

15117 Washington Highway  
P. O. Box 1055 Ashland VA

Phone: (804) 227-3381  
Fax: (804) 227-3404

CHEMTREC: (800) 424-9300  
Poison Center: (800) 562-8236

## Safety Data Sheet

### Section 1: Product and Company Information

Product Name: Hafnium  
Company: Fine Metals Corporation  
15117 Washington Hwy  
Ashland, VA 23005

For more information call: 1-804-227-3381  
(Monday - Friday 9-4:30)

**In case of emergency: Transportation (Chemtrec) 1-800-424-9300**  
**Poison Center: 1-800-562-8236**  
(24 hours/day, 7 days/week)

### Section 2: HAZARD IDENTIFICATION

**This material is not considered hazardous and is not classified under GHS**

#### Emergency Overview

Emergency This substance or mixture is not hazardous and is not classified under GHS.

Hazard Statements: Negligible fire or explosion hazard in bulk form. Powdered material may form explosive dust-air mixtures.

#### Precautionary Statements:

Prevention: Observe good industrial hygiene practices.

Response: Wash hands after handling.

#### Appearance/Form:

Form: Solid

Color: Grey

Odor: None

Hazard Summary: Not considered a hazard as sold (solid).

#### Acute Health Effects

Skin: May cause skin irritation.

Eyes: Contact may cause eye irritation.

Ingestion: May be harmful if swallowed.

Inhalation: May be harmful if inhaled. May cause respiratory irritation.

**Chronic Exposure:** Irritation of eyes, skin and mucous membranes

**Aggravated Medical** No known effect.

#### Conditions:

**Carcinogenicity:** Not listed as a human carcinogen.

### Section 3: Composition/Information on Ingredients

Hafnium  
4/27/2015 2:24:24 PM

Date:  
Page 1 of 5

# Safety Data Sheet

<b>Chemical Name</b>	<b>CAS-No.</b>	<b>Reach #</b>
Hafnium	7440-58-6	Not available
		Not available
		97 or greater wt%

## Section 4: FIRST AID MEASURES

Eye Contact: Flush eye with plenty of water for at least 15 minutes. Seek medical attention.  
Skin Contact: Wash with soap and water. Get medical attention if irritation develops or persists.  
Inhalation: If a person breathes in large amounts of this chemical, move the exposed person to fresh air at once and perform artificial respiration if needed.  
Ingestion: Rinse mouth. Seek medical attention.

## Section 5: FIRE FIGHTING MEASURES

**Suitable extinguishing Media:** Type D fire extinguisher, Dry table salt, dolomite, dry sand, soda ash. Isolate burning material. It is advisable to allow large fires to burn out, keeping the fire from spreading.  
**Unsuitable extinguishing media:** Carbon dioxide, water, sodium bicarbonate, halogenated extinguishing agents or foam.  
**Specific hazards during firefighting:** Do not spray water on burning fines, chips, powder, or sponge, for a violent explosion may result. This hazard

increases with finer particle size. If a fire starts in a mass of wet metal fines, such as a barrel of damp machining chips, an explosion may follow with a very high temperature flash. 10 micron powder may auto-ignite at room temperature. Therefore, when in doubt, personnel should retire and not attempt to extinguish the fire. The explosive characteristic of such material is caused by the hydrogen and steam generated by the burning mass. Carbon dioxide is not effective for extinguishing burning hafnium, and application of it may enhance the metal to burn more rapidly.

**Special protective equipment for firefighters:** Wear reflective heat resistant suit. As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent) and full protective gear.

## Section 6: ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Practice good chemical hygiene during and after use.  
**Environmental Precautions:** Avoid release to the environment.  
**Methods for Cleaning Up:** Sweep up spilled solids. Keep finely divided hafnium away from any source of ignition and cleanup immediately. During cleanup avoid generation of hafnium dust. Avoid breathing (dust, vapor, mist, gas).

## Section 7: HANDLING AND STORAGE

**Handling:** Do not accumulate large quantities of fines or machining residues. Dispose of these materials in small lots daily. Surface grinding of the material may generate showers of sparks, which may cause a fire hazard to surrounding combustible materials. Avoid formation of dust. Do not breath (dust, vapor, mist, gas). Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.  
**Storage:** Keep container closed when not in use. Store in a cool dry place.

## Section 8: EXPOSURE CONTROL/PERSONAL PROTECTION

**Engineering Controls:** Use process enclosures, local exhaust ventilation or other means to maintain employee exposure as far below limits as possible

### Component Exposure Limits

Component	Location	Value
Hafnium	ACGIH TLV TWA	0.5
	OSHA OEL TWA	0.5
	NIOSH REL TWA	0.5
	Canada -AB, BC, ON, PQ	0.5
	Europe TWA	0.5
	Denmark STEL	1
Zirconium	ACGIH TLV	10
	Australia TWA	5

Hafnium  
4/27/2015 2:24:24 PM

Date:  
Page 2 of 5

# Safety Data Sheet

Denmark TWA	5
Finland TWA	5
Korea TLV	5
Hungary STEL	5
Russia STEL	6
OSHA PEL	5

**Engineering Controls:** Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

**Respiratory Protection:** Not normally needed. If ventilation is inadequate and this material is handled at elevated temperatures or dusts/fumes/mists are generated a NIOSH/MSHA approved air purifying respirator may be permissible under some circumstances.

**Eye/Face:** Wear safety glasses or goggles as appropriate to the task performed.

**Skin Protection:** Wear protective gloves.

**Work Hygienic Practices:** Practice good chemical hygiene during and after use.

**Comments:** None

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Solid

**Odor:** None

**Color:** Grey

**Melting Point:** 2227° +/- 20° C

**Boiling Point:** 4600° C

**Vapor Pressure:** 0 @ 20° C

**Vapor Density (air = 1):** N/A

**Evaporation Rate:** Not applicable

**Solubility In Water:** Insoluble

**Specific Gravity (water = 1):** 13.3

**Atomic Weight:** 178.49

**% Volatility By Volume:** Hazardous polymerization does not occur.

**Density:** 13.3 at 25° C

## Section 10: STABILITY AND REACTIVITY

**Stability:** Stable under normal conditions and usage

**Incompatible Materials:** Hydrofluoric acid, Oxidizing materials, Halogens, Sulphur compounds

**Hazardous Decomposition** Hafnium metal does not decompose. The above reactions with incompatible materials will generate hazardous reaction

**Products:** products such as flammable hydrogen, toxic fumes of nitrogen oxides or corrosive hafnium halide vapors.

**Possibility of Hazardous** Hazardous polymerization does not occur.

**Reactions:**

## Section 11: TOXICOLOGICAL INFORMATION

**Acute Toxicity:** Hafnium metal has no known toxicity. The metal is completely insoluble in water, saline solutions or body chemicals. Hafnium dust is irritating to the eyes, skins, and respiratory system. LD50/LC50 - not available

**Chronic Toxicity:** Hafnium metal has no known toxicity.

**Reproductive Toxicity:** No known effect.

**Mutagenicity:** No known effect.

**Carcinogenicity:** No known effect.

**Other:** None

## Section 12: ECOLOGICAL INFORMATION

Hafnium  
4/27/2015 2:24:24 PM

Date:  
Page 3 of 5

# Safety Data Sheet

**Ecotoxicity:** No negative environmental effects have been reported.

**Persistence/Degradability:** Not available

**Bioaccumulation/Accumulation:** Not available

**Mobility in Environment:** Not available

## Section 13: DISPOSAL CONSIDERATIONS

**Waste Classification:** Contact a licensed waste disposal company. Recycling is disposal method of choice.

All disposal activities must comply with federal, state, provincial and local regulations.

## Section 14: TRANSPORT INFORMATION

**US DOT (ground):** Not regulated

**ICAO/IATA (air):** Not regulated

**IMO/IMDG (water):** Not regulated

**Special Provisions:** Not regulated

## Section 15: REGULATORY INFORMATION

### UNITED STATES

**SARA Title III (Superfund Amendments and Reauthorization Act) 313 Reportable Ingredients:** No

**TSCA (Toxic Substance Control Act) status:** Not regulated

### STATE REGULATIONS

The following components appear in one or more of the following states hazardous substances

Component	CAS #	CA	MA	MN	NJ
Hafnium	7440-58-6	No	No	Yes	Yes

**California Proposition 65:** This product is not known to contain any components for which the State of California has found to cause cancer, birth defects or other reproductive harm.

### CANADA

**WHMIS (Workplace Hazardous Materials Information System):** Not regulated

**Domestic Substance List (Inventory):**

All components of this product are included in inventory, exempt, or notified.

### GENERAL COMMENTS

None

## Section 16: OTHER INFORMATION

**Information Contact:** [sds@finemetalscorp.com](mailto:sds@finemetalscorp.com)

**Issue Date:** 7/6/1999

**Revision Date:** 1/1/2015

# Safety Data Sheet

HMIS® (II)		NFPA	
Health:	0		
Flammability:	1	1	
Reactivity:	0	0	0
PPE:	C		

Ratings range from 0 (no hazard) to 4 (severe hazard)

The information contained in this SDS is believed to be correct, but is not all inclusive and shall be used only as a guide. Fine Metals Corporation shall not be liable for any damage resulting from handling or from contact with the product listed in the SDS. Any comments or questions should be directed to:

Safety Manager  
Fine Metals Corporation  
15117 Washington Highway  
P O Box 1055  
Ashland VA 23005  
(804) 227-3381

