

# EC Safety Data Sheet

Version from 01.02.2007

## 1. Identification of the substance/preparation and of the company/undertaking

### 1.1 Identification of the substance or preparation

Blanks

### 1.2 Use of the substance/preparation

Blanks made from zirconium oxide are ceramic blanks for the production of crown and bridge frameworks.

### 1.3 Company/undertaking identification

CeramTec AG  
Innovative Ceramic Engineering  
Fabrikstr. 23-29  
73207 Plochingen  
Germany  
**Contact information: MA-Q**

## 2. Composition/information on ingredients

Synonyms	CAS No.	EINECS No.	WT%	Empirical formula
<b>Zirconium oxide</b> (+Hafnium oxide +Yttrium oxide)	1314-23-4	215-222-7	> 99%	ZrO <sub>2</sub> /HfO <sub>2</sub> /Y <sub>2</sub> O <sub>3</sub>
<b>Yttrium oxide</b>	1314-36-9	215-233-5	4,5 – 5,4%	Y <sub>2</sub> O <sub>3</sub>
<b>Hafnium oxide</b>	12055-23-1	235-013-2	< 5%	HfO <sub>2</sub>
<b>Aluminum oxide</b>	1344-28-1	215-691-6	< 0,5	Al <sub>2</sub> O <sub>3</sub>
<b>Other oxides</b>	-	-	< 0,5	-

## 3. Hazards identification

### 3.1 Classification

According to our knowledge the product does not contain any harmful ingredients. Inhalation of zirconium oxide dust should, however, be avoided.

### 3.2 Additional hazards

Direct contact with swarf can cause irritation to the eyes and skin.

## 4. First aid measures

Reason	Action
<b>Inhalation</b>	Provide for supply of fresh air.
<b>Skin contact</b>	For contact with swarf: wash well with warm water and soap.
<b>Eye contact</b>	Immediately flush with large amounts of clean, cold water. Call a doctor if irritation is prolonged.
<b>Ingestion</b>	No special measures known; consult a doctor if discomfort is experienced.

## 5. Fire-fighting measures

Indication	Notice
<b>Suitable extinguishing media</b>	Fire extinguishing measures should suit the environment.
<b>Unsuitable extinguishing media</b>	None known
<b>Special hazards</b>	None known
<b>Special protective equipment</b>	No special measures required.

## 6. Accidental release measures

### 6.1 Personal precautions

Not required.

### 6.2 Environmental measures

Collect mechanically. Transfer to a suitable container for disposal.

### 6.3 Methods for cleaning up

Special methods not required.

## 7. Handling and storage

### 7.1 Handling

This product may be used by trained personnel only.

Attention should be paid that

- dust production and dust deposits are avoided
- all contact with moisture (e.g. wet hands) is avoided
- sufficient ventilation and suitable exhaust is provided.

### 7.2 Storage

Attention should be paid that the blanks

- are stored in the original packaging
- are not subjected to impact or severely shaken
- do not come into contact with liquids
- do not become contaminated
- are stored between 5°C and 50°C.

### 7.3 Specific application(s)

Consult the instructions for use.

## 8. Exposure controls/personal protection

### 8.1 Exposure limit values

Not applicable when used as intended.

### 8.2 Exposure controls

Not applicable when used as intended.

#### 8.2.1 Personal protective equipment

Protection	Description
<b>Respiratory protection</b>	It is recommended that respiratory equipment be worn during grinding work.
<b>Hand protection</b>	Not required
<b>Eye protection</b>	Wear safety glasses during grinding work.
<b>Body protection</b>	Not required

#### 8.2.2 Environmental exposure controls

Not required.

## 9. Physical and chemical properties

### 9.1 General information

Description	
<b>Appearance</b>	Appearance
<b>Odor</b>	Odor

## 9.2 Important health, safety and environmental information

Description	
pH value	not applicable
Boiling point	not applicable
Flash point	not applicable
Flammability	not applicable
Explosive properties	not applicable
Oxidizing properties	not applicable
Vapor pressure	not applicable
Relative density	> 2.8 g/cm <sup>3</sup>
Solubility	insoluble in water
Partition coefficient	not applicable
Viscosity	not applicable
Vapor density	not applicable
Evaporation rate	not applicable

## 10. Stability and reactivity

### 10.1 Conditions to avoid

None known.

### 10.2 Materials to avoid

not applicable.

### 10.3 Hazardous decomposition products

No dangerous reactions known.

## 11. Toxicological information

### 11.1 Verification of toxicological actions

3Y-TZP (tetragonal zirconia polycrystal, stabilized yttrium oxide) is not potentially toxic to cells, causes no allergization and is biocompatible.

### 11.2 Practical experience

Inhalation of dusts can lead to irritation of the respiratory tract.  
Irritations to the eyes are possible through mechanical exposure (dust).

## 12. Ecological information

### 12.1 Ecotoxicity

No ecological problems are expected when handled and used as intended.

### 12.2 Mobility

not applicable.

### 12.3 Persistence and degradability

not applicable.

### 12.4 Bioaccumulative potential

None known.

### 12.5 Other adverse effects

None known.

### 13. Disposal considerations

#### 13.1 Product

Transfer residual material for disposal in compliance of local and official regulations.  
European Waste Catalogue: 06 04 01 Metal oxides/ metalliferous waste

### 14. Transport information

Information	Description
UN Number:	Unallocated
Class	Unallocated
Proper Shipping Name	Unallocated
Packing Group	Unallocated
Marine Pollutant	Unallocated
Other relevant information	No special precautions required for transport

Indication: Breakable product – use sturdy packaging with soft padding.

### 15. Regulatory information

#### 15.1 Classification

Labeling	Description
Symbols	CE Classification 0297, see instructions for use
R-phrases:	none
S-phrases:	S 22 Do not inhale dust S 25 Avoid contact with eyes.
Special labeling	Charge number/ No. inspection certificate

#### 15.2 National regulations

Regulation	Description
Indication on employment limitation	<input type="checkbox"/> applicable
	<input checked="" type="checkbox"/> not applicable
Incident Reg	<input type="checkbox"/> applicable
	<input checked="" type="checkbox"/> not applicable
Classification according to German Safety Reg: Technical Instructions Air	<input type="checkbox"/> applicable
	<input checked="" type="checkbox"/> not applicable
Water hazard class	<input type="checkbox"/> applicable
	<input checked="" type="checkbox"/> not applicable
Indications to Directive 1999/13/EG on the Emission Limitation on Volatile Organic Compounds (VOC Directive)	<input type="checkbox"/> applicable
	<input checked="" type="checkbox"/> not applicable
Other regulations	<input type="checkbox"/> applicable
	<input checked="" type="checkbox"/> not applicable
Limitations and prohibitory regulations	<input type="checkbox"/> applicable
	<input checked="" type="checkbox"/> not applicable

### 16. Other information

The information given here is based on the present state of knowledge and experience. The Safety Data Sheet describes products with regard to the appropriate safety precautions. The information does not guarantee the properties of a product and does not constitute a contractual relationship.