in accordance with applicable regional, national and local laws and regulations.
<b>Contaminated packaging</b>	Do not reuse container. Improper disposal or reuse of this container may be dangerous and illegal.

### Section 14: TRANSPORT INFORMATION

<b>IMDG</b>	Not regulated
<b>ADR</b>	Not regulated
<b>ICAO (air)</b>	Not regulated
<b>IATA</b>	Not regulated

### Section 15: REGULATORY INFORMATION

#### International Inventories

<b>TSCA</b>	Complies
<b>DSL</b>	Complies
<b>EINECS/ELINCS</b>	Complies
<b>ENCS</b>	Complies
<b>IECSC</b>	Complies
<b>KECL</b>	Complies
<b>PICCS</b>	Complies
<b>AICS</b>	Complies
<b>NZIoC</b>	Complies
<b>TCSI</b>	Complies

#### Legend:

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances  
**NZIC** - New Zealand Inventory of Chemicals **NZIoC** - New Zealand Inventory of Chemicals  
**TCSI** - Taiwan Chemical Substance Inventory

#### Japan

#### **Industrial Safety and Health Law**

Chemical name	Dangerous Substances	Organic solvents	Harmful Substances	ISHL - Prevention of Hazards Due to	Prevention of Lead Poisoning
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			Whose Names Are to be Indicated on the Label	Specified Chemical Substances (Class 2)	
Titanium dioxide 13463-67-7	>=0.1 %	Not applicable	X	-	-

<b>Poisonous and Deleterious Substances Control Law</b>	Not applicable
<b>Labor Standards Act</b>	No information available
<b>Water Pollutants - Protection of Human Health</b>	No information available
<b>Pollution Release and Transfer Registry</b>	Not applicable
<b>Waste Management on Public Cleansing Law</b>	No information available
<b>Soil Contamination Control Law</b>	No information available

This SDS complies with the requirements of JIS Z 7250:2010 and JIS Z 7252:2009 (Japan)

### Section 16: OTHER INFORMATION

<b>Prepared by</b>	Product Stewardship Department
<b>Issue date</b>	02-Feb-2015
<b>Revision date</b>	25-Jul-2019
<b>Revision note</b>	SDS sections updated, 1, Address updated
<b>Other Information</b>	This product is intended for industrial use. This product is not intended for consumption, cosmetic, pharmaceutical or medical end use. Tronox will not knowingly sell product for use into these applications.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**