

Issue date 15-May-2009

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Version 11

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

### 1.1. Product Identifier

**Product name** TiONA® 100, TiONA® 113, TiONA® 121, TiONA® 122, TiONA® 128, TiONA® 134

**Synonyms** Titanium dioxide

**REACH registration number** 01-2119489379-17-XXXX

**EC No** 236-675-5

**CAS No** 13463-67-7

### 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 Saudi Industries Company  
Sari Street (in front of Airport Municipality)  
Al Rabwah district, P.O. Box 13586  
Jeddah 21414, Kingdom of Saudi Arabia  
Telephone: +966 012 224 8000

**Business Contact** Tronox Belgium bvba  
Brielen 9, 2830 Willebroek Belgium  
tele: +32.3.860.4800  
fax: +32.3.860.4801

For further information, please contact

**E-mail address** chemprodsteward@tronox.com

### 1.4. Emergency telephone number

**Emergency telephone** 24 Hour Emergency Phone Number  
SGS: + 32 3 575-5555

Emergency telephone - §45 - (EC)1272/2008	
Europe	112

## Section 2: HAZARDS IDENTIFICATION

## 2.1. Classification of the substance or mixture

See section 16 for revision details

### Classification according to Regulation (EC) No. 1272/2008

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

*This product does not meet the criteria for classification in any hazard class according to Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. However a safety data sheet is being supplied for it on request as it contains a component for which there is a Community workplace exposure limit.*

## 2.2. Label Elements

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

**Signal Word** None

## 2.3. Other Hazards

**General Hazards** None known

**Other Hazards** None known

## **Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical name	EC No	CAS No	weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH registration number
Titanium dioxide	236-675-5	13463-67-7	>80	-	01-2119489379-17-XX XX

## **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. 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** 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 protection recommended in Section 8.

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

### 6.2. Environmental precautions

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

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

**Methods for Containment** 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.

**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 protective equipment as required.

**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.

### 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.

**7.3. Specific end use(s)**

**Risk Management Methods (RMM)** The information required is contained in this Safety Data Sheet.

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

**8.1. Control parameters**

**Exposure Limits**

Chemical name	Belgium	United Kingdom	France	Spain
Titanium dioxide 13463-67-7	-	STEL: 30 mg/m <sup>3</sup> STEL: 12 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup> TWA: 4 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> (a)	TWA: 10 mg/m <sup>3</sup>
Chemical name	Germany	Italy	Netherlands	Greece
Titanium dioxide 13463-67-7	Skin	-	-	-
Chemical name	Czech Republic	Denmark	Austria	Switzerland
Titanium dioxide 13463-67-7	-	TWA: 6 mg/m <sup>3</sup>	STEL 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	TWA: 3 mg/m <sup>3</sup>
Chemical name	Poland	Norway	Ireland	Sweden
Titanium dioxide 13463-67-7	STEL: 30 mg/m <sup>3</sup> TWA: 10.0 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 4 mg/m <sup>3</sup> STEL: 30 mg/m <sup>3</sup> STEL: 12 mg/m <sup>3</sup>	5 mg/m <sup>3</sup> TLV NGV (total dust)

**Derived No Effect Level (DNEL)**

**Inhalation** 10 mg/m<sup>3</sup>

**Predicted No Effect Concentration (PNEC)**

**Freshwater** 0.127 mg/L

**Freshwater sediment** >1000 mg/kg

**Marine water** >1 mg/L

**Marine sediment** >100 mg/kg

**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).

<b>Hand protection</b>	Wear protective gloves.
<b>Skin and Body Protection</b>	Long sleeve clothing.
<b>Respiratory protection</b>	In case of inadequate ventilation wear respiratory protection.

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

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

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

<b>Physical State</b>	solid
<b>Appearance</b>	Powder
<b>Odor</b>	None
<b>Color</b>	white
<b>Odor threshold</b>	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	6 - 10	10g/100ml aqueous solution
<b>Melting point/freezing point</b>	1830 °C	Melting point / melting range
<b>Boiling point / boiling range</b>	2972 °C	-
<b>Flash Point</b>		Not applicable
<b>Evaporation Rate</b>		Not applicable
<b>Flammability (solid, gas)</b>		Not applicable
<b>Flammability Limit in Air</b>		Not applicable
<b>Upper flammability limit:</b>	Not applicable	-
<b>Lower flammability limit:</b>	Not applicable	-
<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	

### 9.2. Other information

<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 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.

**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**

**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>	Inert foreign body hazard only.
<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

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	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>	Eyes, Lungs, Respiratory System
<b>Symptoms</b>	No information available
<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** 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

<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.
<b>Waste codes / waste designations according to List of Wastes / AVV</b>	Waste codes should be assigned by the user based on the application for which the product was used

## Section 14: TRANSPORT INFORMATION

### IMDG

Proper Shipping Name Not regulated

### RID

Proper Shipping Name Not regulated

### ADR

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

##### Germany

Water hazard class (WGK) Not Hazardous

#### European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

#### 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/NDL** - 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

## 15.2. Chemical safety assessment

A Chemical Safety Assessment is not required for this substance.

## Section 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

**Prepared by** Product Stewardship Department

**Issue date** 15-May-2009

**Revision date** 27-Sep-2019

**Revision note** SDS sections updated, 1, Address updated

**Restrictions on use** This product is a pigment 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

### **Safety Data Sheet according to Regulation (EC) No. 830/2015 (REACH)**

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**