

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product Identifier

Product name TIKON™ TR-36
CAS No 13463-67-7
Synonyms Titanium dioxide

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Pigment
Uses advised against For use in industrial installations only

1.3. Details of the supplier of the safety data sheet

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

For further information, please contact

E-mail address chemprodsteward@tronox.com

1.4. Emergency telephone number

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

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification according to Regulation 74(a), (b) of the HSNO Act

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)
Classification according to Schedule 6 of the WHS Regulation

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

2.2. Label Elements

Signal Word None
Australia Environmental hazard and precautionary statements do not apply

2.3. Other Hazards

None known

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	CAS No	weight-%
Titanium dioxide	13463-67-7	>80

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice No hazards which require special first aid measures.

Inhalation Remove to fresh air. If symptoms persist, call a physician.

Skin contact Wash off immediately with soap and plenty of water. Get medical attention if irritation develops and persists.

Eye Contact 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.

Ingestion Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Rinse mouth. Consult a physician if necessary.

Self-protection of the first aider Use personal protection recommended in Section 8.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms No information available

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

Unsuitable Extinguishing Media No information available

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical Avoid creating dust

Hazardous combustion products Non-combustible

5.3. Advice for firefighters

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid creating dust. Avoid contact with eyes and skin. Use personal protection recommended in Section 8.
For emergency responders	Evacuate personnel to safe areas. Approach area from upwind. Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental Precautions	Do not flush into surface water or sanitary sewer system.
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6.3. Methods and material for containment and cleaning up

Methods for Containment	Prevent further leakage or spillage if safe to do so. Prevent dust cloud. Cover powder spill with plastic sheet or tarp to minimize spreading.
Methods for cleaning up	Take up mechanically, placing in appropriate containers for disposal.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections	See section 13 for more information.
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Section 7: HANDLING AND STORAGE

7.1. Precautions for safe 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.
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.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep in properly labeled containers. Keep container tightly closed in a dry and well-ventilated place.
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Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits

Chemical name	Australia	New Zealand	Taiwan
Titanium dioxide 13463-67-7	TWA: 10 mg/m ³	TWA: 10 mg/m ³	TWA: 10 mg/m ³

8.2. Exposure controls

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

Eye/face Protection	Wear safety glasses with side shields (or goggles).
Hand protection	Wear protective gloves.
Skin and Body Protection	Long sleeve clothing. Suitable protective clothing.
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.

Environmental exposure controls Do not allow into any sewer, on the ground or into any body of water.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties**

Physical State	solid
Appearance	Powder
Odor	None
Color	white
Odor threshold	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH		Not applicable
Melting point/freezing point	1830 °C	Melting point / melting range
Boiling point / boiling range	2972 °C	-
Flash Point		Not applicable
Evaporation Rate		Not applicable
Flammability (solid, gas)		Not flammable
Flammability Limit in Air		Not applicable
Upper flammability limit:	Not applicable	-
Lower flammability limit:	Not applicable	-
Vapor pressure		Not applicable
Vapor Density		Not applicable
Specific gravity	3.7-4.1	(water = 1)
Water solubility	Insoluble in water	-
Solubility(ies)	Insoluble in common solvents	-
Partition coefficient		No data available
Autoignition Temperature		Not applicable
Decomposition temperature		Not applicable
Kinematic viscosity		Not applicable
Dynamic viscosity		Not applicable
Explosive properties	Not an explosive	
Oxidizing properties	None known	

9.2. Other information

Softening point	No information available
Molecular weight	Not applicable
VOC content (%)	None
Density	~ 4 kg/L
Bulk Density	No data available

Section 10: STABILITY AND REACTIVITY**10.1. Reactivity**

Reactivity None known based on information supplied

10.2. Chemical stability

Stability Stable under recommended storage conditions

Explosion data

Sensitivity to Mechanical Impact Not impact sensitive
Sensitivity to Static Discharge Not sensitive

10.3. Possibility of hazardous reactions

Hazardous polymerization None under normal processing.

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to Avoid Dust formation

10.5. Incompatible materials

Incompatible Materials None known.

10.6. Hazardous decomposition products

Hazardous decomposition products None under normal use conditions.

Section 11: TOXICOLOGICAL INFORMATION

Acute Toxicity

11.1. Information on toxicological effects

Acute Toxicity

Product Information

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.

Inhalation	As a nuisance dust, prolonged exposures above recommended levels may cause adverse effects on the lung.
Eye Contact	No data available
Skin contact	Titanium dioxide does not penetrate either intact or abraded human skin.
Ingestion	No data available

Component Information

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

Skin corrosion/irritation 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.

Serious eye damage/eye irritation 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.

Sensitization No information available

Germ Cell Mutagenicity 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.

Carcinogenicity 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.

Reproductive Toxicity	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.
Developmental Toxicity	None known
Teratogenicity	None known
STOT - single exposure	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.
STOT - repeated exposure	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.
Target organ effects	Lungs, Respiratory System.
Symptoms	No information available
Aspiration Hazard	No information available

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity Titanium dioxide is of low acute aquatic toxicity.

12.2. Persistence and degradability

Persistence and degradability Titanium dioxide is persistent and does not bioaccumulate. Not readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulation Material does not bioaccumulate

12.4. Mobility in soil

Mobility in soil Not mobile.

Mobility Not mobile. Insoluble in water.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

12.6. Other adverse effects

Other adverse effects No information available

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors.

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

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

Section 14: TRANSPORT INFORMATION

IMDG

Proper Shipping Name	Not regulated
Marine pollutant	No

ICAO (air)

Proper Shipping Name	Not regulated
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IATA

Proper Shipping Name	Not regulated
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Section 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National Regulations

New Zealand

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO).

HSNO Chemical Classification

Not Hazardous

International Inventories

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

Section 16: OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet

Not applicable

Prepared by	Product Stewardship Department
Issue date	02-Feb-2015
Revision date	25-Jul-2019
Revision note	SDS sections updated, 1, Address updated
Restrictions on use	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.

Disclaimer

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