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Revision Number 4

## 1. Identification

### Product identifier

**Product Name** TiONA® 595, TiONA® 696, TiONA® 813 / CR-813, TiONA® 822 / CR-822, TiONA® 826 / CR-826, TiONA® 828 / CR-828, TiONA® 834 / CR-834, TiONA® 880 / CR-880, TiONA® 8140 / 8140, TiONA® 41J / 41J, TiONA® 828E / CR-828E.

### Other means of identification

**Synonyms** Titanium dioxide

### Recommended use of the chemical and restrictions on use

**Recommended use** Pigment

**Restrictions on use** Manufacture of food products; Perfumes, fragrances; Pharmaceuticals; Cosmetics, personal care products

### Details of the supplier of the safety data sheet

#### Supplier Address

Tronox LLC  
3301 NW 150th Street  
Oklahoma City, OK, USA 73134  
tele: +1-405-775-5000 (24-hours)

### Emergency telephone number

**Emergency Telephone** 24 Hour Emergency Phone Number  
CHEMTREC (USA) 1-800-424-9300

## 2. Hazard(s) identification

### Classification

Reproductive toxicity	Category 2
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### Hazards not otherwise classified (HNOC)

Not applicable

### Label elements

<p><b>Warning</b></p> <p><b>Hazard statements</b> Suspected of damaging fertility or the unborn child</p>
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**Precautionary Statements - Prevention**

Do not handle until all safety precautions have been read and understood

Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response**

Get medical advice/attention if you feel unwell

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other information**

In the U.S. (per OSHA HCS) and in Canada (per WHMIS), a manufacturer is required to classify a mixture as a reproductive hazard when it contains an ingredient classified as a reproductive hazard at a concentration above the specified concentration limit of 0.1% unless the manufacturer has data demonstrating that the product does not present that health risk. This hazard classification applies to a single ingredient (Trimethylolpropane) present at levels <0.5% by weight in the finished product.

### 3. Composition/information on ingredients

**Substance**

Not applicable.

**Mixture**

**Synonyms** Titanium dioxide

Chemical name	CAS No	Weight-%	Trade secret
Titanium dioxide	13463-67-7	> 80	*
Trimethylolpropane (TMP)	77-99-6	< 0.45	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

### 4. First-aid measures

**Description of first aid measures**

<b>General advice</b>	Get medical advice/attention if you feel unwell.
<b>Inhalation</b>	Remove to fresh air. If symptoms persist, call a physician.
<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>Skin contact</b>	Wash skin with soap and water.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water.

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

**Most important symptoms and effects, both acute and delayed**

**Symptoms** Inhalation of dust in high concentration may cause irritation of respiratory system.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

## **5. Fire-fighting measures**

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Specific hazards arising from the chemical** Avoid generation of dust.

**Hazardous combustion products** Non-combustible.

**Explosion data**

**Sensitivity to mechanical impact** Not impact sensitive.

**Sensitivity to static discharge** Not sensitive.

**Special protective equipment for fire-fighters** Protective equipment and precautions for firefighters.

## **6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Ensure adequate ventilation. Avoid contact with skin and eyes. Avoid generation of dust. Use personal protective equipment as required.

**Other information** Refer to protective measures listed in Sections 7 and 8.

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

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**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.

**Reference to other sections** See section 8 for more information. See section 13 for more information.

## 7. Handling and storage

### Precautions for safe handling

**Advice on safe handling** Ensure adequate ventilation. Avoid contact with skin and eyes. Avoid generation of dust. Use personal protection equipment.

### 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.

## 8. Exposure controls/personal protection

### Control parameters

#### Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Titanium dioxide 13463-67-7	TWA: 10 mg/m <sup>3</sup>	TWA: 15 mg/m <sup>3</sup> total dust (vacated) TWA: 10 mg/m <sup>3</sup> total dust	IDLH: 5000 mg/m <sup>3</sup>

### Appropriate engineering controls

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems

### Individual protection measures, such as personal protective equipment

**Eye/face protection** Safety glasses with side shields are recommended for medical or industrial exposures.

**Hand protection** Wear suitable gloves. Wash face, hands and any exposed skin thoroughly after handling.

**Skin and body protection** No special protective equipment required. If there is a risk of contact: Wear suitable protective clothing.

**Respiratory protection** None under normal use conditions. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. None under normal use conditions.

**Environmental exposure controls** See Section 12 for additional Ecological Information.

**General hygiene considerations** Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Take off contaminated clothing and wash it before reuse.

**Thermal hazards** None under normal processing.

## 9. Physical and chemical properties

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

Physical state	Solid
Appearance	Powder
Color	white
Odor	None
Odor threshold	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	6-9	10g/100ml aqueous solution
pH (as aqueous solution)		No information available
Melting point / freezing point	1830 °C	
Boiling point / boiling range	2972 °C	
Flash point	-	Not applicable
Evaporation rate	-	Not applicable
Flammability (solid, gas)	No data available	Not flammable
Flammability Limit in Air		Not applicable
Upper flammability or explosive limits	Not applicable	
Lower flammability or explosive limits	Not applicable	
Vapor pressure	-	Not applicable
Vapor density	-	Not applicable
Relative density	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 0%
Liquid Density	No information available
Bulk density	0.4 - 0.8 g/cm <sup>3</sup>

## 10. Stability and reactivity

Reactivity	Stable.
Chemical 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.

**Hazardous decomposition products** None known.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Product Information</b>	Product does not present an acute toxicity hazard based on known or supplied information.
<b>Inhalation</b>	Inhalation of dust in high concentration may cause irritation of respiratory system.
<b>Eye contact</b>	Inert foreign body hazard only.
<b>Skin contact</b>	Repeated exposure may cause skin dryness or cracking.
<b>Ingestion</b>	Not an expected route of exposure.

### Symptoms related to the physical, chemical and toxicological characteristics

**Symptoms** Inhalation of dust in high concentration may cause irritation of respiratory system.

### Acute toxicity

#### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Titanium dioxide 13463-67-7	> 5000 mg/kg ( Rat )	-	> 6,82 mg/L ( Rat ) 4 h
Trimethylolpropane (TMP) 77-99-6	= 14000 mg/kg ( Rat ) = 14100 mg/kg ( Rat )	-	> 0.29 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>	Based on available data, the classification criteria are not met.
<b>Serious eye damage/eye irritation</b>	Based on available data, the classification criteria are not met.
<b>Respiratory or skin sensitization</b>	Based on available data, the classification criteria are not met.
<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met.
<b>Carcinogenicity</b>	Based on available data, the classification criteria are not met.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Titanium dioxide 13463-67-7	-	Group 2B	-	-

#### Legend

**IARC (International Agency for Research on Cancer)**  
Group 2B - Possibly Carcinogenic to Humans

**Reproductive toxicity** Suspected of damaging fertility or the unborn child. Contains a known or suspected reproductive toxin. Classification based on individual ingredients of the mixture.

<b>Developmental toxicity</b>	May cause harm to the unborn child. Contains ingredients that have suspected developmental hazards. Classification based on individual ingredients of the mixture.
<b>Teratogenicity</b>	None known.
<b>STOT - single exposure</b>	Based on available data, the classification criteria are not met.
<b>STOT - repeated exposure</b>	Based on available data, the classification criteria are not met.
<b>Aspiration hazard</b>	Not applicable.
<b>Other adverse effects</b>	None known.

## 12. Ecological information

### Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Titanium dioxide 13463-67-7	ErC50: >100 mg/l (72h, Pseudokirchneriella subcapitata	LC50: >1000 mg/l (96h, Pimephales promelas)	-	-
Trimethylolpropane (TMP) 77-99-6	-	LC50: =21700mg/L (48h, Cyprinodon)	-	EC50: 10330 - 16360mg/L (48h, Daphnia magna) EC50: =13000mg/L (48h, Daphnia species)

**Persistence and degradability** Titanium Dioxide, is an inorganic metal oxide, therefore this does not apply. Trimethylolpropane is readily biodegradable and does not bioaccumulate.

**Bioaccumulation** Material does not bioaccumulate.

### Component Information

Chemical name	Partition coefficient
Trimethylolpropane (TMP) 77-99-6	-2.37

**Mobility** Not mobile.

**Other adverse effects** None known.

## 13. Disposal considerations

### Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. Transport information

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

## 15. Regulatory information

### International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	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

### US Federal Regulations

#### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

#### **SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

#### **CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).



**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**US State Regulations**

**California Proposition 65**

This product contains the following Proposition 65 chemicals.

Chemical name	California Proposition 65
Titanium dioxide - 13463-67-7	Carcinogen (airbourne, unbound particles of respirable size)

**U.S. State Right-to-Know Regulations**

"X" indicates that the state has enacted the "Right-To-Know"

Chemical name	New Jersey	Massachusetts	Pennsylvania
Titanium dioxide 13463-67-7	X	X	X

**U.S. EPA Label Information**

EPA Pesticide Registration Number Not applicable

**16. Other information**

**Key or legend to abbreviations and acronyms used in the safety data sheet**

**Legend Section 8: Exposure controls/personal protection**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

**Key literature references and sources for data used to compile the SDS**

- Agency for Toxic Substances and Disease Registry (ATSDR)
- U.S. Environmental Protection Agency ChemView Database
- European Food Safety Authority (EFSA)
- EPA (Environmental Protection Agency)
- Acute Exposure Guideline Level(s) (AEGl(s))
- U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
- U.S. Environmental Protection Agency High Production Volume Chemicals
- Food Research Journal
- Hazardous Substance Database
- International Uniform Chemical Information Database (IUCLID)
- Japan GHS Classification
- Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
- NIOSH (National Institute for Occupational Safety and Health)
- National Library of Medicine's ChemID Plus (NLM CIP)
- National Library of Medicine's PubMed database (NLM PUBMED)
- National Toxicology Program (NTP)
- New Zealand's Chemical Classification and Information Database (CCID)
- Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
- Organization for Economic Co-operation and Development High Production Volume Chemicals Program
- Organization for Economic Co-operation and Development Screening Information Data Set
- World Health Organization

Prepared By

Product Stewardship

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Revision Note	Product listing updated.

**Disclaimer**

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**End of Safety Data Sheet**