Safety Data Sheet

Issue date 02-Feb-2015 **Revision date** 25-Jul-2019 **Version** 4

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

1.1. Product Identifier

Product name TIKON™ TR-33

Synonyms Titanium dioxide

REACH registration number 01-2119489379-17-XXXX

The REACH registration number(s) referred to in sections 1 & 3 cover the volumes of the substance(s) that are placed on the European Economic Area (EEA) market by Tronox entities. EEA importers of the substances in Tronox products may have their own registration obligations under Regulation (EC) 1907/2006 (REACH).

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

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

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

Classification procedure Expert judgment and weight of evidence determination

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

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

Signal Word None

2.3. Other Hazards

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-XXXX

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. If symptoms persist, call a physician.

Skin contact Wash off immediately with soap and plenty of water. Get medical attention if irritation develops and persists.

Eye Contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If symptoms persist, call a physician.

Ingestion Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Rinse mouth. Consult a physician if necessary.

Self-protection of the first aider Use personal protection recommended in Section 8.

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 creating dust. Avoid contact with eyes and skin. Use personal protection recommended in Section 8.

For emergency responders Evacuate personnel to safe areas. 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. Prevent dust cloud. Cover powder spill with plastic sheet or tarp to minimize spreading.

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 generation of dust. Ensure adequate ventilation, especially in confined areas. Use with local exhaust ventilation. Avoid contact with skin, eyes or clothing. Use personal

protective equipment as required.

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

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep in properly labeled containers. Keep in a dry, cool 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/m³ STEL: 12 mg/m³ TWA: 10 mg/m³ TWA: 4 mg/m³	TWA: 10 mg/m³ (a)	TWA: 10 mg/m³
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/m³	STEL 10 mg/m³ TWA: 5 mg/m³	TWA: 3 mg/m³
Chemical name	**Poland**	**Norway**	**Ireland**	**Sweden**
Titanium dioxide 13463-67-7	STEL: 30 mg/m³ TWA: 10.0 mg/m³	TWA: 5 mg/m³ STEL: 10 mg/m³	TWA: 10 mg/m³ TWA: 4 mg/m³ STEL: 30 mg/m³ STEL: 12 mg/m³	5 mg/m³ TLV NGV (total dust)

Derived No Effect Level (DNEL)

Inhalation 10 mg/m³

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).

Hand protection Wear protective gloves.

Skin and Body Protection Long sleeve clothing. Suitable protective clothing.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

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

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

Property	**Values**	**Remarks • Method**
pH		Not applicable
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 recommended storage 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

10.6. Hazardous decomposition products

Hazardous decomposition products None under normal use conditions

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.

Inhalation As a nuisance dust, prolonged exposures above recommended levels may cause adverse effects on the lung.

Eye Contact No data available

Skin contact Titanium dioxide does not penetrate either intact or abraded human skin.

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.
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	Lungs, Respiratory System
Symptoms	No information available
Aspiration Hazard	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. Insoluble in water.

12.5. Results of PBT and vPvB assessment

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

Waste codes / waste designations according to List of Wastes / AVV 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/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
NZIC - New Zealand Inventory of Chemicals **NZIoC** - 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

Classification procedure
Expert judgment and weight of evidence determination

Key literature references and sources for data
Chemical Safety Report (TiO2)

Prepared by	Product Stewardship Department
Issue date	02-Feb-2015
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.

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