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Version 4

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product name TIKON™ TR-33

CAS No 13463-67-7

Synonyms Titanium dioxide

Recommended Use Pigment

Uses advised against For use in industrial installations only.

Supplier Tronox Pigment Bunbury Ltd.
 ABN: 50 008 683 627
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 WA 6233
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 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

GHS - Classification

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

Label Elements

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

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

Section 4: 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.
Symptoms	No information available
Self-protection of the first aider	Use personal protection recommended in Section 8.
Note to physicians	Treat symptomatically

Section 5: FIRE FIGHTING MEASURES

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

Section 6: ACCIDENTAL RELEASE MEASURES

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.
Environmental Precautions	Do not flush into surface water or sanitary sewer system.
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.

Section 7: HANDLING AND STORAGE

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.

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.
Materials to avoid	None

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits

Chemical name	China	Japan	Korea	Australia	Taiwan
Titanium dioxide	TWA: 8 mg/m ³ total dust STEL: 16 mg/m ³ total dust	TWA: 0.3 mg/m ³	TWA: 10 mg/m ³	TWA: 10 mg/m ³	TWA: 10 mg/m ³

Chemical name	ACGIH TLV	OSHA PEL	European Union
Titanium dioxide	TWA: 10 mg/m ³	TWA: 15 mg/m ³ total dust (vacated) TWA: 10 mg/m ³ total dust	-

Other Information	China regulatory reference: GBZ 2.1-2007
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.

Environmental exposure controls	Do not allow into any sewer, on the ground or into any body of water.
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Section 9: PHYSICAL AND CHEMICAL PROPERTIES

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

<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		
Upper flammability limit:	Not flammable	
Lower flammability limit:	Not flammable	
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
Softening point	No information available
Molecular weight	Not applicable
VOC content (%)	None
Density	~ 4 kg/L
Bulk Density	No information available

Section 10: STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions
Stability	Stable under normal 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 under normal use conditions

Section 11: TOXICOLOGICAL INFORMATION

Acute Toxicity

Information on likely routes of exposure

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

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

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.

Chemical name	China	IARC
Titanium dioxide	-	Group 2B

IARC (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans

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	Not applicable

Section 12: ECOLOGICAL INFORMATION

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

Section 13: DISPOSAL CONSIDERATIONS

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	Not regulated
IATA	Not regulated

Section 15: REGULATORY INFORMATION

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/NDL - 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

International Regulations This SDS is prepared in accordance with GB/T 16483 and GB/T 17519.

Section 16: OTHER INFORMATION

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

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