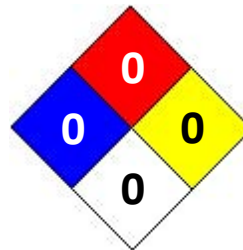


zDent Dental Zirconia Blanks

This MSDS covers dental zirconia blanks marketed under the zDent brand for use by dental laboratories to create copings and frameworks for crowns and bridges.

HMIS RATING

HEALTH	0
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	0

NFPA CODES

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name:	zDent™Dental Zirconia blanks
Product Use Description:	Medical applications
Chemical Nature:	Preparation
Company:	Dental Laboratory Milling Supplies 14201 N 87th St #A-105 Scottsdale AZ 85260
Telephone:	(480) 948-0466 (866) 512-DLMS (3567)
E-mail address:	info@zdent.com

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Form:	disc
Color:	white
Odor:	odorless

CAUTION! May cause mechanical irritation to the eyes, skin and respiratory tract.



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Potential Health Effects

See Section 11 for more information

Primary Routes of Entry:	Inhalation. Skin contact. Eye contact. Ingestion.
Eyes:	May cause mechanical irritation to eyes.
Skin:	May cause mechanical irritation to the skin.
Ingestion:	None known.
Inhalation:	May cause mechanical irritation to the respiratory tract.
Chronic Exposure:	None known.
Carcinogenicity:	Components CAS-No. Classification
IARC:	none
NTP:	none
OSHA:	none

Under normal conditions of use, this product meets the definition of an OSHA and TSCA Article and is nonhazardous. However, if this product is ground or otherwise processed, potentially those ingredients mentioned in Section 3 could be generated.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

Component	CAS-No.	Weight %
Zirconium oxide (ZrO ₂)	1314-23-4	88 - 96
Hafnium oxide (HfO ₂)	12055-23-1	1 – 5
Yttrium oxide (Y ₂ O ₃)	1314-36-9	4 – 6

SECTION 4. FIRST AID MEASURES

First aid procedures

Inhalation:	If inhaled, remove to fresh air.
Skin contact:	In case of skin contact, wash affected areas with soap and water.
Eye contact:	In case of contact, flush eyes with plenty of lukewarm water. Get medical attention if irritation develops or persists.
Ingestion:	Call a physician immediately.

SECTION 5. FIRE-FIGHTING MEASURES

Fire fighting

- Suitable extinguishing media:** Extinguishing methods depends upon fire in vicinity poses.
The product itself does not burn.
- Unsuitable extinguishing media:** None known.
- Further information:** Prevent fire extinguishing water from contaminating surface water or the ground water system.

Protective equipment and precautions for firefighters

Specific hazards during fire

fighting: None known.

Special protective equipment

for fire-fighters: In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions:** If dust is generated, use appropriate respiratory protection.
Avoid generation of dust.
- Environmental precautions:** Keep from entering water or ground water.
Collect wash water for approved disposal.
- Methods for cleaning up:** Vacuum or sweep up material and place in appropriate container.
After removal, flush contaminated area thoroughly with water.

SECTION 7. HANDLING AND STORAGE

Handling

Handling: Avoid contact with moisture or water.
Reseal containers immediately after use.
Vent storage bins, conveyors, dust collectors, ground handling equipment.

Advice on protection against

fire and explosion: No special precautions required.

Storage

Requirements for storage

areas and containers: Keep container closed when not in use.
Label precautions also apply to this container when empty.
Do not reuse empty container.
Recondition or dispose of empty container in accordance with government regulations.

Further information on

storage conditions: Store in tightly closed containers in a dry place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limit Values

Zirconium and compounds, as Zr; CAS-No.: 1314-23-4

Basis	Threshold limits		Note
OSHA PEL	5 mg/m ³		TWA
ACGIH TLV	5 mg/m ³		TWA
	10 mg/m ³		STEL

Hafnium and compounds, as Hf; CAS-No.: 12055-23-1

Basis	Threshold limits		Note
OSHA PEL			No limit value established.
ACGIH TLV	0.5 mg/m ³		TWA

Yttrium and compounds, as Y; CAS-No.: 1314-36-9

Basis	Threshold limits		Note
OSHA PEL			TWA No limit value established.
ACGIH TLV	1 mg/m ³		

Personal protective equipment

- Respiratory protection:** Avoid breathing dust, vapors or mist. Work ambient concentrations should be monitored and if the recommended exposure limit is exceeded, a NIOSH/MSHA approved respirator should be worn.
- Hand protection:** Glove material: Butyl-rubber, Natural rubber, Nitrile rubber
The data about break through time/strength of material is not valid for undissolved solids/dust.
- Eye protection:** Avoid contact with eyes.
- Hygiene measures:** Wash thoroughly after handling. Store away from food and beverages.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

- Form:** disc
- Color:** white
- Odor:** odorless

Safety data

pH:	no data available
Change in physical state:	Note: no data available
Burning number:	1 Method: VDI 2263
Flammability (solid, gas):	not highly flammable Method: Directive 67/548/EEC Annex V, A.10.
Flammability (contact with water):	not highly flammable Method: Directive 67/548/EEC Annex V, A.12.
Dust explosibility:	no data available

Explosion limits

Lower explosion limit:	no data available
Autoignition temperature:	not auto-flammable Method: Directive 67/548/EEC Annex V, A.16.
Density:	no data available

Solubility

Water solubility:	slightly soluble
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SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid:	None known.
Materials to avoid:	None known.
Thermal decomposition:	not applicable
Hazardous decomposition products:	not applicable

SECTION 11. TOXICOLOGICAL INFORMATION

For risk assessment data of relevant ingredients:

Acute oral toxicity

Yttrium oxide:	LD50 rat > 5,000 mg/kg Method: No information available.
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Skin irritation

Yttrium oxide:	No skin irritation, rabbit Method: No information available.
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Eye irritation

Yttrium oxide:	Mild eye irritation Method: No information available.
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SECTION 12. ECOLOGICAL INFORMATION

No information on ecology is available.

SECTION 13. DISPOSAL CONSIDERATIONS

Product: Disposal should be in accordance with applicable state, federal and local laws and regulations. Local regulations may be more stringent than state or federal requirements.

SECTION 14. TRANSPORT INFORMATION

DOT: Not dangerous goods
Reportable Quantity (regulated by PHMSA/DOT): none

TDG: Not dangerous goods

Air transport ICAO-TI/IATA-DGR: Not dangerous goods

Sea transport IMDG: Not dangerous goods

SECTION 15. REGULATORY INFORMATION

OSHA Hazards: Hazardous

WHMIS Classification: Uncontrolled product according to WHMIS classification criteria.

TSCA: The components of this product are listed on TSCA inventory. TSCA does not apply to this product.

DSL: All components of this product are on the Canadian DSL list.

CERCLA: Components CAS-No. : none

SARA Title III

SARA Section 302 Extremely hazardous Substances: none

SARA Section 311/312 Hazard categories: Delayed Health Hazard

SARA Section 313 Toxic chemicals: none

US State Regulations

Massachusetts Right To Know

Component	CAS-No.
Zirconium oxide (ZrO ₂)	1314-23-4
Yttrium oxide (Y ₂ O ₃)	1314-36-9

Pennsylvania Right To Know

Components / CAS-No: none



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New Jersey Right To Know

Components / CAS-No: none

Rhode Island Right To Know

Component	CAS-No.
Zirconium oxide (ZrO ₂)	1314-23-4
Yttrium oxide (Y ₂ O ₃)	1314-36-9

WHMIS Ingredient Disclosure List

Component	CAS-No.	Weight %
Zirconium oxide (ZrO ₂)	1314-23-4	88 - 96
Hafnium oxide (HfO ₂)	12055-23-1	1 – 5
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US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins under California Proposition 65 at levels which would be subject to the proposition.

SECTION 16. OTHER INFORMATION

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

The above details do not imply any guarantee concerning composition, properties or performance.

This version replaces all previous versions.