SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
UK REACH Regulations (SI 2019/758 as amended)

Supercedes date 28-Jan-2025 **Revision date** 28-Jan-2025 **Revision Number** 1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Name Titanium Dioxide Pigment:
TiONA® 113, TiONA® 121, TiONA® 122, TiONA® 128, TiONA® 134, TiONA® 592, TiONA® 595, TiONA® 595, TiONA® 696, TiONA® 813 / CR-813, TiONA® 822 / CR-822, TiONA® 826 / CR-826, TiONA® 828 / CR-828, TiONA® 828E / CR-828E, TiONA® 834 / CR-834, TiONA® 880 / CR-880, TiONA® 8140, TiONA® 8950, TiONA® 41J /41J, TiONA® CR-8 / CR-8, TiONA® R-KB-2, TiONA® R-U-F, TiKON™ 35 / TiKON™ TR-35

Synonyms Titanium dioxide

Pure substance/mixture Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use Pigment

Uses advised against For industrial use only

1.3. Details of the supplier of the safety data sheet

Supplier
Tronox Pigment UK Ltd.
P.O. Box 26, Grimsby,
N.E. Lincs. UK DN41 8 DP
tele: +44.1469.571000
fax: +44.1469.553015

For further information, please contact

E-mail address chemprodsteward@tronox.com

1.4. Emergency telephone number

Emergency Telephone 24 Hour Emergency Phone Number
CHEMTREC (EMEA): +44 20 3885 0382
CHEMTREC (International): +1 703 527 3887

United Kingdom	+44 20 3807 3798

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP (SI 2020/1567 as amended)
Not classified

2.2. Label elements

Not classified

Hazard statements
Not classified.

2.3. Other hazards

Other hazards None known.

PBT and vPvB assessment This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	Weight-%	EC No (EU Index No)	UK REACH registration number	Classification according to GB CLP (SI 2020/1567 as amended)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Titanium dioxide 13463-67-7	> 80	236-675-5 (022-006-00-2)	1-2119489379-17-XXXX	-	-	-	-
Trimethylolpropane (TMP) 77-99-6	< 0.45	201-074-9	-	-	-	-	-

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate
In the absence of LD50/LC50 data, the conversion value (converted acute toxicity point estimate) may be indicated here; please note that these values do not represent test results

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapour - mg/L	Inhalation LC50 - 4 hour - gas - ppm
Titanium dioxide 13463-67-7	10000	No data available	5.09	No data available	No data available
Trimethylolpropane (TMP) 77-99-6	14100	10000	No data available	No data available	No data available

This product does not contain candidate substances of very high concern at a concentration >= 0.1% (UK REACH Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice No hazards which require special first aid measures.

Inhalation	Remove to fresh air. (Call a doctor if symptoms occur).
Eye contact	Rinse thoroughly with plenty of water, also under the eyelids.
Skin contact	Wash skin with soap and water.
Ingestion	Clean mouth with water.
Self-protection of the first aider	Use personal protective equipment as required.

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

Symptoms	Inhalation of dust in high concentration may cause irritation of respiratory system.
Effects of Exposure	Irritants. See Section 11 for additional Toxicological Information.

4.3. Indication of any immediate medical attention and special treatment needed

Note to doctors	Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Product itself does not burn.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	None known.
Hazardous combustion products	Non-combustible.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	Protective equipment and precautions for firefighters. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use extinguishing agent suitable for type of surrounding fire.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure adequate ventilation. Avoid contact with skin and eyes. 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.

6.2. Environmental precautions

Environmental precautions	See Section 12 for additional Ecological Information.

6.3. 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.

6.4. Reference to other sections

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

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Ensure adequate ventilation. Avoid contact with skin and eyes. Use personal protection equipment. Wash thoroughly after handling.

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. Take off contaminated clothing and wash it before reuse. Wash hands before breaks and after work.

7.2. Conditions for safe storage, including any incompatibilities

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

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	United Kingdom
Titanium dioxide 13463-67-7	TWA: 10 mg/m^3 TWA: 4 mg/m^3 STEL: 30 mg/m^3 STEL: 12 mg/m^3

Biological occupational exposure limits This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
Titanium dioxide 13463-67-7			1.25 mg/m^3
Trimethylolpropane (TMP) 77-99-6		0.94 mg/kg bw/day	3.3 mg/m^3

Derived No Effect Level (DNEL) - General Public
No information available.

Predicted No Effect Concentration (PNEC)
No information available.

8.2. Exposure controls

Engineering controls	Showers Eyewash stations Ventilation systems

Personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles). Appropriate eye/face protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.
Hand protection	Wear suitable gloves. Appropriate hand protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction. Wash hands thoroughly after handling.
Skin and body protection	If there is a risk of contact:. Wear suitable protective clothing. Appropriate skin and body protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.
Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. None under normal use conditions. Appropriate respiratory protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.
Recommended filter type:	Filtering Half-face mask (DIN EN 149), B2E2P3 according EN141 & 143 format.
Thermal hazards	None under normal processing.
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. Take off contaminated clothing and wash it before reuse. Wash hands before breaks and after work.
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
Colour	white
Odour	None
Odour threshold	Not applicable

Property	**Values**	**Remarks • Method**
Melting point / freezing point	1830 °C	
Boiling point / boiling range	2972 °C	
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		Not applicable
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Flash point	No data available	Not applicable
Autoignition temperature	375 °C	Not applicable
Decomposition temperature		Not applicable

pH	6-9	10g/100ml aqueous solution
pH (as aqueous solution)	No data available	None known
Kinematic viscosity	No data available	Not applicable
Dynamic viscosity	No data available	Not applicable
Water solubility	Insoluble in water	
Solubility(ies)	Insoluble in common solvents	
Partition coefficient	No data available	No data available
Vapour pressure	No data available	Not applicable
Relative density	3.7-4.1	(water = 1)
Bulk density	0.4 - 0.8 g/cm3	
Liquid Density	No data available	
Vapour density	No data available	Not applicable
Particle characteristics		Method: Median equivalent diameter as measured by Laser Diffraction (this value is independent of aerodynamic diameter)
Particle Size	0.5 µm	
Particle Size Distribution	0.3 - 0.7 µm	
Explosive properties	No information available	
Oxidising properties	None known	

9.2. Other information

VOC content None

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Stable.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

Hazardous polymerisation None under normal processing.

10.4. Conditions to avoid

Conditions to avoid None known.

10.5. Incompatible materials

Incompatible materials None known.

10.6. Hazardous decomposition products

Hazardous decomposition products None known.

SECTION 11: Toxicological information

11.1. Toxicological information

Information on likely routes of exposure

Product Information

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

Eye contact Inert foreign body hazard only.

Skin contact Repeated exposure may cause skin dryness or cracking.

Ingestion 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

Numerical measures of toxicity
Based on available data, the classification criteria are not met

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Titanium dioxide	> 5000 mg/kg (Rat)	-	> 6,82 mg/L (Rat) 4 h
Trimethylolpropane (TMP)	= 14100 mg/kg (Rat)	> 10000 mg/kg (Rabbit)	> 0.85 mg/L (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity Based on available data, the classification criteria are not met.

Developmental toxicity Based on available data, the classification criteria are not met.

Teratogenicity None known.

STOT - single exposure Based on available data, the classification criteria are not met.

STOT - repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard Not applicable.

Neurological effects None known.

Other adverse effects None known.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity Not considered to be harmful to aquatic life.

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

12.2. Persistence and degradability

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

12.3. Bioaccumulative potential

Bioaccumulation None known.

Component Information

Chemical name	Partition coefficient
Trimethylolpropane (TMP)	-0.47

12.4. Mobility in soil

Mobility in soil Not mobile.

Mobility The product is insoluble and floats on water.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

12.6. Other adverse effects

None known.

SECTION 13: Disposal considerations

13.1. 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.

SECTION 14: Transport information

IATA

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special Precautions for Users	
Special Provisions	None

IMDG

14.1 UN number or ID number	Not regulated
14.2 EPNM	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special Precautions for Users	
Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special Precautions for Users	
Special Provisions	None

ADR

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special Precautions for Users	
Special Provisions	None

SECTION 15: Regulatory information

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

National regulations

Authorisations and/or restrictions on use:
This product does not contain substances subject to authorisation (UK REACH - Annex XIV). This product does not contain substances subject to restriction (UK REACH - Annex XVII).

Persistent Organic Pollutants
Not applicable

Export Notification requirements
Not applicable

Named dangerous substances per COMAH (SI 2015/483 as amended)
Not applicable

The Ozone-Depleting Substances Regulations 2015
Not applicable

The Biocidal Products Regulations 2001 (as amended)
Not applicable

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended)
Not applicable

Poisons and Explosive Precursors
Not applicable

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AIIC	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
AIIC - Australian Inventory of Industrial Chemicals
NZIoC - New Zealand Inventory of Chemicals
TCSI - Taiwan Chemical Substance Inventory

15.2. Chemical safety assessment

Chemical Safety Report A Chemical Safety Assessment has been carried out for this substance

SECTION 16: Other information

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

Legend
SVHC: Substances of Very High Concern for Authorisation:
PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances
vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances
STOT: Specific Target Organ Toxicity
ATE: Acute Toxicity Estimate
LC50: 50% Lethal Concentration
LD50: 50% Lethal Dose

Legend Section 8: Exposure controls/personal protection

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

Classification procedure
Expert judgment and weight of evidence determination

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)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
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)
National Institute of Technology and Evaluation (NITE)
Australian 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)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Prepared By	Product Stewardship
Issuing Date	28-Jan-2025
Supercedes date	28-Jan-2025
Revision date	28-Jan-2025
Reason for revision	Not applicable
Restrictions on 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.
Training Advice	This document contains important information to ensure the safe storage, handling and use of this product. It is the responsibility of your organization to ensure that the information contained within this document is communicated to the end user and that all necessary training to enable the product to be used correctly has been given.

This SDS complies with the requirements of UK REACH Regulations SI 2019/758 (as amended)

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

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