

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

### 1.1. Product Identifier

**Product name** TiONA® 288  
**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

### 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

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

**Skin contact** Wash skin with soap and water. If skin irritation persists, call a physician.

**Eye Contact** Rinse thoroughly with plenty of water, also under the eyelids. If eye irritation persists: Get medical advice/attention.

**Ingestion** Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

**Self-protection of the first aider** Use personal protective equipment as required.

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

**Symptoms** None known

### 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** None known based on information supplied

### 5.2. Special hazards arising from the substance or mixture

**Specific hazards arising from the chemical** No information available

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

**For emergency responders** Approach area from upwind. Use personal protection recommended in Section 8.

### 6.2. Environmental precautions

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

### 6.3. Methods and material for containment and cleaning up

**Methods for Containment** Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

**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.

## Section 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

**Advice on safe handling** Avoid contact with skin, eyes or clothing. Avoid generation of dust. Use personal protection recommended in Section 8.

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

### 7.2. Conditions for safe storage, including any incompatibilities

**Storage Conditions** Keep container tightly closed in a dry and well-ventilated place.

## 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 <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>

### 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

#### 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.  
**Respiratory protection** In case of inadequate ventilation wear respiratory protection.

**Thermal hazards** None under normal processing.

Environmental exposure controls No information available

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

Physical State solid  
 Appearance Powder  
 Odor Odorless  
 Color white  
 Odor threshold Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
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		Not applicable
Upper flammability limit:	Not applicable	-
Lower flammability limit:	Not applicable	-
Vapor pressure		Not applicable
Vapor Density		Not applicable
Specific gravity	4.0 - 4.2	-
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** None known

**10.5. Incompatible materials**

**Incompatible Materials** None known based on information supplied

**10.6. Hazardous decomposition products**

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

**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.

<b>Inhalation</b>	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.
<b>Eye Contact</b>	No data available
<b>Skin contact</b>	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.
<b>Ingestion</b>	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

<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.

<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

### 12.1. Toxicity

**Ecotoxicity** Titanium dioxide is of low acute aquatic toxicity.

### 12.2. Persistence and degradability

**Persistence and degradability** Not readily biodegradable. Persistent substance with a half life of more than 60 days.

### 12.3. Bioaccumulative potential

**Bioaccumulation** Material does not bioaccumulate.

### 12.4. Mobility in soil

**Mobility in soil** Not mobile

**Mobility** Not mobile

### 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**

<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****IMDG**

**Proper Shipping Name** Not regulated

**ICAO (air)**

**Proper Shipping Name** Not regulated

**IATA**

**Proper Shipping Name** Not regulated

**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**

<b>TSCA</b>	Complies
<b>DSL</b>	Complies
<b>EINECS/ELINCS</b>	Complies
<b>ENCS</b>	Does not comply
<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

**NZIoC** - New Zealand Inventory of Chemicals

**TCSI** - Taiwan Chemical Substance Inventory

---

**Section 16: OTHER INFORMATION**

<b>Prepared by</b>	Product Stewardship Department
<b>Issue date</b>	27-Jan-2015
<b>Revision date</b>	25-Jul-2019
<b>Revision note</b>	SDS sections updated, 1, Address updated
<b>Restrictions on use</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.

**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**