



XI'AN FUNCTION MATERIAL GROUP CO., LTD  
Material Safety Data Sheet  
Hafnium Dichloride Oxide Octahydrate

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1. Product and Company Identification

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Trade Name: Hafnium oxychloride octahydrate  
Chemical Formula:  $\text{HfOCl}_2 \cdot 8\text{H}_2\text{O}$

Manufacturer/Supplier: XI'AN FUNCTION MATERIAL GROUP CO., LTD  
Street: No. 69, Gazelle Valley, High-Tech Zone  
City: XI'AN  
State: Shaanxi  
Zip Code: 710077  
Country: China  
Tel #: +86-29-88993870/+86-13519132051

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2. Hazards Identification

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Signal Word: Danger



Hazard Statements: H314: Causes severe skin burns and eye damage

Precautionary Statements: P260: Do not breathe dust/fume/gas/mist/vapours/spray  
P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing  
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

HMIS Health Ratings (0-4):

Health:	3
Flammability:	0
Physical:	1

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3. Composition

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Chemical Family: Inorganic Compound  
Additional Names: Hafnium dichloride oxide octahydrate

Hafnium oxychloride octahydrate ( $\text{HfOCl}_2 \cdot 8\text{H}_2\text{O}$ ):  
Percentage: 100 wt%  
CAS #: 14456-34-9  
EC #: 237-345-3

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#### 4. First Aid Procedures

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General Treatment:	Immediately remove any clothing soiled by the product. Seek medical attention if symptoms persist.
Special Treatment:	None
Important Symptoms:	None
Inhalation:	Remove victim to fresh air. Supply oxygen if breathing is difficult.
Ingestion:	Do NOT induce vomiting. Never induce vomiting or give anything by mouth to an unconscious person.
Skin:	Wash affected area with mild soap and water. Remove any contaminated clothing.
Eyes:	Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing

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#### 5. Firefighting Measures

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Flammability:	Non-flammable
Extinguishing Media:	No special restrictions – use suitable extinguishing agent for surrounding material and type of fire. Use neutralizing media if spilled.
Spec. Fire Fighting Procedure:	Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

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#### 6. Accidental Release Measures

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If Material Is Released/Spilled:	Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Use neutralizing agent. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust.
Environmental Precautions:	Isolate runoff to prevent environmental pollution.

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#### 7. Handling and Storage

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Handling Conditions:	Handle under dry, protective gas. Wash thoroughly after handling.
Storage Conditions:	Store in a cool dry place in a tightly sealed container. Store apart from materials and conditions listed in section 10.
Work/Hygienic Maintenance:	Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.
Ventilation:	Provide sufficient ventilation to maintain concentration at or below threshold limit.

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#### 8. Exposure Controls and Personal Protection

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Permissible Exposure Limits:	N/A
Threshold Limit Value:	N/A
Special Equipment:	None
Respiratory Protection:	Dust Respirator
Protective Gloves:	Rubber gloves
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

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### 9. Physical and Chemical Characteristics

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Color	N/A
Form:	Powder
Odor:	Pungent
Water Solubility:	Insoluble
Boiling Point:	N/A
Melting Point:	N/A°C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	2.2 g/cc
Molecular weight:	409.396 g/mol

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### 10. Reactivity

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Stability:	Stable under recommended storage conditions
Reacts With:	Water/moisture Oxidizing agents
Incompatible Conditions:	Water/moisture, oxidizing environments
Hazardous Decomposition Products:	Hydrogen chloride (HCl), Metal oxide fume

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### 11. Toxicological Information

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Potential Health Effects:	
Eyes:	Causes serious eye damage
Skin:	Causes severe burns
Ingestion:	May cause irritation
Inhalation:	May cause irritation
Chronic:	N/A
Signs & Symptoms:	N/A
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	2362 mg/kg for rat by mouth
Carcinogen:	N/A

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### 12. Ecological Information

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Aquatic Toxicity:	N/A
Persistent Bioaccumulation Toxicity:	N/A
Very Persistent, Very Bioaccumulative:	N/A
Notes:	Do not allow material to be released to the environment without proper governmental permits. Do not allow undiluted product or larger quantities to reach ground water, water course, or sewage system Avoid transfer into the environment.

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### 13. Disposal Considerations

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Dispose of in accordance with local, state, national, and international regulations.

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#### 14. Transportation Data

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Hazardous: Hazardous for transportation



Hazard Class: 8 Corrosive substances  
Packing Group: PG III  
UN Number: UN3260  
Proper Shipping Name: Corrosive solid, acidic, inorganic, n.o.s. (Hafnium Dichloride Oxide Octahydrate)

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#### 15. Regulatory Information

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Sec 302 Extremely Hazardous: N/A  
Sec 304 Reportable Quantities: N/A  
Sec 313 Toxic Chemicals: N/A

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#### 16. Other Information

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This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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