

## Zirconia Dental Ceramics

# Safety data sheet

### 1. Denomination of substance / preparation and company name

Denomination of substance / preparation and company name	
Produkt name	CADtools Zirconia Dental Ceramics
Use of the substance / mixture	Medical technology
Details of the supplier who provides the safety data sheet	MINDFAB GmbH
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Emergency information	Giftnotruf der Charité Universitätsmedizin Berlin
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### 2. Composition / information on the ingredients

Chemical name	Molecular formula	CAS-number	EINECS-Number	Concentration
Zirconium dioxide	ZrO <sub>2</sub>	1314-23-4	215-227-2	99 %
Hafnium oxide	HfO <sub>2</sub>	12055-23-1	235-013-2	
Yttrium oxide	Y <sub>2</sub> O <sub>3</sub>	1314-36-9	215-233-5	
Aluminium oxide	Al <sub>2</sub> O <sub>3</sub>	1344-28-1	215-691-6	0,5 %
Other oxide	-	-	-	0,5 %

### 3. Possible dangers

No classification

#### 4. First aid measures

First aid measures	
After inhalation	Get some fresh air and seek medical advice if the respiratory tract is irritated.
After skin contact	Clean thoroughly with warm water and soap. Get medical advice in case of skin irritation.
After eye contact	Rinse carefully and thoroughly with the eye shower or with cold, clean water, if necessary consult an ophthalmologist.
After ingestion	Rinse out your mouth immediately and then drink plenty of water.

#### 5. Fire-fighting measures

Maßnahmen zur Brandbekämpfung	
Suitable extinguishing media	Coordinate fire fighting measures to the environment.
Unsuitable extinguishing media	not known.
Particular dangers in fire fighting	not known.
Special protective equipment for fire fighters	In case of fire, use respirator mask that is independent from outside air.
Further information	Do not allow extinguishing water to enter surface water or the groundwater system.

#### 6. Accidental release measure

##### **Personal protective measures:**

Use personal protective equipment and avoid dust formation.

##### **Environmental protection measures:**

Do not allow to enter surface water or sewage system.

##### **Methods for cleaning up / taking up:**

Pick up mechanically and dispose of in suitable containers.

## 7. Handling and storage

### Handling:

This product must only be handled by trained personnel. Care must be taken. Care must be taken.

- to avoid the formation and deposition of dust.
- to ensure that the workplace limit values (OEL) and / or other limit values are observed.
- to ensure that there is adequate ventilation and suitable extraction systems.
- to prevent any contact with moisture.

### Storage:

It is important to ensure that the blanks

- are not soiled.
- re stored in the original packaging, dry between 10 °C and 40 °C.
- the product is not exposed to impacts or strong vibrations.

### Specific use:

See instructions for use.

## 8. Exposure controls and personal protective equipment

### Control parameters

Control parameters:	1314-23-4
Zirconia CAS number:	TRGS 900
Basis:	1 mg / m <sup>3</sup>
Limit values:	1 (I)
Overshoot factor:	DFG (German Research Foundation): Senate commission for the testing of harmful substances of the DFG (MAK commission). The occupational exposure limit relates to the element content of the corresponding metal. Skin and respiratory sensitizing substance.

### Limitation and monitoring of exposure

Eye protection:	Safety goggles
Respiratory protection:	Respiratory protection with particle filter EN 143-P2 or P3.
Skin protection:	Chemical protection gloves made of butyl rubber or nitrile rubber of category III according to EN 374.
Body protection:	Protective suit
Technical protection:	The dust must be vacuumed off immediately at the point of origin.

## 9. Physical and chemical properties

Physical and chemical properties	
Appearance	industrially manufactured solid
Colour	white or tooth-colored
Odor	Odorless
Melting temperature	2700 °C
Boiling temperature	5000 °C
Self-ignition	Not self-igniting.
Explosion limits	No data available.
Relativ density	5,9 ( water = 1 )
Vapor density	No data available.
Water solubility	insoluble
PH value	No data available.

## 10. Stabilität und Reaktivität

Stabilität und Reaktivität	
Reaktivität	No particular dangers to mention.
Chemical stability	Stable under normal conditions
Possibility of hazardous reactions	not known
Conditions to be avoided	not known
Substances to be avoide	not known
Hazardous decomposition products	not known

## 11. Toxicological information

Information on toxicology is not available.

## 12. Information on ecology

Information on ecology	
Ecotoxicity	If handled and used properly, no ecological problems are to be expected.
Mobility	not applicabl
Persistence and degradability	not applicable
Bioaccumulative potential	not known
Other harmful effects	not known

### 13. Disposal considerations

**Product:**

In accordance with local and national legal requirements.  
 According to the European Waste Catalog (EAK), waste code numbers are not product-related but application-related. Waste codes should be issued by the consumer, if possible in consultation with the waste disposal authorities.

**Packaging:**

Uncontaminated, cleaned packaging can be recycled.

### 14. Transport information

Transport information	
UN proper shipping name	not verifiable
UN number	not verifiable
Packing group	not verifiable
Marine pollutants	not verifiable
Special provisions for transport	not known

### 15. Disclaimer

The information in this safety data sheet corresponds to the best of our knowledge at the time of revision. The information is intended to provide you with guidelines for the safe handling of the product named in this safety data sheet for storage, processing, transport and disposal. The details are not transferable to other products. Insofar as the product named in this safety data sheet is blended, mixed or processed with other materials, or is subject to processing, the information in this safety data sheet cannot be transferred to the new material produced in this way, unless otherwise expressly stated.