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Version 4

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

**Product name** TIKON™ TR-36

**Synonyms** Titanium dioxide

**CAS No** 13463-67-7

**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

For further information, please contact

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

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

## Section 2: HAZARDS IDENTIFICATION

### GHS - Classification

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

### Label Elements

**Signal Word** None

### Other Information

**Other Hazards** None known based on information supplied.

**Hazards not otherwise classified (HNOC)** Not applicable

## Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Synonyms** Titanium dioxide

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

### Section 4: FIRST AID MEASURES

<b>General advice</b>	No hazards which require special first aid measures.
<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>Skin contact</b>	Wash off immediately with soap and plenty of water. Get medical attention if irritation develops and persists.
<b>Inhalation</b>	Remove to fresh air. 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>Indication of immediate medical attention and special treatment needed, if necessary</b>	
<b>Symptoms</b>	No information available
<b>Note to physicians</b>	Treat symptomatically

### Section 5: FIRE FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment
<b>Unsuitable Extinguishing Media</b>	No information available
<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 and material for containment and cleaning up</b>	
<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

<b>Advice on safe handling</b>	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.
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<b>Storage Conditions</b>	Keep in properly labeled containers. Keep container tightly closed in a dry and well-ventilated place.
<b>Packaging materials</b>	Product may be packaged in normal commercial packaging; paper or plastic material.
<b>Incompatible Materials</b>	None known

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

Chemical name	Korea
Titanium dioxide	TWA: 10 mg/m <sup>3</sup>

<b>Engineering controls</b>	Showers Eyewash stations Ventilation systems Extraction to remove dust at its source Ensure adequate ventilation, especially in confined areas
<b>Personal Protective Equipment</b>	
<b>Respiratory protection</b>	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
<b>Eye/face Protection</b>	Wear safety glasses with side shields (or goggles).
<b>Hand protection</b>	Wear protective gloves.
<b>Skin and Body Protection</b>	Long sleeve clothing. Suitable protective clothing.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical State</b>	solid	<b>Color</b>	white
<b>Appearance</b>	Powder		
<b>Odor</b>	None		
<b>Odor threshold</b>	Not applicable		
<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>	
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 in other solvents	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	
Molecular weight	Not applicable		

**Other Information**

<b>Explosive properties</b>	Not an explosive
<b>Oxidizing properties</b>	None known
<b>Softening point</b>	No information available
<b>VOC content (%)</b>	None
<b>Density</b>	~ 4 kg/L
<b>Bulk Density</b>	No information available

## Section 10: STABILITY AND REACTIVITY

**Stability** Stable under recommended storage conditions

**Explosion data**

**Sensitivity to Mechanical Impact** Not impact sensitive

**Sensitivity to Static Discharge** Not sensitive

**Possibility of hazardous reactions** None under normal processing

**Hazardous polymerization** None under normal processing

**Conditions to Avoid** Dust formation

**Incompatible Materials** None known

**Hazardous decomposition products** None known based on information supplied

## Section 11: TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

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

**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>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	IARC
Titanium dioxide	Group 2B

*Legend*

*IARC (International Agency for Research on Cancer)*

*Group 2B - Possibly Carcinogenic to Humans*

<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>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>Hazardous to the Aquatic Environment</b>	No information available
<b>Aspiration Hazard</b>	No information available

#### Component Information

### Section 12: ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	Titanium dioxide is of low acute aquatic toxicity.
<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>	Dispose of in accordance with federal, state and local regulations.
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**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

**IATA**

**Proper Shipping Name** Not regulated

### Section 15: REGULATORY INFORMATION

**Industrial Safety and Health Law**

Chemical name	ISHA - Harmful Substances Prohibited for Manufacturing, Importing, Transferring, or Supplying	Korea. Harmful Substances Requiring Permission	ISHA - Substances to be controlled - Organic Substances	ISHA - Substances to be controlled - Metals	ISHA - Substances to be controlled - Acids and bases
Titanium dioxide	Not applicable	Not applicable	Not applicable	X	Not applicable

**Toxic Chemicals Control Law** Not applicable

**Dangerous Material Safety Control** Not applicable

**Wastes Management** Dispose of in accordance with federal, state and local regulations

**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

This SDS complies with MoEL's Public Notice No. 2016-19

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**Section 16: OTHER INFORMATION**

**Prepared by** Product Stewardship Department

**Issue date** 02-Feb-2015

**Revision date** 25-Jul-2019

**Other Information** 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**