

SAFETY DATA SHEET

(in accordance with Regulation (EU) 2015/830)



TITANIUM 0.500-0.800 mm

Version: 3
Revision date: 27/03/2018

Page 1 of 9
Print date: 27/03/2018

SECTION 1: IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY/UNDERTAKING.

1.1 Product identifier.

Product Name: TITANIUM 0.500-0.800 mm
Chemical Name: Titanium
CAS No: 7440-32-6
EC No: 231-142-3
Registration No: 01-2119484878-14-XXXX

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

Industrial use

Uses advised against:

Uses other than those recommended.

1.3 Details of the supplier of the safety data sheet.

Company: **ALDEBARÁN SISTEMAS SL**
Address: C/Jerónimo Zurita, 10, entlo izda, 50001
City: Zaragoza
Province: Zaragoza
Telephone: 0034976796134
E-mail: aldebaran@aldebaransistemas.com

1.4 Emergency telephone number: 0034915620420 (Available 24 hours)

SECTION 2: HAZARDS IDENTIFICATION.

2.1 Classification of the substance.

In accordance with Regulation (EU) No 1272/2008:
Flam. Sol. 1 : Flammable solid.

2.2 Label elements.

Labelling in accordance with Regulation (EU) No 1272/2008:

Pictograms:



Signal Word:

Danger

H statements:

H228 Flammable solid.

P statements:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof [electrical/ventilating/lighting/...] equipment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

-Continued on next page.-

SAFETY DATA SHEET

(in accordance with Regulation (EU) 2015/830)



TITANIUM 0.500-0.800 mm

Version: 3
Revision date: 27/03/2018

Page 2 of 9
Print date: 27/03/2018

P370+P378 In case of fire: dust or sand for metallic fire to extinguish.

Contains:
titanium

2.3 Other hazards.

In normal use conditions and in its original form, the product itself does not involve any other risk for health and the environment.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS.

3.1 Substances.

Chemical Name:	Titanium
CAS No:	7440-32-6
EC No:	231-142-3
Registration No:	01-2119484878-14-XXXX

3.2 Mixtures.

Not Applicable.

SECTION 4: FIRST AID MEASURES.

4.1 Description of first aid measures.

First aider: Pay attention to self-protection!

Inhalation.

Take the victim into open air; keep them warm and calm. If breathing is irregular or stops, perform artificial respiration. Do not administer anything orally. If unconscious, place them in a suitable position and seek medical assistance.

Eye contact.

If wearing contact lenses, remove them. Wash eyes with plenty of clean and cool water for at least 10 minutes while pulling eyelids up, and seek medical assistance.

Skin contact.

Remove contaminated clothing. Wash skin vigorously with water and soap or a suitable skin cleaner. NEVER use solvents or thinners.

Ingestion.

If accidentally ingested, seek immediately medical attention. Keep calm. NEVER induce vomiting.

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

No known acute or delayed effects from exposure to the product.

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

In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious.

SECTION 5: FIREFIGHTING MEASURES.

Flammable product, the necessary prevention measures should be taken in order to avoid risks, In case of fire, the following measures are recommended:

5.1 Extinguishing media.

Suitable extinguishing media:

-Continued on next page.-

SAFETY DATA SHEET

(in accordance with Regulation (EU) 2015/830)



TITANIUM 0.500-0.800 mm

Version: 3
Revision date: 27/03/2018

Page 3 of 9
Print date: 27/03/2018

Co-ordinate fire-fighting measures to the fire surroundings.
Extinguisher powder or CO₂. In case of more serious fires, also alcohol-resistant foam and water spray.

Unsuitable extinguishing media:

Do not use a direct stream of water to extinguish.

5.2 Special hazards arising from the substance.

Special risks.

Fire can cause thick, black smoke. As a result of thermal decomposition, dangerous products can form: carbon monoxide, carbon dioxide. Exposure to combustion or decomposition products can be harmful to your health.

During a fire and depending on its magnitude the following may occur:

- Flammable vapors or gases.

5.3 Advice for firefighters.

Use water to cool tanks, cisterns, or containers close to the heat source or fire. Take wind direction into account. Prevent the products used to fight the fire from going into drains, sewers, or waterways.

Fire protection equipment.

According to the size of the fire, it may be necessary to use protective suits against the heat, individual breathing equipment, gloves, protective goggles or facemasks, and boots. During extinction and depending on the magnitude and proximity to the fire, additional protective equipment such as chemical protection gloves, heat-reflecting suits or gas-tight suits may be required.

SECTION 6: ACCIDENTAL RELEASE MEASURES.

6.1 Personal precautions, protective equipment and emergency procedures.

Avoid generation of dust. Do not breathe dust.
Provide adequate ventilation. Wear protective equipment.
Avoid contact with skin and eyes. Keep unprotected people away.
For exposure control and individual protection measures, see section 8.

6.2 Environmental precautions.

Product not classified as hazardous for the environment, avoid spillage as much as possible.

6.3 Methods and material for containment and cleaning up.

Pick up the spill with non-combustible absorbent materials (soil, sand, vermiculite, diatomite, etc.)). Pour the product and the absorbent in an appropriate container. The contaminated area should be immediately cleaned with an appropriate decontaminator. Pour the decontaminator on the remains in an opened container and let it act various days until no further reaction is produced.

6.4 Reference to other sections.

For exposure control and individual protection measures, see section 8.
For later elimination of waste, follow the recommendations under section 13.

SECTION 7: HANDLING AND STORAGE.

7.1 Precautions for safe handling.

The fumes are heavier than air and can spread across the ground. They can form explosive mixtures with air. Prevent the creation of flammable or explosive fume concentrations in the air; prevent fume concentrations above work exposure limits. The product must only be used in areas where all unprotected flames and other ignition points have been eliminated.
Electrical equipment has to be protected according to applicable standards.

The product can be electrostatically charged: always use earth grounds when transferring the product. Operators must use anti-static footwear and clothing, and floors must be conductors.

-Continued on next page.-

SAFETY DATA SHEET

(in accordance with Regulation (EU) 2015/830)



TITANIUM 0.500-0.800 mm

Version: 3
Revision date: 27/03/2018

Page 4 of 9
Print date: 27/03/2018

Keep the container tightly closed and isolated from heat sources, sparks and fire. Do not use tools that can cause sparks. The product does not require special handling measures, the following general measures are recommended:

For personal protection, see section 8. Never use pressure to empty the containers. They are not pressure-resistant containers. In the application area, smoking, eating, and drinking must be prohibited. Follow legislation on occupational health and safety. Keep the product in containers made of a material identical to the original.

7.2 Conditions for safe storage, including any incompatibilities.

The product does not require special storage measures.

As general storage measures, sources of heat, radiation, electricity and contact with food should be avoided.

Keep away from oxidising agents and from highly acidic or alkaline materials

Store according to local legislation. Observe indications on the label.

Store the containers between 5 and 35° C, in a dry and well-ventilated place, far from sources of heat and direct solar light.

Keep far away from ignition points.

7.3 Specific end use(s).

Not available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION.

8.1 Control parameters.

Type	Limit value
Germany	10 mg/m ³ Dust limit value inhalable fraction

8.2 Exposure controls.

Measures of a technical nature:

Provide adequate ventilation, which can be achieved by using good local exhaust-ventilation and a good general exhaust system.

Concentration:	100 %	
Uses:	Industrial use	
Breathing protection:		
PPE:	Particle filter mask	
Characteristics:	«CE» marking, category III. Made of filtering material, it covers nose, mouth and chin.	
CEN standards:	EN 149	
Maintenance:	Check for any tears, defects, etc. before use. Since it is disposable individual protection equipment, it should be replaced after use.	
Observations:	Does not protect worker unless properly adjusted. Follow the manufacturer's instructions regarding suitable use of the equipment.	
Filter Type needed:	P2	
Hand protection:		
If the product is handled correctly, no individual protection equipment is necessary.		
Eye protection:		
PPE:	Protective goggles against particle impacts.	
Characteristics:	«CE» marking, category II. Eye protector against dust and smoke.	
CEN standards:	EN 165, EN 166, EN 167, EN 168	
Maintenance:	Visibility through lenses should be ideal. Therefore, these parts should be cleaned daily. Protectors should be disinfected periodically following the manufacturer's instructions.	
Observations:	Some signs of wear and tear include: yellow colouring of the lenses, superficial scratching of the lenses, scraping etc.	
Skin protection:		

-Continued on next page.-

SAFETY DATA SHEET

(in accordance with Regulation (EU) 2015/830)



TITANIUM 0.500-0.800 mm

Version: 3
Revision date: 27/03/2018

Page 5 of 9
Print date: 27/03/2018

PPE:	Anti-static protective clothing.	
Characteristics:	«CE» marking, category II. Protective clothing should not be too tight or loose in order not to obstruct the user's movements.	
CEN standards:	EN 340, EN 1149-1, EN 1149-2, EN 1149-3, EN 1149-5	
Maintenance:	In order to guarantee uniform protection, follow the washing and maintenance instructions provided by the manufacturer.	
Observations:	The protective clothing should offer a level of comfort in line with the level of protection provided in terms of the hazard against which it protects, bearing in mind environmental conditions, the user's level of activity and the expected time of use.	
PPE:	Anti-static safety footwear.	
Characteristics:	«CE» marking, category II.	
CEN standards:	EN ISO 13287, EN ISO 20344, EN ISO 20346	
Maintenance:	The footwear should be checked regularly	
Observations:	The level of comfort during use and acceptability are factors that are assessed very differently depending on the user. Therefore, it is advisable to try on different footwear models and, if possible, different widths.	

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES.

9.1 Information on basic physical and chemical properties.

Appearance: Powder
Colour: Grey
Odour: Odourless
Odour threshold: N.A./N.A.
pH: N.A./N.A.
Melting point: 1660 °C
Boiling Point: 3262 °C
Flash point: N.A./N.A.
Evaporation rate: N.A./N.A.
Inflammability (solid, gas): Flammable
Lower Explosive Limit: N.A./N.A.
Upper Explosive Limit: N.A./N.A.
Vapour pressure: N.A./N.A.
Vapour density: N.A./N.A.
Relative density: 4,5
Solubility: Water insoluble
Liposolubility: N.A./N.A.
Hydrosolubility: N.A./N.A.
Partition coefficient (n-octanol/water): N.A./N.A.
Auto-ignition temperature: 300°C for dust°C
Decomposition temperature: N.A./N.A.
Viscosity: N.A./N.A.
Explosive properties: Explosion hazard for dust dispersed in air
Oxidizing properties: N.A./N.A.
N.A./N.A. = Not Available/Not Applicable due to the nature of the product

9.2 Other information.

Pour point: Grey
Blink: N.A./N.A.
Kinematic viscosity: N.A./N.A.
N.A./N.A. = Not Available/Not Applicable due to the nature of the product

-Continued on next page.-

SAFETY DATA SHEET

(in accordance with Regulation (EU) 2015/830)



TITANIUM 0.500-0.800 mm

Version: 3
Revision date: 27/03/2018

Page 6 of 9
Print date: 27/03/2018

SECTION 10: STABILITY AND REACTIVITY.

10.1 Reactivity.

With water: slow decomposition possible.

10.2 Chemical stability.

Stable under the recommended handling and storage conditions (see section 7).

10.3 Possibility of hazardous reactions.

Reacts with acids: Formation of hydrogen.

In case of dust formation: Danger of spontaneous combustion.

10.4 Conditions to avoid.

Avoid dust formation.

Avoid temperatures near or above the flash point. Do not heat closed containers.

Avoid direct sunlight and heat, as these may cause a risk of fire

10.5 Incompatible materials.

Avoid the following materials:

- Explosives materials.
- Toxic materials.
- Oxidizing materials.

10.6 Hazardous decomposition products.

Emits toxic fumes under fire conditions.

In case of fire, dangerous decomposition products can be generated, such as carbon monoxide and dioxide and nitrogen fumes and oxides.

SECTION 11: TOXICOLOGICAL INFORMATION.

11.1 Information on toxicological effects.

There are no tested data available on the product.

Repeated or prolonged contact with the product can cause the elimination of oil from the skin, giving rise to non-allergic contact dermatitis and absorption of the product through the skin.

Splatters in the eyes can cause irritation and reversible damage.

Repeated or prolonged contact with the product can cause the elimination of oil from the skin, giving rise to non-allergic contact dermatitis and absorption of the product through the skin.

Splatters in the eyes can use irritation and reversible damage.

Acute toxicity: No information is available.

Acute toxicity (oral): Lack of data.

Acute toxicity (dermal): Lack of data.

Acute toxicity (inhalative): Lack of data

Skin corrosion/irritation: Lack of data.

Eye damage/irritation: Lack of data.

Sensitisation to the respiratory tract: Lack of data.

Skin sensitisation: Lack of data.

Germ cell mutagenicity / Genotoxicity: Lack of data.

Carcinogenicity: Lack of data.

Reproductive toxicity: Lack of data.

Effects on or via lactation : Lack of data.

Specific target organ toxicity (STOT-single exposure): Lack of data.

-Continued on next page.-

SAFETY DATA SHEET

(in accordance with Regulation (EU) 2015/830)



TITANIUM 0.500-0.800 mm

Version: 3
Revision date: 27/03/2018

Page 7 of 9
Print date: 27/03/2018

Specific target organ toxicity (STOT-repeated exposure): Lack of data.
Aspiration hazard: Lack of data.

Symptoms:
In case of inhalation: Irritation of nose, throat, lung
In case of ingestion: Nausea, vomiting, diarrhea.

SECTION 12: ECOLOGICAL INFORMATION.

12.1 Toxicity.

No data available.

12.2 Persistence and degradability.

No data available.

12.3 Bioaccumulative potential.

No data available.

12.4 Mobility in soil.

No data available.

12.5 Results of PBT and vPvB assessment.

No data available.

12.6 Other adverse effects.

Do not allow to penetrate into soil, waterbodies or drains.

SECTION 13 DISPOSAL CONSIDERATIONS.

13.1 Waste treatment methods.

Product

Waste key number: 20 01 40= Metals

Recommendation: Is recycling is not possible, dispose according to local waste laws and regulations (information requirements authorities).

Contaminated packaging

Recommendation: Handle contaminated packages in the same way as the substance itself. Dispose of waste according to applicable legislation.

SECTION 14: TRANSPORT INFORMATION.

Transport following ADR rules for road transport, RID rules for railway, ADN for inner waterways, IMDG for sea, and ICAO/IATA for air transport.

Land: Transport by road: ADR, Transport by rail: RID.

Transport documentation: Consignment note and written instructions

Sea: Transport by ship: IMDG.

Transport documentation: Bill of lading

Air: Transport by plane: ICAO/IATA.

Transport document: Airway bill.

-Continued on next page.-

SAFETY DATA SHEET

(in accordance with Regulation (EU) 2015/830)



TITANIUM 0.500-0.800 mm

Version: 3
Revision date: 27/03/2018

Page 8 of 9
Print date: 27/03/2018

14.1 UN number.

UN No: UN2878

14.2 UN proper shipping name.

Description:

ADR: UN 2878, TITANIUM SPONGE POWDERS, 4.1, PG III, (E)

IMDG: UN 2878, TITANIUM SPONGE POWDERS, 4.1, PG III

ICAO/IATA: UN 2878, TITANIUM SPONGE POWDERS, 4.1, PG III

14.3 Transport hazard class(es).

Class(es): 4.1

14.4 Packing group.

Packing group: III

14.5 Environmental hazards.

Marine pollutant: No

14.6 Special precautions for user.

Labels: 4.1



Hazard number: 40

ADR LQ: 5 kg

IMDG LQ: 5 kg

ICAO LQ: 10 kg

Provisions concerning carriage in bulk ADR:

VC1 Carriage in bulk in sheeted vehicles, sheeted containers or sheeted bulk containers is permitted.

VC2 Carriage in bulk in closed vehicles, closed containers or closed bulk containers is permitted.

Transport by ship, FEm – Emergency sheets (F – Fire, S - Spills): F-G,S-G

Proceed in accordance with point 6.

IMDG Code segregation group: 15 Powdered metals

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

The product is not transported in bulk.

SECTION 15: REGULATORY INFORMATION.

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

The product is not affected by the Regulation (EC) No 1005/2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete the ozone layer.

15.2 Chemical safety assessment.

There has been no evaluation or chemical safety assessment of the product.

-Continued on next page.-

SAFETY DATA SHEET

(in accordance with Regulation (EU) 2015/830)



TITANIUM 0.500-0.800 mm

Version: 3
Revision date: 27/03/2018

Page 9 of 9
Print date: 27/03/2018

SECTION 16: OTHER INFORMATION.

Classification codes:

Flam. Sol. 1 : Flammable solid, Category 1

It is advisable to carry out basic training with regard to health and safety at work in order to handle this product correctly.

Abbreviations and acronyms used:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
CEN: European Committee for Standardization.
PPE: Personal protection equipment.
IATA: International Air Transport Association.
ICAO: International Civil Aviation Organization.
IMDG: International Maritime Code for Dangerous Goods.
RID: Regulations Concerning the International Transport of Dangerous Goods by Rail.

Key literature references and sources for data:

<http://eur-lex.europa.eu/homepage.html>

<http://echa.europa.eu/>

Regulation (EU) 2015/830.

Regulation (EC) No 1907/2006.

Regulation (EU) No 1272/2008.

The information given in this Safety Data Sheet has been drafted in accordance with COMMISSION REGULATION (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

The information in this Safety Data Sheet on the Preparation is based on current knowledge and on current EC and national laws, as far as the working conditions of the users is beyond our knowledge and control. The product must not be used for purposes other than those that are specified without first having written instructions on how to handle. It is always the responsibility of the user to take the appropriate measures in order to comply with the requirements established by current legislation. The information contained in this Safety Sheet only states a description of the safety requirements for the preparation, and it must not be considered as a guarantee of its properties.