

# MATERIAL SAFETY DATA SHEET

## HAFNIUM IV CHLORIDE Stock #: NS6130-12-000649

### 1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

Product Name : Hafnium IV Chloride  
 Use : Research and Development  
 Address : Nanoshel LLC  
 3422 Old Capitol Suit 1305  
 Willmington DE – 19808  
 United States

Emergency : +1.532.253.9878



### 2. COMPOSITION & INFORMATION ON INGREDIENTS

Chemical Characterisation : HfCl<sub>4</sub>  
 Hazardous Ingredients : Nil

### 3. HAZARD IDENTIFICATION

Toxicity : No Data Available  
 Eye Contact : Dust may cause irritation

### 4. FIRST AID MEASURES

Skin : Wash skin with soap and copious amounts of water  
 Eyes : Immediate and prolonged irritation treat with copious amounts of water.

Ingestion : Wash out mouth with water provided person Is Conscious.

Inhalation : If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen

## **5. FIREFIGHTING MEASURES**

Extinguishing Data : Water Spray  
Unsuitable Extinguishing Data : Carbon Dioxide, Dry Chemical Powder, Polymer Foam

Unusual Firefighting Hazards : Capable of creating a dust explosion  
Special Firefighting Procedures : Use normal procedures which include wearing self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

## **6. ACCIDENTAL RELEASE MEASURES**

Personal Precautions : Wear respirator, chemical safety goggles, rubber boots and gloves.

Precautions to the Environment : Sweep up, place in a bag and hold for waste disposal.

Cleanup Procedures : Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

## **7. HANDLING AND STORAGE**

Handling Precautions : Chemical Safety Goggles. Compatible with Chemical-resistant Gloves

Storage : Store in a cool dry place.

Unusable Packaging Materials : Wash thoroughly after handling. Irritating dust, Keep tightly closed

## **8. EXPOSURE CONTROLS AND PERSONAL PROTECTION**

### **Exposure Controls**

#### **Personal Protective Equipment**

Respiratory : Self-contained breathing apparatus

Hand : Chemical-resistant Gloves

Eye : Avoid contact with eyes

Skin : Wash thoroughly after handling

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form	:	Powder
Colour	:	White
Odour	:	N/A

### Safety Related Information

FlashPoint	:	N/A
Boiling Point	:	N/A
Melting Point	:	432°C
pH	:	N/A

## 10. STABILITY AND REACTIVITY

Stability	:	Completely Stable
Reactivity	:	Non Reactive/ Non Soluble

## 11. TOXICOLOGICAL INFORMATION

### Possible Health Effects

Skin	:	No effect
Eyes	:	Irritation
Inhalation	:	No Chocking Hazard

## 12. ECOLOGICAL IMPACT

Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.  
No Negative Ecological Impact, Data not Available

## 13. WASTE DISPOSAL

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator, equipped with an afterburner and scrubber

## 14. TRANSPORT INFORMATION (UN ORNEK OLARAK VERİLMİŞTİR)

HS Code	:	28273990
CAS	:	13499-05-3
Proper Shipping Name	:	Hafnium IV Chloride
Air Transport (ICAO & IATA)	:	Specialty Chemicals
Class	:	Non Hazardeous
Packing group	:	Normal Packing

## 15. OHTER REGULATORY INFORMATION

Federal and State Regulations: TSCA 8(b) inventory: Hafnium IV Chloride

Other Regulations: EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada)

DSCL (EEC):

R36- Irritating to eyes

S2- Keep out of the reach of children

S46- If swallowed, seek medical advice immediately & show container or label

HMIS (U.S.A.):

Health Hazard: 1

Fire Hazard: 0

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 1

Flammability: 0

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves.

Lab coat.

Dust respirator. Be sure to use an approved/certified respirator or equivalent.

Splash goggles.

## 16. OTHER INFORMATION

**References:** Not available

**Other Special Considerations:** Not available