

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product name TiONA® RCL-3, TiONA® RCL-69, TiONA® RCL-722, TiONA® 595, TiONA® 696

Other means of identification

Synonyms Titanium dioxide

Recommended use of the chemical and restrictions on use

Recommended Use Pigment
Uses advised against For use in industrial installations only

Details of the supplier of the safety data sheet

Supplier Address Tronox Pigmentos do Brasil SA
 Rodovia BA-099 Km 20
 Camacari - Bahia - Brazil
 TEL: +55-71-3634-9000
 FAX: +55-71-3634-9014

Emergency Telephone Number

24 Hour Emergency Phone Number 24/7

Product Information: +55-11-3296-1500
 Transportation: 0800-707-7022 SUATRAN - COTEC
 0800-172-020 SUATRAN - COTEC
 Medical: +55-71-3634-9224

Section 2: HAZARDS IDENTIFICATION

GHS - Classification

Classification of the substance or mixture

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

Label Elements

Signal Word None

Other Hazards

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

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

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

Chemical name	CAS No	weight-%	GHS - Classification	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Titanium dioxide	13463-67-7	>80	Not classified	Not classified

13463-67-7				
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Section 4: FIRST AID MEASURES

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 immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists: Get medical advice/attention.
Ingestion	Rinse mouth. Do NOT induce vomiting. If symptoms persist, call a physician.
Self-protection of the first aider	Use personal protective equipment as required.
<u>Most important symptoms and effects, both acute and delayed</u>	
Symptoms	No information available
<u>Indication of any immediate medical attention and special treatment needed</u>	
Note to physicians	Treat symptomatically

Section 5: FIRE FIGHTING MEASURES

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 extinguishing methods	Evacuate area and fight fire from a safe distance.
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.
Specific hazards arising from the chemical	Avoid creating dust
Hazardous combustion products	Non-combustible

Section 6: ACCIDENTAL RELEASE MEASURES

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.

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.
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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.

Section 7: HANDLING AND STORAGE

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.

Conditions for safe storage, including any incompatibilities

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

Chemical name	Brazil	Chile	Argentina	Venezuela
Titanium dioxide	-	-	TWA: 10 mg/m ³	TWA: 10 mg/m ³

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems
Extraction to remove dust at its source
Ensure adequate ventilation, especially in confined areas

Individual protection measures, such as personal protective equipment

Eye/face Protection Wear safety glasses with side shields (or goggles).
Skin and Body Protection Long sleeve clothing. Wear suitable protective clothing.
Hand protection Wear protective gloves.
Respiratory protection If exposure limits are exceeded, use suitable certified respirators. In case of insufficient ventilation, wear suitable respiratory equipment.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

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

Reactivity	None known based on information supplied
Stability	Stable under normal conditions
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

Information on likely routes of exposure

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

Information on toxicological effects

Symptoms	No information available
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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	ACGIH	IARC	NTP	OSHA
Titanium dioxide	-	Group 2B	-	X

Legend

IARC (International Agency for Research on Cancer) Group 2B - Possibly Carcinogenic to Humans
OSHA (Occupational Safety and Health Administration of the US Department of Labor) X - Present

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	Eyes, Lungs, Respiratory System
Aspiration Hazard	No information available

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
Other adverse effects	No information available
Ozone	Not applicable

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

<u>IMDG</u>	Not regulated
<u>ICAO (air)</u>	Not regulated
<u>IATA</u>	Not regulated
<u>DOT</u>	Not regulated
<u>TDG</u>	Not regulated
<u>MEX</u>	Not regulated
<u>RID</u>	Not regulated
<u>ADR</u>	Not regulated
<u>ADN</u>	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/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

Prepared by	Product Stewardship Department
Issue date	15-Apr-2009
Revision date	25-Jul-2019
Revision note	SDS sections updated, 1, Address updated
Restrictions on use	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.
Further information	This material safety data sheet has been prepared according to Brazilian legislation and ABNT NBR 14725:2014

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