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Version 10

**Section 1: PRODUCT AND COMPANY IDENTIFICATION****Product Identifier****Product name** TiONA® 100, TiONA® 113, TiONA® 121, TiONA® 122, TiONA® 128, TiONA® 134**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** Not classified

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

**Precautionary Statements - Prevention**

• Wash hands thoroughly after handling

**Precautionary Statements - Storage**

• Store in accordance with local regulations

**Precautionary Statements - Disposal**

• Dispose of contents/container to an approved waste disposal plant

**Other Information****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 substance based on the Industrial Safety and Health Law)	13463-67-7

#### Section 4: FIRST AID MEASURES

<b>Inhalation</b>	Remove to fresh air. If symptoms persist, call a physician.
<b>Skin contact</b>	Wash skin with soap and water. If skin irritation persists, call a physician.
<b>Eye Contact</b>	Rinse thoroughly with plenty of water, also under the eyelids. If eye irritation persists: Get medical advice/attention.
<b>Ingestion</b>	Rinse mouth. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
<b>Self-protection of the first aider</b>	Use personal protective equipment as required.
<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 contact with eyes and skin. Avoid creating dust. Use personal protection recommended in Section 8.
<b>For emergency responders</b>	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. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

### Section 7: HANDLING AND STORAGE

**Handling**

**Advice on safe handling**

Avoid contact with skin, eyes or clothing. Avoid generation of dust. Use personal protective equipment as required.

**Storage**

**Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place.

**Packaging materials**

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

### 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>

**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**

In case of inadequate ventilation wear respiratory protection.

**Hand protection**

Wear protective gloves.

**Eye/face Protection**

Wear safety glasses with side shields (or goggles).

**Skin and Body Protection**

Long sleeve clothing.

**General hygiene considerations**

Do not eat, drink or smoke when using this product. Take off all contaminated clothing and wash it before reuse. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Keep working clothes separately. Regular cleaning of equipment, work area and clothing is recommended. 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**

6 - 10

10g/100ml aqueous solution

**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 applicable

**Flammability Limit in Air**

<b>Upper flammability limit:</b>	Not flammable	
<b>Lower flammability limit:</b>	Not flammable	
<b>Vapor pressure</b>		Not applicable
<b>Vapor Density</b>		Not applicable
<b>Specific gravity</b>	3.7-4.1	-
<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

**Reactivity** None known based on information supplied  
**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 based on information supplied

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

### Section 11: TOXICOLOGICAL INFORMATION

**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. Temporary drying effect and/or irritation of mucous membranes may result from excessive exposure. Exposure to dust may aggravate pre-existing respiratory conditions.

**Eye Contact** Inert foreign body hazard only

**Skin contact** Titanium dioxide does not penetrate either intact or abraded human skin. Prolonged contact may result in rashes/irritations due to drying of the skin and/or mechanical abrasion related to skin-to-clothing contact or skin-to-skin contact.

**Ingestion** No data available

**Numerical measures of toxicity - 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 did not cause reproductive effects in experimental animals.
<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>	Eyes, 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 in soil</b>	Not mobile
<b>Mobility</b>	Not mobile
<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
- TCSI** - Taiwan Chemical Substance Inventory

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>	15-May-2009
<b>Revision date</b>	25-Jul-2019
<b>Revision note</b>	SDS sections updated, 1, Address updated

**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**