

Trade name:

**Z-CAD®**

Revised: 18/04/2017

Created: RoHe/BeSe

Printed: 18/04/2017

**SECTION 1: Identification of the substance and of the company/undertaking**

1.1 Product identifier / trade name:

**Z-CAD® SIL**

**Z-CAD® HD**

**Z-CAD® FTL**

**Z-CAD® HTL**

**Z-CAD® HTL Multi**

**Z-CAD® One4All**

**Z-CAD® smile**

**Z-CAD® smile Multi**

1.2 Relevant identified uses of the substance:

Use of substance: Auxiliary material in dental technology, ceramic blanks for dental prosthetic restorations. The above named oxide ceramic materials can be machined with CAM, CAD, CAM/CAD or copy milling systems commonly used in dental medical technology to produce dental-prosthetic frames made from zirconium oxide and aluminium oxide.

These oxide substances offer excellent properties as regards bio-compatibility, stability and aesthetics, which make them the materials of choice for the production of frames for dental crown and bridge frames.

1.3 Details of the supplier of the safety data sheet:

Manufacturer / supplier:

METOXIT AG  
Emdwiesenstrasse 6  
CH-8240 Thayngen  
Phone +41 (0) 52 645 01 01  
Fax +41 (0) 52 645 01 00  
[www.metoxit.com](http://www.metoxit.com)  
E-mail: [info@metoxit.com](mailto:info@metoxit.com)

1.4 Emergency telephone number: METOXIT AG, phone +41 (0) 52 645 01 01

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**SECTION 2: Hazard identification**

- 2.1 Classification of the substance or mixture:  
Not classified according to Regulation (EC) No. 1272/2008 (CLP)  
The product is not classified according to the CLP regulation.
- 2.2 Label elements:  
Labelling according to Regulation (EC) No. 1272/2008 (CLP) is not required  
Hazard pictograms not required  
Signal word not required  
Precautionary statements not required
- 2.3. Other hazards:  
Direct contact to grinding dust can cause irritation to the eyes and skin.  
Observe safety instructions for the processing of the substance.

**SECTION 3: Composition / information on ingredients**

- 3.1 Chemical characterisation:

Mixture of		CAS no.:	EC no.:
79 – 97 %	Zirconium oxide	1314 – 23 – 4	215 – 222 – 2
3 – 15 %	Yttrium oxide	1314 – 36 – 9	215 – 233 – 5
< 1 %	Aluminium oxide	1344 – 28 – 1	215 – 691 – 6
< 5 %	Hafnium oxide	12055 – 23 – 1	235 – 013 – 2

- 3.2 Hazardous ingredient:  
The product contains no hazardous ingredients as defined in  
Regulation (EC) No. 1272/2008

**SECTION 4: First aid measures**

- 4.1 After inhalation:  
Remove affected person from the immediate area. In case of irregular breathing or respiratory arrest provide artificial respiration. In case of difficulties in breathing, provide oxygen.
- 4.2 After skin contact with grinding dust:  
Wash thoroughly with warm water and mild soap.
- 4.3 After eye contact:  
Immediately rinse eye thoroughly with water. If irritation persists, consult doctor.
- 4.4 After ingestion:  
If affected person is conscious, rinse mouth with plenty of water. Consult doctor.
- 4.5 General instructions:  
If symptoms persist, consult doctor.
- 4.6 Self-protection of the first-aider:  
Personal protective equipment for first-aiders recommended.

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**SECTION 5: Fire fighting measures**

- 5.1 Extinguishing media:  
Not relevant, as product is not flammable. Product not flammable.
- 5.2 Special hazards arising from substance or mixture:  
Not relevant, as product is not flammable. Product not flammable.
- 5.3 Advice for firefighters:  
Not relevant, as product is not flammable. Product not flammable.

**SECTION 6: Accidental release measures**

- 6.1 Personal precautions, protective equipment and emergency procedures:
  - 6.1.1 For non-emergency personnel:  
Take up mechanically by suitably trained personnel.  
E.g. using vacuum cleaner and suitable container. Dispose of safely as industrial waste.  
Do not dispose of as domestic waste.
- 6.2 Environmental precautions:  
Collect residue in suitable container and dispose of safely as industrial waste.  
Do not dispose of as domestic waste.
- 6.3 Methods and material for containment and cleaning up:
  - 6.3.1 Containment:  
Process only in enclosed system
  - 6.3.2 Cleaning up:  
Clean systems with extractor.
  - 6.3.3 Other information:  
Observe user-specific requirements:
- 6.4 Reference to other sections:  
See Handling and storage, section 7.

**SECTION 7: Handling and storage**

- 7.1 Precautions for safe handling:
  - 7.1.1 The product must only be handled by suitably trained personnel. Instructions for safe handling: Do not inhale dust. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeat exposure.
  - 7.1.2 Processing recommendations:  
Observe instructions for use.  
Allow to cool.  
Prevent dust formation and deposits.  
Ensure adequate ventilation.  
Use appropriate extraction system.  
No dangerous reactions, if handled and stored properly.  
No dangerous reactions known.

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7.1.3 Hygiene measures:

No special hygiene measures for workplace.

7.1.4 Measures to protect the environment:

Collect residue in suitable container and dispose of safely as industrial waste.

Do not dispose of as domestic waste.

7.2 Storage:

7.2.1 Technical measures and storage condition:

Protect product against damage.

7.2.2 Packaging materials:

If possible store product in original packaging.

If repackaging is required, use equivalent packaging material.

7.2.3 Requirements for storage rooms and vessels:

Store in dry storage rooms and containers.

There are no special requirements regarding storage temperature.

No dangerous reactions, if handled and stored properly.

No dangerous reactions known.

7.2.4 Storage class:

Not applicable

7.3 Specific end use(s):

The product must only be used for the purpose specified in section 1.2.

Any other use is prohibited.

Observe instructions for use.

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

8.1 Control parameters:

1314-23-4 Zirconium oxide  
Occupational exposure limit 1 mg/m<sup>3</sup>, breathable, DFG, Sah

1314-36-9 Yttrium oxide  
No occupational exposure limit (TRGS900)

1344-28-1 Aluminium oxide  
Occupational exposure limit  
1.5 mg/m<sup>3</sup>, alveolar  
4 mg/m<sup>3</sup>, breathable, DFG

12055-23-1 Hafnium oxide  
No occupational exposure limit (TRGS900). No data available.

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8.2 Exposure controls:  
Technical measures and appropriate processing methods take precedence over the use of personal protective equipment.

8.2.1 Personal protective equipment:

General protective and hygiene measures

- Respiratory protection: Suitable face mask.
- Hand protection: Protective gloves.
- Eye protection: Safety goggles.

Keep away from foodstuff, beverages and feed.

Before breaks and at end of shift, wash hands.

Avoid contact with skin and eyes.

Do not inhale dust/mist or fumes.

## SECTION 9: Physical and chemical properties

9.1 Physical appearance:

Form: Solid body, in the shape of disks or blocks

Colour: White

Odour: No odour

9.2 Properties:

- pH No data available
- Boiling point/range No data available
- Melting point/range No data available
- Flash point Not flammable
- Flammability Not flammable
- Auto-ignition temperature Not flammable
- Oxidising properties Not flammable
- Explosive properties Not explosive
- Explosion limits Not explosive
- Vapour pressure No data available
- Partition coefficient: n-octanol/water No data available
- Viscosity No data available
- Vapour density No data available
- Saturated vapour concentration No data available
- Evaporation rate No data available
- Decomposition temperature No data available
- Solvent content No data available
- Water content No data available
- Surface density No data available
- Conductivity No data available
- Solubility in water No data available

9.3 Other information: No further relevant information available.

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**SECTION 10: Stability and reactivity**

- 10.1 Reactivity:  
No hazardous reactions are known.
- 10.2 Chemical stability:  
Thermal decomposition / conditions to avoid:  
No decomposition if used according to instructions.
- 10.3 Possibility of hazardous reactions:  
No hazardous reactions are known.
- 10.4 Conditions to avoid:  
No further relevant information available.
- 10.5 Incompatible materials:  
No further relevant information available.
- 10.6 Hazardous decomposition products:  
No further relevant information available.

**SECTION 11: Toxicological information**

- 11.1 Information on toxicological effects:  
Acute toxicity:  
Relevant LD/LC50 values:  

1314-23-4	Zirconium oxide
	Oral LD50 > 5000 mg/kg (rat)
1314-36-9	Yttrium oxide
	Oral LD50 > 5000 mg/kg (rat)
1344-28-1	Aluminium oxide
	Oral LD50 15`900 mg/kg (rat)
12055-23-1	Hafnium oxide
	Oral LD50 >10`000 mg/kg (mouse)

Product is not cytotoxic.  
Product does not cause allergic sensitization.  
Product is biocompatible.  
Inhalation of dust can cause irritation of respiratory tract.  
Eye contact can cause irritation.

**SECTION 12: Ecological information**

- 12.1 Toxicity:  
Aquatic toxicity: No further relevant information available.
- 12.2 Persistence and degradability: No further relevant information available.
- 12.3 Bioaccumulative potential: No further relevant information available.
- 12.4 Mobility in soil: No further relevant information available.
- 12.5 Other ecological information:  
General instructions:  
Collect residue in suitable container and dispose of safely as industrial waste.  
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**SECTION 13: Disposal considerations**

13.1 Waste treatment methods

Comply with all statutory and local regulations.

Do not dispose of as domestic waste.

Collect residue in suitable container and dispose of safely as industrial waste.

**SECTION 14: Transport information**

14.1 UN number:

ADR, ADN, IMDG, IATA n/a

14.2 UN proper shipping name:

ADR, ADN, IMDG, IATA n/a

14.3 Transport hazard classes:

ADR, ADN, IMDG, IATA n/a

14.4 Packing group:

ADR, ADN, IMDG, IATA n/a

14.5 Environmental hazards:

Marine pollutant: No

14.6 Special precautions

for user: n/a

14.7 Transport in bulk according to Annex II  
of Marpol 112 and IBC Code

n/a

UN model regulation: n/a

**SECTION 15: Regulatory information**

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

The relevant national and international regulations apply.

**SECTION 16: Other information**

16.1 General:

The above information and data is based on our present knowledge. It does not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

16.2 Training notes:

The user must arrange for training regarding hazards and safety precautions.  
For the use of the product, follow the recommendations in the use instructions.

16.3 Warranty and liability

Refer to our general sales and delivery terms and conditions.

## EC safety data sheet

according to Regulation (EC) no. 1907/2006, section 31

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### SECTION 17:

#### Abbreviations and acronyms:

ADR:	Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG:	International Maritime Code for Dangerous Goods
IATA:	International Air Transport Association
GHS:	Globally Harmonised System of Classification and Labelling of Chemicals
EINECS:	European Inventory of Existing Commercial Chemical Substances
ELINCS:	European List of Notified Chemical Substances
CAS:	Chemical Abstracts Service (division of the American Chemical Society)
PBT:	Persistent, Bioaccumulative and Toxic
SVHC:	Substances of Very High Concern
vPvB:	very Persistent and very Bioaccumulative

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