

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: Niobium  
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 Not considered hazardous as sold (solid).

Hazard Statements: May cause irritation of skin, eyes, and respiratory tract as dust.

#### Precautionary Statements:

Prevention: None.

Response: None.

#### Appearance/Form:

Form: Solid

Color: lustrous, steel gray metal

Odor: None

Hazard Summary: Do not spray water on burning fines, chips, or powder as a violent explosion may result. The hazard increases with finer particles. Carbon dioxide is not effective in extinguishing burning Niobium or Niobium alloys. Negligible fire and explosion hazard in bulk form. Dust/air mixture may ignite or explode. Thermal decomposition may release toxic and/or hazardous gases. Ignites in fluorine or chlorine. Incandescent reaction with bromine trifluoride.

#### Acute Health Effects

Skin: May cause irritation.

Eyes: May cause mechanical irritation.

Ingestion: None known.

Inhalation: May cause irritation.

**Chronic Exposure:** Inhalation: may cause irritation to the upper respiratory tract. Eye contact: may cause mechanical irritation. Chronic eye exposure may cause conjunctivitis. Dermal: Repeated or prolonged contact may cause skin irritation. Ingestion: no information available on adverse affects. Metallic niobium has a low order of toxicity due to poor absorption from stomach and intestines. NOTE: Niobium crosses the placental barrier in animals.

**Aggravated Medical Conditions:** Inhalation may aggravate respiratory conditions.

**Carcinogenicity:** Does not contain any substances listed by IARC (International Agency for Research on Cancer), NTP (National Toxicological Program), OSHA (Occupational Safety and Health Administration), ACGIH (American Conference for Governmental Industrial Hygienists) or EU (European Union).

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## Section 3: Composition/Information on Ingredients

Niobium                      7440-03-1                      Not available                      231-113-5                      >99 wt%

## Section 4: FIRST AID MEASURES

**Eye Contact:** Flush with water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Seek medical attention.  
**Skin Contact:** Remove contaminated clothing and shoes immediately. Wash with soap or mild detergent and large amounts of water until no evidence of chemical remains (at least 15-20 minutes). Seek medical attention.  
**Inhalation:** Remove from exposure area to fresh air immediately. Perform artificial respiration if necessary. Keep person warm and at rest. Treat symptomatically and supportively. Get medical attention immediately.  
**Ingestion:** Keep person warm and at rest. Treat symptomatically and supportively. Do not induce vomiting. Get medical attention immediately.

## Section 5: FIRE FIGHTING MEASURES

**Suitable extinguishing Media:** Dolomite, dry powder for metal fires, dry sand, graphite, soda ash, sodium chloride, type D fire extinguisher.  
**Unsuitable extinguishing media:** Do not use water.  
**Specific hazards during firefighting:** Dust clouds may be explosive.  
**Special protective equipment for firefighters:** 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:** Avoid breathing (dust, vapor, mist, gas). Practice good chemical hygiene during and after use.  
**Environmental Precautions:** Do not release to the environment.  
**Methods for Cleaning Up:** For large spills, sweep up with a minimum of dusting and place into suitable clean, dry containers for reclamation or later disposal. Avoid generation of dust. Residue should be cleaned up using a high-efficiency particulate filter vacuum rated for use with combustible/flammable dusts. Dust could be ignited by static electricity discharge using unrated vacuums.

## Section 7: HANDLING AND STORAGE

**Handling:** Machining of niobium may result in fine turnings, chips, dust, or fumes. Any material with a dimension less than .001 inches is flammable. Keep this material away from any sources of ignition. Keep away from strong oxidizing agents. Do not accumulate large quantities of fines or machining residues. Clean the work area and dispose of these materials routinely. Avoid airborne generation of dust and fines.  
**Storage:** Store in a cool dry place away from incompatible materials.

## 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
Niobium	NA	

**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 dust/fumes/mists are generated a NIOSH/MSHA approved air purifying respirator with a manufacturers approved cartridge or canister may be permissible under certain circumstances.  
**Eye/Face:** Wear safety glasses or goggles as appropriate to the task performed.  
**Skin Protection:** Lab coat, coveralls or apron as appropriate.

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Chemical Name

CAS-No.

Reach #

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**Work Hygienic Practices:** Practice good chemical hygiene.

**Comments:**

### **Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

**Physical State:** Solid

**Odor:** None

**Color:** Dark grey

**Melting Point:** 2468° C

**Boiling Point:** 4727° C

**Vapor Pressure:** 0 @ 20° C

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

**Evaporation Rate:** N/A

**Solubility In Water:** insoluble

**Specific Gravity (water = 1):** 8.57

**Atomic Weight:** 92.91

**% Volatility By Volume:** Reactions with incompatible materials will generate reaction products such as flammable hydrogen, toxic fumes of nitrogen oxide, or corrosive metal halide vapors.

**Density:** 8.57

## Section 10: STABILITY AND REACTIVITY

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

**Incompatible Materials:** Halogens, Interhalogens, Bromine Trifluoride, Chlorine, Fluorine, mineral acids and strong oxidizers. Hydrofluoric acid or hydrofluoric-nitric acid mixtures rapidly dissolve niobium and niobium base alloys. Niobium will ignite in cold fluorine and above 200 C will react exothermically with chlorine, bromine, and halocarbons such as carbon tetrachloride, carbon tetrachloride and freons.

**Hazardous Decomposition Products:** Toxic metal fumes.

**Possibility of Hazardous Reactions:** Reactions with incompatible materials will generate reaction products such as flammable hydrogen, toxic fumes of

nitrogen oxide, or corrosive metal halide vapors.

## Section 11: TOXICOLOGICAL INFORMATION

**Acute Toxicity:** No toxicity has been shown for metallic niobium. Lab tests with soluble niobium compounds show low oral toxicity.

**Chronic Toxicity:** No known effect.

**Reproductive Toxicity:** No known effect.

**Mutagenicity:** No known effect.

**Carcinogenicity:** No known effect.

**Other:**

## Section 12: ECOLOGICAL INFORMATION

**Ecotoxicity:** Not expected to migrate. Insoluble. No known environmental hazards have been determined. This product does not contain any listed Priority Pollutants under the Clean Water Act (CWA, 40 CFR 116).

**Persistence/Degradability:** No information available.

**Bioaccumulation/Accumulation:** No known effect.

**Mobility in Environment:** No known effect.

## Section 13: DISPOSAL CONSIDERATIONS

**Waste Classification:** Disposal must be in accordance with standards applicable to generators of hazardous waste, 40 CFR 262. EPA hazardous waste number D001. 100 lb CERCLA Section 103 Reportable quantity. Recycling is disposal method of choice.

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

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## 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
Niobium	7440-03-1	No	No	No	No

**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 Not regulated.

Hazardous Materials Information System):

Domestic Substance List (Inventory): All components of this product are included in inventory, exempt, or notified.

### GENERAL COMMENTS

This material is not classified as hazardous according to Directive 67/548/EEC.

## Section 16: OTHER INFORMATION

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

Issue Date: 7/6/1999

Revision Date: 1/1/2015

HMIS®(11)		NFPA	
Health:	0		
Flammability:	0	0	
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