

**Trade name:** Titanium and titanium alloys

**Current version :** 2.0.0, issued: 28.01.2014

**Replaced version:** 1.0.0, issued: 10.05.2012

**Region:** GB

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Trade name**

**Titanium and titanium alloys**

**Titan Grade 2 (REF: 50008)**

**BEGO Titan Grade 4**

**BEGO Titan Grade 5**

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Relevant identified uses of the substance or mixture**

Manufacturing of dental prosthesis in a dental laboratory

### 1.3 Details of the supplier of the safety data sheet

**Address**

BEGO Bremer Goldschlägerei  
Wilh. Herbst GmbH & Co. KG  
Wilhelm-Herbst-Str. 1  
28359 Bremen

Telephone no. +49/ 421/ 2028 – 0  
Fax no. +49/ 421/ 2028 – 115  
Email msds@bego.com

**Information provided by / telephone**

Research & Development Department - Materials, alloys and ceramics; +49/ 421/ 2028 – 130 (Chief Development Officer alloys)

**Advice on Safety Data Sheet**

msds@bego.com

### 1.4 Emergency telephone number

For medical advice (in German and English):  
+49/ 551/ 192 40 (Giftinformationszentrum Nord)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Classification information**

This product does not meet the classification and labelling criteria given in the Regulation (EC) No 1272/2008 (CLP).

This product does not meet the classification and labelling criteria given in the Dangerous Preparations Directive (1999/45/EC; DPD)

### 2.2 Label elements

Not relevant

**Labelling information**

In the form in which it is marketed, the product causes no danger to health for humans through inhalation, swallowing or contact with the skin. There is therefore no obligation to label the product in accordance with:

- regulation 1272/2008 (CLP: annex I; 1.3.4.: "Metals in massive form, alloys, mixtures containing polymers, mixtures containing elastomers).

### 2.3 Other hazards

If the product form in the as-supplied state is changed through further processing (e.g. through grinding, polishing, electrical discharge machining, welding or melting) and dust or vapours are produced, there may be danger from hazardous components in the product (see information in chapter 3).

**PBT assessment**

No data available.

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vPvB assessment  
No data available.

### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

Not applicable. The product is not a substance.

#### 3.2 Mixtures

##### Hazardous ingredients

No	Substance name			Additional information	
	CAS / EC / Index / REACH no	Classification 67/548/EEC	Classification (EC) 1272/2008 (CLP)	Concentration	%
1	Aluminium massive				
	7429-90-5 231-072-3 - -	-	-	> 5.00 - < 10.00	%-b.w.

Full Text for all R-phrases , H-phrases and EUH-phrases: pls. see section 16

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

##### General information

In case of allergic symptoms, especially respiratory tract related, seek medical help immediately.

##### After inhalation

Ensure supply of fresh air. Remove affected person from the immediate area. When vapours are intensively inhaled, seek medical help immediately.

##### After skin contact

Wash off immediately with soap and water.

##### After eye contact

Remove contact lenses, irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart and seek medical advice.

##### After ingestion

Call a doctor immediately.

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

No data available.

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

No data available.

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

##### Suitable extinguishing media

Metal fire powders; Sand

##### Unsuitable extinguishing media

Water; Foam; Carbon dioxide; Dry chemicals

#### 5.2 Special hazards arising from the substance or mixture

No data available.

#### 5.3 Advice for firefighters

Use self-contained breathing apparatus. Adapt extinguisher and fire-fighting measures to fire in the environment. Wear protective clothing.

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**SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel**

Ensure adequate ventilation. Do not inhale vapours. Avoid dust formation. Refer to protective measures listed in sections 7 and 8.

**For emergency responders**

No data available. Personal protective equipment (PPE) - see Section 8.

**6.2 Environmental precautions**

Collect contaminated water / firefighting water separately. Do not discharge into the drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

**6.3 Methods and material for containment and cleaning up**

Take up mechanically. Avoid raising dust. When picked up, treat material as prescribed under heading "Disposal considerations".

**6.4 Reference to other sections**

No data available.

**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

**Advice on safe handling**

Provide good ventilation of working area (local exhaust ventilation, if necessary).

**General protective and hygiene measures**

Wash hands before breaks and after work. Do not eat, drink or smoke during work time. Remove soiled or soaked clothing immediately. Keep away from foodstuffs and beverages. Do not inhale vapours or dust.

**Advice on protection against fire and explosion**

Dust can form an explosive mixture with air. Take precautionary measures against static charges. Keep away from sources of ignition.

**7.2 Conditions for safe storage, including any incompatibilities**

**Technical measures and storage conditions**

Keep container tightly closed in a well-ventilated place.

**Requirements for storage rooms and vessels**

No special measures required.

**Advice on storage assembly**

Do not store together with: explosive substances

**7.3 Specific end use(s)**

No data available.

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

**Occupational exposure limit values**

No	Substance name	CAS no.	EC no.
1	Aluminium massive	7429-90-5	231-072-3
<b>List of approved workplace exposure limits (WELs) / EH40</b>			
	Aluminium metal		
	inhalable dust		
	TWA	10	mg/m <sup>3</sup>

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## 8.2 Exposure controls

### Appropriate engineering controls

No data available.

### Personal protective equipment

#### Respiratory protection

If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. In case of dust formation, take appropriate measures for breathing protection in the event workplace threshold values are not specified.

#### Eye / face protection

Safety glasses with side protection shield (EN 166)

#### Hand protection

In case of thermal processing, thermally insulating protective gloves are to be used. Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

#### Other

Normal chemical work clothing.

### Environmental exposure controls

No data available.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

<b>Form/Colour</b>	
solid	
white	
<b>Odour</b>	
odourless	
<b>Odour threshold</b>	
No data available	
<b>pH value</b>	
No data available	
<b>Boiling point / boiling range</b>	
No data available	
<b>Melting point / melting range</b>	
Value	1668 °C
Reference substance	PHRASE FEHLT!

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**Decomposition point / decomposition range**

No data available

**Flash point**

No data available

**Auto-ignition temperature**

No data available

**Oxidising properties**

No data available

**Explosive properties**

No data available

**Flammability (solid, gas)**

No data available

**Lower flammability or explosive limits**

No data available

**Upper flammability or explosive limits**

No data available

**Vapour pressure**

No data available

**Vapour density**

No data available

**Evaporation rate**

No data available

**Relative density**

No data available

**Density**

No data available

**Solubility in water**

Remarks	insoluble
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**Solubility(ies)**

No data available

**Partition coefficient: n-octanol/water**

No data available

**Viscosity**

No data available

**9.2 Other information****Other information**

No data available.

**SECTION 10: Stability and reactivity****10.1 Reactivity**

Dangerous reactions are not expected when handling the product according to its intended use.

**10.2 Chemical stability**

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

**10.3 Possibility of hazardous reactions**

Possible hydrogen formation upon contact with acids.

**10.4 Conditions to avoid**

None, if handled according to order.

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## 10.5 Incompatible materials

Acids

## 10.6 Hazardous decomposition products

No hazardous decomposition products known.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

<b>Acute oral toxicity</b>
No data available
<b>Acute dermal toxicity</b>
No data available
<b>Acute inhalational toxicity</b>
No data available
<b>Skin corrosion/irritation</b>
No data available
<b>Serious eye damage/irritation</b>
No data available
<b>Respiratory or skin sensitisation</b>
No data available
<b>Germ cell mutagenicity</b>
No data available
<b>Reproduction toxicity</b>
No data available
<b>Carcinogenicity</b>
No data available
<b>STOT-single exposure</b>
No data available
<b>STOT-repeated exposure</b>
No data available
<b>Aspiration hazard</b>
No data available
<b>Delayed and immediate effects as well as chronic effects from short and long-term exposure</b>
Inhalation of vapours in high concentration may cause metal fume fever and may cause damage of the central nervous system in case of repeated and prolonged exposure. Repeated and prolonged exposure to high dust concentrations may lead to irritation of the respiratory tract. Inhalation of metal-containing dusts may cause acute poisoning, leading to nausea, vomiting and abdominal pain.

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## SECTION 12: Ecological information

### 12.1 Toxicity

<b>Toxicity to fish (acute)</b>
No data available
<b>Toxicity to fish (chronic)</b>
No data available
<b>Toxicity to Daphnia (acute)</b>
No data available
<b>Toxicity to Daphnia (chronic)</b>
No data available
<b>Toxicity to algae (acute)</b>
No data available
<b>Toxicity to algae (chronic)</b>
No data available
<b>Bacteria toxicity</b>
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

<b>Results of PBT and vPvB assessment</b>	
PBT assessment	No data available.
vPvB assessment	No data available.

### 12.6 Other adverse effects

No data available.

### 12.7 Other information

<b>Other information</b>
Do not discharge product unmonitored into the environment.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

#### Packaging

Residuals must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

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## SECTION 14: Transport information

### 14.1 Transport ADR/RID/ADN

The product is not subject to ADR/RID/ADN regulations.

### 14.2 Transport IMDG

The product is not subject to IMDG regulations.

### 14.3 Transport ICAO-TI / IATA

The product is not subject to ICAO-TI / IATA regulations.

### 14.4 Other information

No data available.

### 14.5 Environmental hazards

Information on environmental hazards, if relevant, please see 14.1 - 14.3.

### 14.6 Special precautions for user

No data available.

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

## SECTION 15: Regulatory information

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

#### EU regulations

#### Restriction of occupation

Adhere to the national sanitary and occupational safety regulations when using this product.

#### Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances

Remarks Annex I, part 1 + 2: not mentioned. With regard to possibly appropriate decomposition products see Chapter 10.

### 15.2 Chemical safety assessment

No data available.

## SECTION 16: Other information

#### Sources of key data used to compile the data sheet:

EC Directive 67/548/EC resp. 1999/45/EC as amended in each case.

Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.

EC Directives 2000/39/EC, 2006/15/EC, 2009/161/EU

National Threshold Limit Values of the corresponding countries as amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding chapter.

#### Department issuing safety data sheet

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This information is based on our present state of knowledge and experience.

The security data sheet describes products with a view to the security requirements.

However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.

Alterations/supplements:

Alterations to the previous edition are marked in the left-hand margin.