

# Material Safety Data Sheet

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**Emergency Phone Numbers:**

**CHEMTREC: 800-424-9300**

**POISON CENTER: 800-562-8236**

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## **Section 1:**

### **Product Identification**

**Chemical Name(s) and Synonym(s):** Hafnium Oxide      **Formula:** HfO<sub>2</sub>

**Chemical Family:** Metal Oxide

**Chem. Abstract No:** 12055-23-1

**Cal. Molecular Weight:** 210.49

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## **Section 2:**

### **Ingredients/Summary of Hazards**

<b><u>Ingredient(s)</u></b>	<b><u>CAS #</u></b>	<b><u>%</u></b>	<b><u>TLV</u></b>	<b><u>OSHA PEL</u></b>
Hafnium Oxide	12055-23-1	99%	0.5mg(Hf)/m <sup>3</sup>	0.5mg(Hf)/m <sup>3</sup>

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## **Section 3:**

### **Physical Data**

**Boiling Point (°C):** 5400

**Density (gm/cc):** 9.68 @ 20C

**Vapor Pressure:** 0@20C

**% Volatile by Volume:** non volatile

**Evaporation Rate:** N/A

**Melting Point (°C):** 2758

**Solubility w/ Water:** Insoluble

**Reaction w/ Water:** None

**Appearance/Odor:** Odorless, white powder, pieces and/or tablets.

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## **Section 4:**

### **Fire and Explosion Hazard Data**

**Flashpoint/Method:** N/A

**Auto ignition Temp (°C):** N/A

**Flammability:** Non flammable

**Extinguishing Media:** ( ) Water      ( ) Foam      ( ) Class D Extinguisher

( ) Dry Chemical      ( ) CO<sub>2</sub>      ( ) Other

**Special Fire Fighting Procedures:** Wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing.

**Usual Fire and Explosion Hazards:** None Known

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**Section 5:  
Health Hazard Data**

Toxicity Data: nontoxic  
Route(s) of Entry: Inhalation, Skin, & Ingestion

**Effects of Overexposure (acute and chronic)**

**Inhalation:** May cause irritation to the nose, throat and mucous membranes.  
**Dermal/Eye Contact:** May be irritating.  
**Ingestion:** Considered to be non-toxic due to poor absorption.  
**Medical Conditions generally aggravated by exposure:** None.

**Emergency and First Aid Procedures:**

**Ingestion:** Induce vomiting, contact physician.  
**Inhalation:** Remove to fresh air. Administer oxygen and contact physician.  
**Skin:** Brush material off skin and wash affected area with soap and water.  
**Eyes:** Irrigate with water for 15 minutes.

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**Section 6:  
Reactivity Data**

**Stability:** (x) stable            ( ) unstable  
**Conditions Contributing to instability:** None  
**Incompatibility (materials to avoid):** None  
**Hazardous Decomposition Products:** None  
**Hazardous Polymerization:** Will not occur  
**Conditions to Avoid:** None Known

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**Section 7:  
Spill or Leak Procedures**

**Steps to be taken in case material is released or spilled:** Wearing full protective clothing, isolate the area and insure proper ventilation. Vacuum up spill and place in container for proper disposal.  
**Waste Disposal Method:** In accordance with regulations.

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**Section 8**

**Special Protective Information**

**Respiratory Protection:** (specify type) NIOSH/MSHA approved respirator  
**Protective Gloves:** Recommended  
**Eye Protection:** Safety glasses with side shields  
**Other Protective Equip.** Maintain sink, safety shower and eyewash fountain in work area. Wear full protective clothing at all times.

**Section 9**

**Special Precautions and Transportation Regulations**

**Precautions to be taken in handling and storing:** Store in tightly closed containers in a cool, dry place. Wash hands and face thoroughly after handling and before eating.

**Transportation Requirements: Non hazardous by D.O.T. regulations.**

**DOT Class:**

**UN Number:**

**IMCO Class:**

**Other:**

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**N/D = Do Data Found**

**N/A= Not Applicable**

**Revised: 08/08/05**