



Safety Data Sheet
According to Regulation (EC) No 1907/2006, Annex II,
Amended by COMMISSION REGULATION (EU) 2020/878,
According to REGULATION (EC) No 1272/2008

Titanium dioxide

Version 1.0

Issue date: 02-12-2022

Revision date: 01-01-2024

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:	Nanoform is NOT covered by this SDS.
Identification of the product:	CAS# 13463-67-7 EC# 236-675-5
Index Number:	022-006-00-2
REACH registration No.:	01-2119489379-17-xxxx

1.2 Relevant identified uses of the substance or mixture 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 removes

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

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:

No uses advised against are identified.

1.3 Details of the supplier of the safety data sheet:

Only representative:	Chemical Inspection & Regulation Service Limited
Supplier:	G & J Resources Inc.
Address:	Unit 502, 7300 Warden Ave; Toronto, ON, Canada L3R 9Z6
Contact person(E-mail):	info@gandjresources.com
Telephone:	+1 (905) 604-7008
Fax:	+1 (905) 604-7009

1.4 Emergency telephone Number:

+1 (905) 604-7008 Only available during office hours (9:00a.m.-17:30p.m.)

Available outside office hours?

YES

☐

NO

☒ X

Product name: Titanium dioxide

Version #: 1.0

Issue date: 02-12-2022.

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Section 2 Hazards identification

2.1 Classification of the substance or mixture:

2.1.1 Classification of the substance:

The substance is classified as following according to REGULATION (EC) No 1272/2008:

REGULATION (EC) No 1272/2008	
Hazard classes/Hazard categories	Hazard statement
Carc. 2	H351

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

2.2 Label elements:

Hazard pictogram(s):



Signal word:

Warning

Hazard statement(s):

H351: Suspected of causing cancer by inhalation

Precautionary statement(s):

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P308 + P313: If exposed or concerned: Get medical advice/attention.

P405: Store locked up.

P501: Dispose of contents/container in accordance with local regulation.

Supplemental Hazard information (EU)

Not applicable.

2.3 Other hazards:

The substance is not PBT / vPvB.

The substance is not identified as having endocrine disrupting properties.

Section 3 Composition/information on ingredients

Substance/Mixture:

Substance

Ingredient(s):

Chemical Name	Registration No.	CAS No.	EC No.	Concentration	Specific Concentration limits, M-Factors, Acute Toxicity Estimates (ATE)
Titanium Dioxide	01-2119489379-17-0063	13463-67-7	236-675-5	≥98%	N/A

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.

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:

Suspected of causing cancer by inhalation.

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

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

Section 5 Firefighting 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:

Self-contained breathing apparatus with full-face mask and full protective clothing (standard wear).

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 and material 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 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.

Section 8 Exposure controls/personal protection

8.1 Control parameters:

8.1.1 Occupational exposure limits:

				Occupational Exposure Limit Value (8-hour	Occupational Exposure Limit Value (15-minute reference period)

Country	Substance	EINECS No.	CAS No.	reference period)		ppm	mg/ m3	Note
				ppm	mg/ m3			
Ireland	Titanium dioxide	215-185-5	1310-73-2	-	-	-	2	-

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

8.1.3 DNEL/DMEL and PNEC-Values:

Workers - Hazard via inhalation route	Local effects-Long term exposure	DNEL=1.25 mg/m ³
General Population - Hazard via inhalation route	Local effects-Long term exposure	DNEL=210 µg/m ³

8.2 Exposure controls:

8.2.1 Appropriate engineering controls: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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.

Skin protection

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:	Solid
Colour:	White
Odour:	Odorless
Odour threshold:	Not available
pH:	Not available
Melting point/range (°C):	1843 °C
Boiling point/range (°C):	ca. 3000 °C
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 explosive limits:	Not available
Vapour pressure (20°C):	Not available
Vapour density:	Not available
Density:	3.9 g/cm ³ , 20 °C
Bulk density (kg/m³):	Not available
Water solubility (g/l):	Insoluble (< 0.1 mg/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:	79.8658

9.2. Other information:

Fat solubility(solvent-oil to be specified)	Insoluble
etc:	
Surface tension:	Not available
Dissociation constant in water(pKa):	Not available
Oxidation-reduction Potential:	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:	Strong oxidizing agents.
10.6 Hazardous decomposition products:	Titanium/titanium oxides.

Section 11 Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008:

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
Serious eye damage/irritation:	Not classified
Respiratory or skin sensitization:	Not classified
Germ cell mutagenicity:	Not classified
Carcinogenicity:	Suspected of causing cancer by inhalation.
Reproductive toxicity:	Not classified
STOT- single exposure:	Not classified
STOT-repeated exposure:	Not classified
Aspiration hazard:	Not classified

11.2 Information on other hazards

Endocrine disrupting properties	The substance is not identified as having endocrine disrupting properties.
Other information	Not applicable

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):	>= 160 mg/L
NOEC(Crustacea):	>= 100 mg/L
NOEC(Algae/aquatic plants):	>= 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 and vPvB assessment:	The substance is not PBT / vPvB.
12.6 Endocrine disrupting properties:	The substance is not identified as having endocrine disrupting properties.
12.7 Other adverse effects:	Not available.
12.8 Additional information	Not available.

Section 13 Disposal considerations

13.1 Waste treatment methods:	Dispose of in accordance with all applicable local and national regulations. Use recovery/recycling where feasible, otherwise incineration is the recommended method of disposal. Empty containers may contain hazardous residues. Do not cut, puncture or weld on or near to the container. Labels should not be removed from containers until they have been cleaned. Contaminated containers must not be treated as household waste. Containers should be cleaned by appropriate methods and then re-used or disposed of by landfill or incineration as appropriate. Do not incinerate closed containers.
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Section 14 Transport information

	Land transport (ADR/RID)	Inland waterways (ADN)	Sea transport (IMDG)	Air transport (ICAO/IATA)
14.1 UN number or ID number	Not regulated	Not regulated	Not regulated	Not regulated
14.2 UN proper shipping name	Not regulated	Not regulated	Not regulated	Not regulated
14.3 Transport hazard class(es)	Not regulated	Not regulated	Not regulated	Not regulated
14.4 Packing group	Not regulated	Not regulated	Not regulated	Not regulated
14.5 Environmental hazards	No	No	No	No
14.6 Special	See section 2.2	See section 2.2	See section 2.2	See section 2.2

precautions for user				
14.7 Maritime transport in bulk according to IMO instruments	Not regulated	Not regulated	Not regulated	Not regulated

Section 15 Regulatory 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 YES ☒ NO ☐

Section 16 Other information

16.1 Indication of changes:

Version 1.0 Amended by (EU) 2020/878

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 Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

Classification according to Regulation (EC) No. 1272/2008		Classification procedure
Carc. 2	H351	On basis of test data

16.5 Relevant H-statements (number and full text):

H351: Suspected of causing cancer by inhalation.

16.6 Training instructions:

Not applicable.

16.7 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.

16.8 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.