

Material Safety Data Sheet

HT

1. Identification of the Substance

identification of the substance: Zirconium dioxide
application / preparation: Alien High Translucency Zirconia Blocks
producer / supplier: Alien Milling Technologies
 1345 N. Fitzgerald Ave. Unit F
 Rialto, CA 92376
information of emergency: 844-ZIRCONIA

2. Composition / Information on Ingredients

chem.	pre-sintered, porous ZrO ₂ -Block				
Characterization	Percentage	CAS-Nr.	Symbol	R-Infos	EG-Nr.
Zirconium dioxide (ZrO₂)	88-94%	1314-23-4			215-222-7
Aluminum oxide (Al₂O₃)	0-1%	1344-28-1			215-691-6
Yttrium Oxide (Y₂O₃)	4-6%	1314-36-9			215-233-5
Ferric oxide (Fe₂O₃)	<1%	1309-37-1			215-168-2
Praseodymium oxide (Pr₂O₃)	<1%	12037-29-5			234-857-9
Erbium oxide (Er₂O₃)	<1%	12061-16-4			235-045-7
Other oxide	<0.5%				
Additional notes:	the hazards in chapter 4-8 and 12 do not refer to the product itself but to the dust released by processing.				

3. Hazards Identification

hazard designation for human and environment: n.a
hazardous / non-hazardous preparation: n.a
harmful effects to health and environment on abuse: do not inhale dust
other hazards based on material: none

4. First Aid Measures

general information: no special measures are required
after inhalation: supply fresh air. If irritations occur or persist, consult a physician
after skin contact: rinse thoroughly with warm water and soap
after eye contact: rinse eye for several minutes under running water. If symptoms persist, consult a physician
after swallowing: rinse mouth thoroughly with water. If symptoms persist consult a physician
information for physician: n.a.

5. Fire-Fighting Measures

suitable extinguishing media: n.a.
not suitable extinguishing media: n.a.
hazardous combustion products: n.a.
special protection equipment: n.a.

6. Accidental Release Measures

personal precautions: common use of protective clothing, dust mask and dust extractor device
environmental precautions: do not empty into surface water, ground-water or drain
methods of cleaning: absorb mechanically
additional indication: no special measure is required for material in compact shape

7. Handling and Storage

handling: according to instruction sheet
Industrial hygiene: usual hygiene measures are necessary. When using, do not eat or drink or smoke.
storage: store break-proof and in dry conditions
fire and explosion protection: n.a.

8. Exposure Controls/ Personal Protection

exposure limits: TRGS 900 peak limit (4 mg/cm³), inhalable fraction (5 mg/cm³)
limitation and monitoring to exposure: n.a.
imitation and monitoring to exposure at work station: use suitable dust extractor device at workstation. Avoid contact with skin, mouth, eye and clothes. Do not eat, drink or smoke while you are working. Keep away from food and drinks.
respiratory protection: use respirator if there is not sufficient extractor device. Do not inhale dust.
hand protection: wear protective gloves, wash your hands after finish work, use skin care products
eye protection: wear protective glasses
skin protection: use protective clothes
limitation and monitoring to environmental exposure: n.a.

9. Physical and Chemical Properties

appearance: solid
aggregate state/ odour: white
odourless: odourless
PH: n.a.
boiling point: about 5,500°C
flash point: not flammable
auto-flammability: not self-igniting
explosive properties: n.a.
oxidizing properties: n.a.
vapor pressure: n.a.
relative density: about 3 gr/cm³
solubility water / fat: insoluble in water
partition coefficient: n.a.
viscosity: n.a.
vapor density: n.a.
evaporation rate: n.a.
other data: melting point about 2680°C

10. Stability and Reactivity

conditions to avoid:	n.a.
materials to avoid:	n.a.
hazardous decomposition products:	n.a.

11. Toxicological Information

When used and handled according to the specifications, the product does not have any harmful effects to our experience and the information provided to us. Practical experience has shown that inhalation of dust can irritate respiratory system. Contact with skin can cause mechanical irritations.

12. Ecological Information

If use properly, there are not environmental problems expected. Do not empty into surface water, ground-water or drains.

ecotoxicity:	None
mobility:	n.a.
persistence / degradability:	n.a.
bioaccumulation potential:	n.a.
other adverse effects:	n.a.



n.a. = not applicable

13. Disposal Considerations

Product and packaging should be disposed to official rules and directives

14. Transportation Information

un-number:	n.a.
class:	n.a.
correct identification of goods:	Alien HT
packaging group	n.a.
ocean harmful substances:	n.a.
other relevant information:	no hazardous good

15. Regulatory Information

Subject to classification: This product is no subject to declaration according to EC rules.

16. Other Information

This safety data sheet is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Instruction for Use

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This product should be handled by professional dental technician, sit and adjust by dental specialist and follow doctor's instruction.

Intended use:

Used for dental restoration using different CAD/CAM or manual milling machines. All Blanks are processed through dental laboratories or by dental professionals.

Instruction for use:


1. Fix the zirconia blank in the specific clamping device.
2. Start the milling process.
3. Remove milled crown or bridge from blank and pre-trim with diamond disc.
4. Remove the dust from the crown or bridge with air gun.
5. Color the crown or bridge with coloring liquid, final-dry frame under infrared lamp.
6. Load into furnace.
7. Select sintering program and start sintering (see sinter instructions).
8. Remove sintered crown or bridge from furnace after the furnace temp drop to room temperature.
9. Check crown or bridge on working model for sitting and margin fit. Trim with grinder and polisher if required.
10. Clean with brush using water. Do not steam-clean.
11. Choose glaze to finish the restoration.
12. Now the restoration is ready for the try-in.

Note:

The product shall be used only by trained personnel. The manufacturer is not liable for any erroneous results, since we have no control if this instruction is properly followed or if the product is appropriately used. Any claims for damages therefore shall be limited exclusively to the commercial value of our products.


please make sure that the dentist has received all of the necessary information for the correct use of the product.

 **Caution:** Federal Law restricts this device to sale by or on the order of a dentist.

 **Medical Device Adverse Event:** So far there is no medical device adverse event on this product.

Safety instruction:

1. Avoid collision with hard material, avoid squeeze or shaking.
2. Don't apply to patient before the material is fully sintered.
3. This product should only be handled by dental specialist.
4. Wear suitable face mask to prevent fine dust inhalation. Avoid fine dust air pollution by using the air blaster in short bursts only rather than a continuous flow.

 **Disposal:** The material is not hazardous to the environment.

 **Sinter instruction:** Follow the back side of box