

## Safety Data Sheet according to 1907/2006/EG (REACH)

Date of Print: 31.10.2019

rev.01

Revised on: 31.10.2019

**Trade name: Starbond Ti5 Powder**

### 1 Identification of substance and company

- **Product information**  
Trade name: Starbond Ti5 Powder (REF 135715)
- **Relevant identified uses of the substance or mixture and uses advised against Application of the substance:** Titanium Alloy powder for the manufacturing of dental prostheses
- **Manufacturer / Supplier:**  
S&S Scheftner GmbH  
Dekan-Laist-Str. 52  
D-55129 Mainz
- **Further information obtainable from:**  
Adrian Jossek  
a.jossek@scheftner.dental
- **Emergency information:**  
For medical information (in German and English language):  
+49/6131/19240 (poison control center Mainz)

### 2 Hazards identification

- **Classification of the substance or mixture:** Classification according to Regulation (EC) 1272/2008
- **Label elements:**



HGS 02

Signal word: Danger

**Hazard statement(s):**

H228 Flammable solid.

**Precautionary statement(s):**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P243 Take precautionary measures against static discharge.

P270 Do not eat, drink or smoke when using this product.

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

P370 + P378 In case of fire: Use table salt, dry sand or Class D Fire Extinguisher to contain fire.

- **Other hazards:**  
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 3 Composition

- **Chemical characterization:** Titanium powder

CAS Number	Name	Content	Risk phrases / remarks
7440-32-6	Titanium	min. 88%	See point 2
7429-90-5	Aluminum	max. 6,75%	See point 2
7440-62-2	Vanadium	max. 4,5%	See point 2
	N; C; H; Fe; O	<1%	

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### 4 First Aid measures

- **Description of first aid measures**

**Inhalation:** Remove patient to fresh air, allow to rest and keep warm. If not breathing, give artificial respiration and seek medical attention.

**General notes:** Provide general first aid, rest, warmth and fresh air. As a general rule, in case of doubt or if symptoms persist, always call a doctor. Seek medical attention for all burns and eye injuries, regardless how minor they may seem. First aid personnel must be aware of own risk during rescue.

**Skin contact:** Wash thoroughly with soap and water. Remove and properly dispose or launder contaminated clothing before wearing it again. Clean material from shoes and equipment. Seek medical attention.

**Eye contact:** Do not rub eye. Avoid contaminating unaffected eye. Make sure to remove any contact lenses from the eyes. Rinse with a gentle stream water for at least 15 minutes. Hold eye lids open. Get medical attention if symptoms persist.

**Ingestion:** Rinse mouth out and then drink plenty of water. Get medical attention if discomfort occurs. DO NOT induce vomiting!

- **Most important symptoms and effects, both acute and delayed**

Eye contact: Moderate irritating to eyes.

Skin contact: Prolonged or repeated exposure may be irritating.

Inhalation: Prolonged or repeated exposure to large amounts may cause damage to lungs.

Ingestion: Prolonged or repeated exposure may be irritating to mouth, throat and oesophagus.

- **Indication of any immediate medical attention and special treatment needed**

None

### 5 Fire fighting measures

- **Extinguishing Media:** Use approved Class D extinguisher or smother with dry sand, dry clay, dry limestone or salt.
- **Special Hazards arising from the substance or mixture:**  
Avoid formation of dust cloud as this may lead to an increased risk of a dust explosion.
- **Not suitable as extinguishing media:** Do not use water, dry chemical, CO<sub>2</sub>, or halon.
- **Advice for fire fighters:** In case of fire and / or explosion do not breathe fumes. Wear appropriate protective equipment and self-contained breathing apparatus

### 6 Accidental release measures

- **Personal precautions:**  
Immediately contact emergency personnel. Remove all sources of ignition. Keep unnecessary personnel away. Use suitable protective equipment. Do not touch or walk through spilt material.
- **Environmental precautions:** Keep spilt material away from drains and runoff, ground-water and soil.
- **Methods and material for containment and clear up:**  
Do not use compressed air to clean spills. Use non-sparking tools to clean up. Do not push powder long distances across the floor. Keep in small piles away from each other. Place collected material into non-sparking or anti-static containers, containing large quantities of sand, or other appropriate heat dissipation materials. The use of plastic bags is not recommended, due to potential for static electricity build-up (inside plastic bags).
- **Reference to other sections:** See section 1 for contact information. See section 8 for information on appropriate personal protective equipment. See section 13 for waste treatment information.

### 7 Handling and storage

- **Handling**  
Keep powder away from open flames and other sources of ignition. No smoking in area. Prevent electrostatic build-up. Use non-sparking metal tools and equipment. When transferring powder between two containers, bonding and grounding the containers or equipment is highly recommended. Dust clouds should be minimized when handling the powder. Consider using an inert gas cover when powder dust clouds may be present. Electrical installation should meet code for handling hazardous material (combustible dust). Maintain a supply of "coarse" (rock-type) salt and/or

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"Class D" (for metal fires) fire extinguisher located near processing and storage areas. Keep work areas clean and free of waste and minimise dust accumulation on surfaces (walls, floor, equipment). Standard industrial vacuum systems should not be used for cleaning.

- **Storage**  
Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame). Comply with local fire prevention and building codes for the storage of these materials. Storage area should be separated from handling area. Keep away from incompatible materials.
- **Storage class:** Flammable solid storage.
- **Specific end use(s) recommendations and industrial sector specific solutions:** Not available

### 8 Exposure controls and personal protection

- **Control parameters**

Exposure limit values:			
INGREDIENT NAME	OSHA PEL (mg/m3)	ACGIH TLV (mg/m3)	TRGS 900 AGM TWA (mg/m3)
Titanium	NE	NE	NE
Aluminum	1	1	3
Vanadium	NE	NE	NE

OSHA: Occupational Safety and Health Administration

PEL: Permissible Exposure Limit

ACGIH: American Conference of Governmental Industrial Hygienists

TLV: Threshold Limit Value

TRGS 900: Technische Regel Gefahrstoffe 900- Germany

AGW: Workplace exposure limit

TWA: Time-weighted average

NE: Not Established

- **Exposure Controls**



- **Occupational exposure controls:**  
Install and operate general and/or local exhaust ventilation systems of sufficient power to maintain airborne concentration below the defined or recommended limit.
- **Respiratory protection:**  
Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the material, and the safe working limits of the selected respirator.
- **Hand protection:**  
Non-static gloves when skin abrasion is possible. For hygienic reasons, rubber gloves should not be worn more than 2 hours.
- **Eye protection:**  
Safety glasses with side shields or goggles when potential exposure exists.
- **Skin protection:**  
Wear fire-resistant clothing when handling materials.

### 9 Physial and chemical properties

Appearance:	Solid metallic powder, grey
Odour:	None
Melting point:	1605-1660 °C
Explosive properties:	Dust clouds may form explosive mixtures with air.
Relative density:	4.43 (H <sub>2</sub> O=1)
Water solubility:	Insoluble.
Flammability:	Flammable solid
Oxidising properties:	Not expected.

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### 10 Stability and reactivity

- **Reaktivität:** No specific test data related to reactivity available for this product.
- **Chemical Stability:** This product is stable under normal storage conditions.
- **Possibility of hazardous reactions:** Under normal conditions of storage and use, hazardous reactions will not occur
- **Conditions to be avoided:** Static electricity, heat or ignition source, formation of dust cloud.
- **Materials to be avoided:** Combustible materials, acid, oxidizing agents, halogenated hydrocarbons.
- **Hazardous decomposition products:** None

### 11 Toxicological information

- **Toxicological Information**  
No scientific evidence was found of a health hazard from the inhalation of titanium powder in concentration of air that does not exceed 10 mg/m<sup>3</sup> total dust containing less than 1% quartz. The toxicity of titanium has been found to be relatively inert. Skin contact with titanium powders may cause physical abrasion. Eye contact has shown particulate irritation. This product is not considered carcinogenic, mutagenic, or teratogenic.

### 12 Ecological information

No known significant effects or critical hazards for this product. The individual elements might have some degree of ecotoxicity not reported here.

- **Toxicity:** No data available
- **Persistence and degradability:** No data available
- **Bioaccumulative potential:** No data available
- **Mobility in soil:** No data available
- **Results of PBT and vPvB assessment:** Not applicable
- **Other adverse effects:** No data available

### 13 Disposal considerations

- **Waste Management:** Waste product should be disposed of via a licensed operator or may be sent to a metals reclamation facility that is able to handle fines. Contaminated packing should be disposed of according to local authority guidelines.
- **Disposal Methods:** Dispose of waste and residues in accordance with local authority requirements.

### 14 Transport information

- **Land transport ADR/RID and GGVS/GGVE (cross-border/domestic):**



ADR/RID-GGVS/E-class:	4.1
UN-No.:	3089
Packaging group:	II
Hazard label:	4.1
Description of goods:	INFLAMMABLE METAL POWDER
Tunnel restriction code:	E

- **Maritime transport IMDG/GGV:**

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IMDG/GGVSee-class:	4.1
UN-Number:	UN 3089
Label:	4.1
Packaging group:	II
EMS-Nummer:	F-G,S-G
Technical name:	INFLAMMABLE METAL POWDER

- Air transport ICAO-TI and IATA-DGR:**



ICAO/IATA-class:	4.1
UN/ID-Number:	3089
Label:	4.1
Packaging group:	II
Technical name:	INFLAMMABLE METAL POWDER
Remarks:	Flammable solids, self-reactive substances and solid desensitised explosives

## 15 Regulations

- Safety, health and environmental regulations/legislation specific for the substance or mixture**  
According to the national legislation.
- Chemical Safety Assessment**  
This product contains substances for which Chemical Safety Assessments are still required.

## 16 Other information

The information and recommendations set forth herein are presented in good faith and believed to be correct as of the date hereof. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.