

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Product identifier:

Product name: TITANIUM DIOXIDE

Synonyms; trade names: TITANIA, TRONOX, RUTILE TITANIUM DIOXIDES, ANATASE TITANIUM DIOXIDES, EUTITAN TITANDIOXIDE, TITANIUM DIOXIDE 1700 21000, TITANIUM DIOXIDE 21010, TITANIUM DIOXIDE 1700, 2100025B, TITANDIOXID TIONA AT-1, TITANIUM DIOXIDE CR-512, TITANIUM DIOXIDE R244, ADSORBSIA AS600 MEDIA, TITANIUM DIOXIDE BT-A10, CRISTAL 128, TITANIUM DIOXIDE RUTILE R 238, TITANIUM DIOXIDE RUTILE R 5566, TIONA 168, CRISTAL 121, TITANIUM DIOXIDE 14027 HNL, WHITE PE HO020405, TITANIUM DIOXIDE RUTILE R-5568, KRONOS 1171, HOMBITAN FF PHARMA E171, TIONA AT1, TIKON TR-35, TIKON TR-33, TITANIUM DIOXIDE TIKON TR33, TITANIUM DIOXIDE TIKON TR35, TITANIUM DIOXIDE TIKON TR36, TITANIUM DIOXIDE HOMBITAN FF PH, TITANIUM DIOXIDE JHL, RCL188, TITANIUM DIOXIDE R 2196+, TITANIUM DIOXIDE RUTILE R 5566.

REACH registration number: 01-2119489379-17-XXXX

REACH registration notes: This product is not classified as hazardous, the information in this datasheet is given for guidance only.

CAS number: 13463-67-7

EC number: 236-675-5

Relevant identified uses of the substance or mixture and uses advised against:

Identified uses: Surface coating Plastics Paper production Pigments for paint and printing inks Cosmetics
Pharmaceuticals Food / Feed additive Colourant.

Company name: Nexchem Ltd
Unit 3 Barshaw Park
Leycroft Road
Leicester
LE4 1ET
Tel: 0116 2311130
24/7 Emergency Tel: 0800 246 1274
Email: sales@nexchem.co.uk

SAFETY DATA SHEET

Titanium Dioxide

Issued: 02/12/2020

Page 2

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture:

Classification (EC 1272/2008):

Physical hazards: Not Classified

Health hazards: Not Classified

Environmental hazards: Not Classified

Label elements:

EC number: 236-675-5

Hazard statements: NC Not Classified

Other hazards: This substance is not classified as PBT or vPvB according to current EU criteria.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances:

Product name: TITANIUM DIOXIDE

REACH registration number: 01-2119489379-17-XXXX

REACH registration notes: This product is not classified as hazardous, the information in this datasheet is given for guidance only.

CAS number: 13463-67-7

EC number: 236-675-5

Composition comments: The data shown are in accordance with the latest EC Directives.

4. FIRST AID MEASURES

Description of first aid measures:

General information: Keep affected person under observation. Treat symptomatically.

Inhalation: Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse nose and mouth with water. Place unconscious person on their side in the recovery position and ensure breathing can take place. Get medical attention if any discomfort continues.

Ingestion: Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Give plenty of water to drink. Never give anything by mouth to an unconscious person. Do not induce vomiting unless under the direction of medical personnel. Get medical attention if any discomfort continues.

Skin contact: After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Get medical attention if any discomfort continues.

Eye contact: Remove any contact lenses and open eyelids wide apart. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

Protection of first aiders: No action shall be taken without appropriate training or involving any personal risk.

[cont...]

SAFETY DATA SHEET

Titanium Dioxide

Issued: 02/12/2020

Page 3

Most important symptoms and effects, both acute and delayed:

Inhalation: Dust may irritate the respiratory system. Coughing, chest tightness, feeling of chest pressure.
Skin contact: Prolonged contact may cause dryness of the skin.
Eye contact: May cause temporary eye irritation.

Indication of any immediate medical attention and special treatment needed: Notes for the doctor Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Extinguishing media:

Suitable extinguishing media: Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Special hazards arising from the substance or mixture:

Specific hazards: When heated and in case of fire, toxic vapours/gases may be formed. Dust may form explosive mixture with air.

Hazardous combustion products: Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of the following substances: Carbon.

Advice for firefighters:

Protective actions during firefighting: Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Contain and collect extinguishing water.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Personal precautions: No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Avoid generation and spreading of dust. Eliminate all sources of ignition. Provide adequate ventilation. Avoid inhalation of dust. Keep upwind.

Environmental precautions: Avoid discharge into water courses or onto the ground. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

Methods and material for containment and cleaning up:

Methods for cleaning up: Stop leak if safe to do so. Approach the spillage from upwind. Remove spillage with vacuum cleaner or collect with a shovel and broom, or similar. Collect and place in suitable waste disposal containers and seal securely. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. For waste disposal, see Section 13.

Reference to other sections: For personal protection, see Section 8. For waste disposal, see Section 13.

[cont...]

SAFETY DATA SHEET

Titanium Dioxide

Issued: 02/12/2020

Page 4

7. HANDLING AND STORAGE

Precautions for safe handling:

Usage precautions:

Eye wash facilities and emergency shower must be available when handling this product. Provide adequate ventilation. Wear protective clothing as described in Section 8 of this safety data sheet. Do not breathe dust. Do not eat, drink or smoke when using this product. Protect from moisture. Earth container and transfer equipment to eliminate sparks from static electricity. Dust may form explosive mixture with air.

Advice on general occupational hygiene: Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Remove contaminated clothing and protective equipment before entering eating areas. Provide eyewash station and safety shower.

Conditions for safe storage, including any incompatibilities:

Storage precautions:

Store in tightly closed, original container in a dry, cool and well-ventilated place. Store away from the following materials: Strong oxidising agents. Avoid exposure to high temperatures or direct sunlight. Avoid heat, flames and other sources of ignition. Container must be kept tightly closed when not in use. Keep containers upright. Use appropriate containment to avoid environmental contamination.

Specific end use(s):

The identified uses for this product are detailed in Section 1.2.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters:

Occupational exposure limits:

Long-term exposure limit (8-hour TWA): WEL 4 mg/m³ respirable dust
Long-term exposure limit (8-hour TWA): WEL 10 mg/m³ inhalable dust
WEL = Workplace Exposure Limit.

Ingredient comments:

WEL = Workplace Exposure Limits

DNEL:

Workers - Inhalation; Long term local effects: 10 mg/m³
Consumer - Oral; Long term systemic effects: 700 mg/kg/day

PNEC:

Fresh water; 0.184 mg/l
Marine water; 0.0184 mg/l
Sediment (Freshwater); 1000 mg/kg
Sediment (Marine water); 100 mg/kg
STP; 100 mg/l

Exposure controls:

Protective equipment:



[cont...]

SAFETY DATA SHEET

Titanium Dioxide

Issued: 02/12/2020

Page 5

Appropriate engineering controls: Observe any occupational exposure limits for the product or ingredients. Avoid generation and spreading of dust. Provide adequate ventilation.

Eye/face protection: Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Dust-resistant, chemical splash goggles. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection: The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. To protect hands from chemicals, gloves should comply with European Standard EN374.

Other skin and body protection: Wear appropriate clothing to prevent skin contamination.

Hygiene measures: When using do not eat, drink or smoke. Wash at the end of each work shift and before eating, smoking and using the toilet. Remove contaminated clothing and protective equipment before entering eating areas. Provide eyewash station and safety shower.

Respiratory protection: Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Protection against nuisance dust must be used when the airborne concentration exceeds 10 mg/m³. If ventilation is inadequate, suitable respiratory protection must be worn. Particulate filter, type P2. EN 136/140/141/145/143/149.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

Appearance:	Powder.
Colour:	White.
Odour:	Almost odourless.
Odour threshold:	No information available.
pH:	pH (diluted solution): 6 - 9 @ 100g/l
Melting point:	> 1800°C
Initial boiling point and range:	2972°C
Flash point:	No information available.
Evaporation rate:	No information available.
Evaporation factor:	No information available.
Flammability (solid, gas):	No information available.
Upper/lower flammability or explosive limits:	No information available.
Other flammability:	No information available.
Vapour pressure:	No information available.
Vapour density:	No information available.
Relative density:	3.7 - 4.1
Bulk density:	1.1 g/cm ³
Solubility(ies):	Insoluble in water.
Partition coefficient:	No information available.
Auto-ignition temperature:	No information available.

[cont...]

SAFETY DATA SHEET

Titanium Dioxide

Issued: 02/12/2020

Page 6

Decomposition Temperature: No information available.
Viscosity: No information available.
Explosive properties: No information available.
Explosive under the influence of a flame: No information available.
Oxidising properties: Does not meet the criteria for classification as oxidising.

Other information:
Other information: None.
Refractive index: No information available.
Particle size: No information available.
Molecular weight: 79.88 Calculation method.
Volatility: No information available.
Saturation concentration: No information available.
Critical temperature: No information available.
Volatile organic compound: No information available.

10. STABILITY AND REACTIVITY

Reactivity: There are no known reactivity hazards associated with this product.

Chemical stability:

Stability: Stable at normal ambient temperatures and when used as recommended.

Possibility of hazardous reactions: Under normal conditions of storage and use, no hazardous reactions will occur.

Conditions to avoid: Avoid excessive heat for prolonged periods of time.

Incompatible materials:

Materials to avoid: Strong oxidising agents.

Hazardous decomposition products: Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of the following substances: Carbon.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects:

Acute toxicity – oral:

Acute toxicity oral (LD₅₀ mg/kg): 10,000.0

Species: Rat

Notes (oral LD₅₀): LD₅₀ >5000 mg/kg, Oral, Rat OECD 425

ATE oral (mg/kg): 10,000.0

Acute toxicity – dermal:

Notes (dermal LD₅₀): LD₅₀ >10000 mg/kg, Dermal, Rabbit

[cont...]

SAFETY DATA SHEET

Titanium Dioxide

Issued: 02/12/2020

Page 7

Acute toxicity – inhalation:

Notes (inhalation LC₅₀): LD₅₀ 3.43-5.09 mg/l, Inhalation, Rat OECD 403

Skin corrosion/irritation:

Animal data: Not irritating. Rabbit OECD 404

Serious eye damage/irritation:

Serious eye damage/irritation: Not irritating. Rabbit OECD 405

Respiratory sensitisation:

Respiratory sensitisation: Not sensitising. Based on available data the classification criteria are not met.

Skin sensitisation:

Skin sensitisation: Not sensitising. Local Lymph Node Assay (LLNA) OECD 429

Germ cell mutagenicity:

Genotoxicity - in vitro: Ames test Negative. OECD 471

Carcinogenicity:

IARC carcinogenicity: IARC Group 2B Possibly carcinogenic to humans.

Reproductive toxicity:

Reproductive toxicity – fertility: No information available.

Specific target organ toxicity - single exposure:

STOT - single exposure: No information available.

Specific target organ toxicity - repeated exposure:

STOT - repeated exposure: No information available.

Aspiration hazard:

Aspiration hazard: No information available.

Inhalation:

Dust may irritate the respiratory system. Coughing, chest tightness, feeling of chest pressure.

Ingestion:

May cause discomfort if swallowed.

Skin contact:

Prolonged contact may cause dryness of the skin.

Eye contact:

May cause temporary eye irritation.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

The product is not expected to be hazardous to the environment. However, large or frequent spills may have hazardous effects on the environment.

[cont...]

SAFETY DATA SHEET

Titanium Dioxide

Issued: 02/12/2020

Page 8

Toxicity:

Acute aquatic toxicity:

Acute toxicity – fish: LC₅₀, 96 hours: >10000 mg/l, Cyprinodon variegatus (Sheepshead minnow)

Acute toxicity - aquatic plants: NOEC, 480 hours: 100000 mg/l, Algae

Persistence and degradability: The product contains inorganic substances which are not biodegradable.

Bioaccumulative potential: The product is not bioaccumulating. BCF: 19-352, Oncorhynchus mykiss (Rainbow trout).

Partition coefficient: No information available.

Mobility in soil:

Mobility: The product is insoluble in water.

Results of PBT and vPvB assessment: This substance is not classified as PBT or vPvB according to current EU criteria.

Other adverse effects: Not determined.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods:

General information: Waste should be treated as controlled waste. Do not puncture or incinerate, even when empty.

Disposal methods: Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Waste class: 06 11 99

14. TRANSPORT INFORMATION

General: The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

UN number: Not applicable.

UN proper shipping name: Not applicable.

Transport hazard class(es): No transport warning sign required.

Packing group: Not applicable.

Environmental hazards:

Environmentally hazardous substance/marine pollutant: No.

Special precautions for user: Not applicable.

Transport in bulk according to Annex II of MARPOL and the IBC Code:

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable.

[cont...]

15. REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixture:****EU legislation:**

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

Commission Regulation (EU) No 2015/830 of 28 May 2015.

Chemical safety assessment:

A chemical safety assessment has been carried out.

Inventories:**EU - EINECS/ELINCS:**

All the ingredients are listed or exempt.

Canada - DSL/NDSL:

All the ingredients are listed or exempt.

DSL

US – TSCA:

All the ingredients are listed or exempt.

Australia – AICS:

All the ingredients are listed or exempt.

Japan – ENCS:

All the ingredients are listed or exempt.

Korea – KECI:

All the ingredients are listed or exempt.

China – IECSC:

All the ingredients are listed or exempt.

Philippines – PICCS:

All the ingredients are listed or exempt.

New Zealand – NZIOC:

All the ingredients are listed or exempt.

Taiwan – TCSI:

All the ingredients are listed or exempt.

Note:

The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

16. OTHER INFORMATION**Abbreviations and acronyms used in the safety data sheet:**

ATE: Acute Toxicity Estimate.

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.

CAS: Chemical Abstracts Service.

DNEL: Derived No Effect Level.

IATA: International Air Transport Association.

IMDG: International Maritime Dangerous Goods.

Kow: Octanol-water partition coefficient.

LC₅₀: Lethal Concentration to 50 % of a test population.

LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).

[cont...]

SAFETY DATA SHEET

Titanium Dioxide

Issued: 02/12/2020

Page 10

PBT: Persistent, Bioaccumulative and Toxic substance.

PNEC: Predicted No Effect Concentration.

REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.

RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.

vPvB: Very Persistent and Very Bioaccumulative.

IARC: International Agency for Research on Cancer.

MARPOL 73/78: International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978.

cATpE: Converted Acute Toxicity Point Estimate.

BCF: Bioconcentration Factor.

BOD: Biochemical Oxygen Demand.

EC₅₀: 50% of maximal Effective Concentration.

LOAEC: Lowest Observed Adverse Effect Concentration.

LOAEL: Lowest Observed Adverse Effect Level.

NOAEC: No Observed Adverse Effect Concentration.

NOAEL: No Observed Adverse Effect Level.

NOEC: No Observed Effect Concentration.

LOEC: Lowest Observed Effect Concentration.

DMEL: Derived Minimal Effect Level.

EL50: Exposure Limit 50

hPa: Hectopascal

LL50: Lethal Loading fifty

OECD: Organisation for Economic Co-operation and Development

POW: Octanol-water partition coefficient

SCBA: self-contained breathing apparatus

STP: Sewage Treatment Plant

VOC: Volatile Organic Compounds

Classification abbreviations and acronyms:

Acute Tox. = Acute toxicity

Aquatic Acute = Hazardous to the aquatic environment (acute)

Aquatic Chronic = Hazardous to the aquatic environment (chronic)

Legal disclaimer:

The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation. This advice is given by Nexchem Ltd who accept no legal liability for it except otherwise provided by law. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.