

**Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1. Product Identifier**

**Product name** TIONA® RCL-3, TIONA® RCL-9, TIONA® RCL-69, TIONA® RCL-722, TIONA® 595, TIONA® 596, TIONA® 696  
**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**

**Manufacturer** Cristal Pigment Australia 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** Regulatory.query@cristal.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 CLASS Regulations & ICOP*

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**

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.

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<b>Skin contact</b>	Wash skin with soap and water. If skin irritation persists, call a physician.
<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists: Get medical advice/attention.
<b>Ingestion</b>	Rinse mouth. Do NOT induce vomiting. If symptoms persist, call a physician.
<b>Self-protection of the first aider</b>	Use personal protective equipment as required.

**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** None known based on information supplied

**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 contact with eyes and skin. Avoid creating dust. Use personal protective equipment as required.

**For emergency responders** Use personal protection recommended in Section 8.

**6.2. Environmental precautions**

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

## 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. Ensure adequate

ventilation, especially in confined areas.

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

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

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

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

**Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1. Control parameters**

**Exposure Limits**

Chemical name	Malaysia	Indonesia	New Zealand	Australia	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>	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. Wear suitable protective clothing.  
**Respiratory protection** If exposure limits are exceeded, use suitable certified respirators. In case of insufficient ventilation, wear suitable respiratory equipment.

**Thermal hazards** None under normal processing.  
**Environmental exposure controls** Prevent product from entering drains.

**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

Property	Values	Remarks • Method
pH	6-9	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 flammable
Flammability Limit in Air		
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 normal 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 based on information supplied.

#### 10.6. Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

### **Section 11: TOXICOLOGICAL INFORMATION**

#### 11.1. Information on toxicological effects

##### Product Information

Information in this section is a summary of the conclusions of the chemical safety assessment conducted under REACH. Product does not present an acute toxicity hazard based on known or supplied information.

**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.

**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.

Chemical name	IARC	New Zealand
Titanium dioxide 13463-67-7	Group 2B	-

**Legend**

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  
Teratogenicity** None known.  
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.

**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.

**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** Not regulated

**ICAO (air)** Not regulated

**IATA** Not regulated

## Section 15: REGULATORY INFORMATION

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

**National Regulations**

**Malaysia** This SDS complies with the requirements of Class Regulations and ICOP.

**International Inventories**

**TSCA** Complies

**DSL** Complies

**EINECS/ELINCS** Complies

**ENCS** Complies

**IECSC** Complies

**KECL** Complies

**PICCS** Complies

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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  
**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>	15-Apr-2009
<b>Revision date</b>	30-Apr-2018
<b>Revision note</b>	SDS sections updated 11
<b>Restrictions on use</b>	This product is a pigment intended for industrial use. This product is not intended for consumption, cosmetic, pharmaceutical or medical end use. Cristal 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**