

Safety Data Sheet
Titanium White No1, No2 & No3 - 101, 102 & 130



SDS Record Number: CSSS-TCO-010-140808

Section 1 Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier:

Identification on the label/Trade name:	TITANIUM DIOXIDE
Additional identification:	Titanium oxide (TiO ₂)
Identification of the product:	CAS# 13463-67-7; EC# 236-675-5
Index Number:	Not available
REACH registration No.:	01-2119489379-17-0040

1.2 Relevant identified uses of the substance and uses advised against:

1.2.1 Identified uses:

White pigment for application in following industries: Coatings, plastics, printing inks, paper, man-made fibers, glass, vitreous enamels, ceramic products, textile, rubber, cement, chemical industry, food / feedstuff additives, drugs, cosmetics.

PC 1: Adhesives, sealants

PC 2: Adsorbents

PC 3: Air care products

PC 4: Anti-freeze and de-icing products

PC 7: Base metals and alloys

PC 8: Biocidal products (e.g. disinfectants, pest control)

PC 9a: Coatings and paints, thinners, paint removers

PC 9b: Fillers, putties, plasters, modelling clay

PC 9c: Finger paints

PC 11: Explosives

PC 12: Fertilisers

PC 13: Fuels

PC 14: Metal surface treatment products

PC 15: Non-metal-surface treatment products

PC 16: Heat transfer fluids

PC 17: Hydraulic fluids

PC 18: Ink and toners

PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents

PC 21: Laboratory chemicals

PC 23: Leather treatment products

PC 24: Lubricants, greases, release products

PC 25: Metal working fluids

PC 26: Paper and board treatment products

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PC 27: Plant protection products
PC 28: Perfumes, fragrances
PC 29: Pharmaceuticals
PC 30: Photo-chemicals
PC 31: Polishes and wax blends
PC 32: Polymer preparations and compounds
PC 33: Semiconductors
PC 34: Textile dyes, and impregnating products
PC 35: Washing and cleaning products
PC 36: Water softeners
PC 37: Water treatment chemicals
PC 38: Welding and soldering products, flux products
PC 39: Cosmetics, personal care products
PC 40: Extraction agents
SU 1: Agriculture, forestry and fishing
SU 2a: Mining (without offshore industries)
SU 2b: Offshore industries
SU 4: Manufacture of food products
SU 5: Manufacture of textiles, leather, fur
SU 6a: Manufacture of wood and wood products
SU 6b: Manufacture of pulp, paper and paper products
SU 7: Printing and reproduction of recorded media
SU 8: Manufacture of bulk, large scale chemicals (including petroleum products)
SU 9: Manufacture of fine chemicals
SU 11: Manufacture of rubber products
SU 12: Manufacture of plastics products, including compounding and conversion
SU 13: Manufacture of other non-metallic mineral products, e.g. plasters, cement
SU 14: Manufacture of basic metals, including alloys
SU 15: Manufacture of fabricated metal products, except machinery and equipment
SU 16: Manufacture of computer, electronic and optical products, electrical equipment
SU 17: General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment
SU 18: Manufacture of furniture
SU 19: Building and construction work
SU 20: Health services
SU 23: Electricity, steam, gas water supply and sewage treatment
SU 24: Scientific research and development

1.2.2 Uses advised against:

Not available.

1.3 Details of the supplier of the safety data sheet:

Supplier(Manufacturer): Michael Harding Art Formulas LTD
Address: Unit K Springvale Ind Est, Cwmbran, Torfaen, NP44 5BE
Contact person(E-mail): accounts@michaelharding.co.uk
Product name: TITANIUM DIOXIDE

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1.4 Emergency telephone Number: +44(0)1633484700

Only available during office hours (8:00a.m.-16:30p.m.) Available
outside office hours? YES

NO

Section 2 Hazards Identification

2.1 Classification of the substance/mixture:

2.1.1 Classification:

According to REGULATION (EC) No 1272/2008, based on available data, the classification criteria are not met:

REGULATION (EC) No 1272/2008	
Hazard classes/Hazard categories	Hazard codes
Not classified	N/A

For full text of H- phrases: see section 2.2.

2.2 label elements:

Hazard Pictograms: No hazard pictogram is used.
Signal Word(S): No signal word is used.
Hazard Statement: Not applicable.
Precautionary statement: Not applicable.

2.3 Other hazards:

PBT assessment does not apply.

Section 3 Composition/information on ingredients

Substance/Mixture: Substance

Ingredient(s):

Chemical Name	Registration No.	CAS No.	EC No.	Concentration
Titanium Dioxide	N/A	13463-67-7	236-675-5	80-100%
Aluminium oxide	N/A	1344-28-1	215-691-6	0-4%
Zirconium dioxide	N/A	1314-23-4	215-227-2	0-1%
Trimethylolpropane (PROPYLIDYNETRIME THANOL)	N/A	77-99-6	201-074-9	0.1-0.3%

Section 4 First aid measures

4.1 Description of first aid measures:

In all cases of doubt, or when symptoms persist, seek medical attention.

4.1.1 In case of inhalation:

Move to a fresh air atmosphere. In case of persistent symptoms, consult a doctor.

4.1.2 In case of skin contact:

Wash with soap and water.

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4.1.3 In case of eyes contact:

Rinse immediately with plenty of water. If irritation persists, seek medical attention.

4.1.4 In case of ingestion:

No adverse health effects anticipated by this route, however, in the event of ingestion, increase intake of liquid in order to flush from the body. In case of persistent symptoms, consult a doctor.

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

The product is not classified as harmful to human health effect.

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

If skin irritation or rash occurs, get medical advice/attention.

Section 5 Fire-Fighting measures

5.1 Extinguishing media:

Suitable extinguishing media: Use any media appropriate for combustible material in the area.

Unsuitable extinguishing media: Not available.

5.2 Special hazards arising from the substance or mixture

Product is inert, non flammable and non combustible.

5.3 Advice for firefighters:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

Section 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

6.1.1 For non-emergency personnel: Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Use personal protective equipment. Information regarding personal protective measures see, Section 8.

6.1.2 For emergency responders: Wear an appropriate NIOSH/MSHA approved respirator if mist, vapor or dust is generated.

6.2 Environmental Precautions:

Prevent run-off from entering ground, storm sewers and ditches which lead to natural waterways.

6.3 Methods for Containment and Cleaning up:

Use any feasible mechanical means (e.g. vacuum, sweeping) but avoid dusting during clean-up. The product can cause slippery conditions if wet. Even at low concentration, the product renders the discharge in liquid effluent highly visible.

6.4 Reference to other sections:

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

Section 7 Handling and storage

7.1 Precautions for safe handling:

7.1.1 Protective measures: Avoid raising dust. Handling systems and areas should be operated in such a way as to minimise exposure to dust.

7.1.2 Advice on general occupational hygiene: Do not eat, drink and smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities:

Stored in a cool, dry, ventilated area. Pigments should not be stored in outside areas exposed to the weather. Care should be taken to avoid exposure to moisture. Packing material: Paper, Plastic.

7.3 Specific end use(s):

Not applicable.

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Section 8 Exposure Controls/Personal Protection

8.1 Control parameters:

8.1.1 Occupational exposure limits:

Zirconium dioxide (CAS#1314-23-4): The concentration threshold: Long-term exposure limit: 6 mg/m³ (Lithuania)

Trimethylolpropane (CAS#77-99-6): The concentration threshold: Exceeded the threshold value: 5 ppm (Lithuania)

Country	Substance	EINECS No.	CAS No.	Occupational Exposure Limit Value (8-hour reference period)		Occupational Exposure Limit Value (15-minute reference period)		
				ppm	mg/ m ³	ppm	mg/ m ³	Note
Ireland	Titanium dioxide total inhalable dust respirable dust	236-675-5	13463-67-7	-	10	-	-	-
				-	4	-	-	-
Ireland	Aluminium oxides total inhalable dust respirable dust	215-691-6	1344-28-1	-	10	-	-	-
				-	4	-	-	-

8.1.2 Additional exposure limits under the conditions of use: Not available.

8.1.3 DNEL/DMEL and PNEC-Values: Not available.

8.2 Exposure controls:

8.2.1 Appropriate engineering controls:

Production facilities should be provided with running drinking water, local and general aspiration system. In facilities, where titanium dioxide is handled, eating and food storage are not permitted.

8.2.2 Individual protection measures, such as personal protective equipment:

Eye/face protection:

The use of dustproof goggles or glasses with side protections is recommended if dust concentrations are likely to exceed the occupational exposure limit.

Hand protection:

Glove material: Use protective gloves according to EN374 to prevent skin contact with dust., Break through time: > 60 min.

Body protection:

Respect main rules concerning the protection clothes for chemicals handling.

Respiratory protection:

Avoid breathing dust. In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards:

Wear suitable protective clothing to prevent heat.

8.2.3 Environmental exposure controls:

Avoid discharge into the environment.

According to local regulations, Federal and official regulations.

Section 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Appearance:	Powder
Colour:	White
Odour:	Odorless
Odour threshold:	Not available
pH:	6.5-8.0
Melting point/range (°C):	> 1800 °C
Boiling point/range (°C):	Not reachable.2500-3000°C(acc.To another sources of data)

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Flash point (°C):	Not available
Evaporation rate:	Not available
Flammability limit - lower (%):	Not available
Flammability (solid, gas):	Not available
Ignition temperature (°C):	Not available
Upper/lower flammability/explosive limits:	Not available
Vapour pressure (20°C):	Not available
Vapour density:	Heavier than air
Relative Density:	Anatase: 3.8g/cm ³ , rutile: 4.2g/cm ³ , 20 °C
Bulk density (kg/m³):	Not available
Water solubility (g/l):	3.4 µg /L
n-Octanol/Water (log Po/w):	Not available
Auto-ignition temperature:	Not available
Decomposition temperature:	Not available
Viscosity, dynamic (mPa.s):	Not available
Explosive properties:	Not available
Oxidising properties:	Not available
Molecular Formula:	TiO ₂
Molecular Weight:	79.87
9.2. Other information:	
Fat solubility(solvent– oil to be specified) etc:	Insoluble
Surface tension:	Not available
Dissociation constant in water(pKa):	Not available
Oxidation-reduction Potential:	Not available
Specific gravity:	Not available

Section 10 Stability and reactivity

10.1 Reactivity:	The substance is stable under normal storage and handling conditions.
10.2 Chemical stability:	Stable at room temperature in closed containers under normal storage and handling conditions.
10.3 Possibility of hazardous reactions:	No dangerous reactions known.
10.4 Conditions to avoid:	Incompatible materials.
10.5 Incompatible materials:	Substance is incompatible with strong acids.
10.6 Hazardous decomposition products:	Titanium/titanium oxides.

Section 11 Toxicological information

11.1 Information on toxicological effects:	
Acute toxicity:	
LD50(Oral, Rat):	> 2000 mg/kg bw
LD50(Dermal, Rabbit):	Not available
LC50(Inhalation, Rat):	> 6.82 mg/L,4h, male
Skin corrosion/Irritation:	Not classified

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Serious eye damage/irritation:	Not classified
Respiratory or skin sensitization:	Not classified
Germ cell mutagenicity:	Not classified
Carcinogenicity:	Not classified
Reproductive toxicity:	Not classified
STOT- single exposure:	Not classified
STOT-repeated exposure:	Not classified
Aspiration hazard:	Not classified

Section 12 Ecological information

12.1 Toxicity:

Acute (short-term) toxicity:

LC50(96h, Fish): Not available

EC50 (48h, Crustacea): > 100 mg/L

EC50(72h, Algae/aquatic plants): Not available

Chronic (long-term) toxicity:

NOEC(Fish): \geq 160 mg/L

NOEC(Crustacea): \geq 100 mg/L

NOEC (Algae/aquatic plants): \geq 1 mg/L

12.2 Persistence and degradability:

Biodegradability [BD = (BOD5 : COD) • 100 %] : <10% (practically nonbiodegradable)

Chemical oxygen demand (COD): nonoxidizable.

Biological oxygen demand (BOD): nonoxidizable.

The substance half life: > 30 days.

Persistence and biodegradability-is resistant to degradation and isn't subject to biodegradation.

12.3 Bioaccumulative potential:

Cumulativeness: weak.

12.4 Mobility in soil:

Toxic effect on soil invertebrates: bacterial toxicity: EC₀> 5000 mg/l (Pseudomonas fluorescens, Escherichia coli; 24 hours).

12.5 Results of PBT&vPvB assessment:

PBT assessment does not apply.

12.6 Other adverse effects:

Do not empty into drains.

Section 13 Disposal considerations

13.1 Waste treatment methods:

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification. If empty container retains product residues, all label precautions must be observed. Return for reuse or dispose according to national or local regulations.

Section 14 Transport information

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	Land transport (ADR/RID)	Inland waterways (ADN)	Sea transport (IMDG)	Air transport (ICAO/IATA)
UN number	Not regulated	Not regulated	Not regulated	Not regulated
UN Proper shipping name	Not regulated	Not regulated	Not regulated	Not regulated
Transport hazard Class(es)	Not regulated	Not regulated	Not regulated	Not regulated
Packing group	Not regulated	Not regulated	Not regulated	Not regulated
Environmental hazards	No	No	No	No
Special precautions for user	See section 2.2	See section 2.2	See section 2.2	See section 2.2
Transport in bulk according to Annex II of Marpol and the IBC Code	Not regulated	Not regulated	Not regulated	Not regulated

Section 15 Regulation information

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

Relevant information regarding authorization: Not applicable.

Relevant information regarding restriction: Not applicable.

Other EU regulations: Employment restrictions concerning young person must be observed. For use only by technically qualified individuals.

Other National regulations: Not applicable

15.2 Chemical Safety Assessment has been carried out? YES NO

Section 16 Other information

16.1 Indication of changes:

Version 1.0 Amended by EU No 830/2015

16.2 Abbreviations and acronyms:

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

RID: Regulation for rail International transportation of Dangerous goods

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

IMDG: Code international maritime dangerous goods code

ICAO: International Civil Aviation Organization

IATA: International Air Transport Association

LC50: median lethal concentration

EC50: The effective concentration of substance that causes 50% of the maximum response.

NOEC: No Observed Effect Concentration

DNEL: derived no-effect level

PNEC: predicted no-effect concentration

16.3 Key literature references and sources for data

ECHA Registered substances data

16.4 Training instructions:

Not applicable.

16.5 Further information:

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

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16.6 Notice to reader:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.