

# MATERIAL SAFETY DATA SHEET

## 1. PRODUCT IDENTIFICATION

Product Name: MULTILAYER 1100 One, MULTILAYER 1100 Two, MULTILAYER HYBRID 1  
MULTILAYER HYBRID 2

Chemical Name: Yttria Stabilized Zirconia

Product Use

Intended use: fabrication of zirconia-based crown and bridge frameworks

Limitations on Use: For use only by dental technicians.

Manufacturer/Supplier: DMAX Co., Ltd.

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## 2. HAZARDS IDENTIFICATION

Hazard Description: May be harmful if inhaled or swallowed. May cause eye and skin irritation. May cause respiratory and digestive tract irritation. The toxicological properties of this material have not been fully investigated.

Eye Effects: May cause eye irritation

Skin Effects: May cause skin irritation

Ingestion Effects: May cause irritation of the digestive tract. The toxicological properties of this substance have not been fully investigated. May be harmful if swallowed.

Inhalation Effects: May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated. May be harmful if inhaled.

Physical and Chemical Hazards: Non flammable. Insoluble in water.

## 3. COMPOSITION, INFORMATION ON INGREDIENT

Chemical Name: Yttria Stabilized Zirconia.

Formula/Chemical Structure

Name	content(Wt. %)	CAS.No.
ZrO <sub>2</sub>	83~96	1314-23-4
HfO <sub>2</sub>	<5	12055-23-1
Y <sub>2</sub> O <sub>3</sub>	4~8	1314-36-9
Al <sub>2</sub> O <sub>3</sub>	0.03~0.07	1344-28-1
Other oxides	<0.7	-

**4. FIRST AID MEASURES**

Call a physician.

Eyes: Wash eyes with plenty of water for at least 15 minutes, lifting lids occasionally. Get medical aid.

Skin: Immediately flush skin with water for at least 15 minutes while removing contaminated clothing and shoes. Thoroughly clean clothing and shoes before reuse.

Get medical aid.

Ingestion: Give several glasses of water. Vomiting may occur spontaneously, but do not induce! Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**5. FIRE FIGHTING MEASURES**

Flash Point: Non flammable.

Auto-ignition Temperature: Not flammable.

Fire Extinguishing Media: Non combustible. Use any means suitable for extinguishing surrounding fire.

Fire and Explosion Hazards: Not applicable.

Explosion Sensitivity to Mechanical Shock: Not applicable.

Explosion Sensitivity to Static Discharge: Not applicable.

Fire Fighting Procedures: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and clothing

**6. ACCIDENTAL RELEASE MEASURES**

Personnel Safety Precautions: Wear suitable protective equipment.

How to clean up spills: Sweep up and place in suitable containers for waste disposal.

Disposal: Dispose of in a manner consistent with appropriate state, local or national regulations.

**7. HANDLING and STORAGE**

Safe Handling: Wear suitable protective equipment. Use with adequate ventilation.

Avoid creating dust. Wash thoroughly after handling.

Storage: Store in cool, dry, well-ventilated area and away from acids.

**8. EXPOSURE CONTROLS, PERSONAL PROTECTION**

Engineering Controls: Use adequate mechanical ventilation to keep airborne concentrations below the permissible exposure limits.

Eye/Face Protection: Wear protective eyeglasses or chemical safety goggles.

Hand Protection: Wear appropriate protective gloves to prevent skin exposure.

Body Protection: Wear full body coveralls to prevent skin exposure.

Other/General Protection: Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower.

## **9. PHYSICAL and CHEMICAL PROPERTIES**

Form: Block

Color: White

Odor: None

Change in Condition: Not available.

Melting Point: Not available.

Boiling Point: Not available.

Freezing Point: Not available.

Specific Gravity: 6.08g/cc

Solubility: Insoluble in water

## **10. STABILITY**

Stability: Stable under normal temperature and pressures.

## **11. TOXICOLOGICAL INFORMATION**

LD50/LC50: Not available.

Carcinogenicity: Not available.

Epidemiology: Not available.

Teratogenicity: Not available.

Reproductive Effects: Not available.

Mutagenicity: Not available.

Neurotoxicity: Not available.

## **12. ECOLOGICAL INFORMATION**

Environmental Stability: Not available.

Effect of Material on Plants or Animals: Not available.

Effect of Chemical on Aquatic Life: Not available.

## **13. DISPOSAL CONSIDERATIONS**

Preparing Wastes for Disposal: Waste disposal must be in accordance with appropriate state, local or national regulations.

## **14. TRANSPORTATION INFORMATION**

United States Department of Transportation Regulations: Not regulated as a hazardous material.

Proper Shipping Name: Not applicable.

Hazard Class Number and Description: Not applicable.

Identification Number: Not applicable.

Packing Group: Not applicable.

Shipping Label: Not applicable.

#### **15. REGULATORY INFORMATION**

US FEDERAL

TSCA: Not applicable.

Health & Safety Reporting List: Not applicable.

CERCLA Hazardous Substances and Corresponding RQs: Not applicable.

SARA Section 302 Extremely Hazardous Substances: Not applicable.

SARA Section 313: Not applicable.

Clean Air Act: Not applicable.

#### **16. OTHER INFORMATION**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of stability of this information to ensure proper use and protect the health and safety of employees

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