



1560 Lisbon Street, Lewiston, Maine 04240  
 +1 207.333.6100 Toll Free: 800.343.8008 (USA)  
 etisales@elmettech.com www.elmettechnologies.com

Certified to ISO 9001 & 14001

**MATERIAL SAFETY DATA SHEET**

**Product Name: Molybdenum Products**

**Revision: May 1, 2008**

**SECTION 1: MANUFACTURER**

**Manufacturer's Name and Address:** Elmet Technologies, Inc.  
 1560 Lisbon Street  
 Lewiston, Maine 04240

**Emergency Tel. No.:** 1-800-343-8008  
**Other Information Calls:** 1-800-343-8008

**SECTION 2: HAZARDOUS INGREDIENTS**

<u>Components(s)</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>PERCENTAGE</u>
Molybdenum CAS No. 7439-98-7	5mg/m <sup>3</sup> Soluble Compounds) 15mg/m <sup>3</sup> (Insoluble Compounds)	5mg/m <sup>3</sup> (Soluble Compounds) 10mg/m <sup>3</sup> (Insoluble Compounds)	99% to 100%
<u>Other possible ingredients</u>			
Lanthanum Oxide CAS No. 1312-81-8 (included in MoLa Products)	5 mg/m <sup>3</sup> (nuisance dust)	10 mg/m <sup>3</sup> (nuisance dust)	<1%
Silicon CAS No. 7440-21-3 (included in HCT products)	5 mg/m <sup>3</sup> (nuisance dust)	10 mg/m <sup>3</sup> (nuisance dust)	trace
Potassium CAS No. 7440-09-7 (included in HCT products)	5 mg/m <sup>3</sup> (nuisance dust)	Not Listed	trace

**SECTION 3: PHYSICAL DATA**

Generic Description: Specialty metal; may be powder, wire, or fabricated metal parts.  
Appearance and Odor: Silver-grey to black with metallic luster. Odorless.  
Boiling Point: 4325 °C (8717 °F)  
Vapor Pressure (mmHg): NA  
% Volatile (by volume): 0  
Specific Gravity (H<sub>2</sub>O=1): 10.2  
Vapor Density (Air=1): Not volatile  
Evaporation Rate: Not volatile. Sublimes in air at high temperature.  
Solubility in Water: Will oxidize in water and become slightly soluble.

---

Comments: No special physical data available.

**SECTION 4: FIRE AND EXPLOSION DATA**

Flashpoint: Auto ignition temperature is 360 °C for 0-74 micron dusts  
Flammable Limits: Not tested. Lower limit: Not tested.  
Explosive Limits: Not tested. Lower Limit: Not tested.  
Extinguishing Media: Dry chemical, foam, sand or granular limestone.

---

Special or unusual firefighting procedures or hazards: Wear self-contained breathing apparatus. After ignition source is removed, the metal may continue to glow until complete oxidation has occurred.

---

Comments: Molybdenum powder is a weak fire and explosion hazard depending on particulate size and dispersion in air.

---

**SECTION 5: REACTIVITY DATA**

Stability: Stable  
Conditions to Avoid: Heat and steam.  
Incompatibility (Materials to Avoid): Avoid strong oxidizers.  
Hazardous Decomposition Products: Heat produces trioxide or hex carbonyl hydroxide.  
Hazardous Polymerization: Will not occur.

**SECTION 6: HEALTH HAZARDS AND FIRST AID PROCEDURES**

Acute Health Effects: Molybdenum is considered to have a relatively low order of toxicity and is rapidly excreted from the body.  
Inhalation: Molybdenum dust may irritate the mucous membranes.  
Eyes: Molybdenum dust may irritate the eyes.  
Chronic Health Effects: Excessive intake may cause iron or copper deficiency leading to anemia or skeletal ossification.

Components listed as Carcinogen or Potential Carcinogen: Not listed by NTP, IARC, Monographs or OSHA.

**EMERGENCY AND FIRST AID PROCEDURES:**

-----  
Inhalation: Remove to fresh air. If difficulty in breathing occurs, seek medical attention.  
Eyes: Flush with water for at least fifteen minutes. If irritation persists, seek medical attention.  
Skin: Wash with soap and water. If irritation persists, seek medical assistance.  
Ingestion: Induce vomiting. Seek medical attention.

---

**SECTION 7: SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES**

Precautions to be taken in handling and storage: Avoid dust generation. Keep away from heat, ignition sources and physical damage.

Steps to be taken in Case Material is Released or Spilled: Vacuum or wet-sweep spilled powder. Wear respirator and avoid making dust.

Waste Disposal Methods: Consult Federal, State and Local regulations.

---

**SECTION 8: SPECIAL PROTECTION INFORMATION/CONTROL MEASURES**

Ventilation: General ventilation recommended where dust concentrations exceed TLV's. Local ventilation used when dust levels are high.

Personal Protective Equipment:

Respirators: Where appropriate, wear NIOSH-approved toxic dust respirator.

Goggles: Safety goggles/glasses are recommended.

Gloves: Impervious cloth/rubber gloves are recommended.

Handling/Storage: Avoid breathing dust. Protective clothing recommended. Coveralls may be worn for additional protection.

---

Although reasonable care has been taken in the preparation of information herein, Elmet Technologies extends no warranties, express or implied, makes no representations and assumes no responsibility to the accuracy or suitability of information for application to purchaser's intended purposes or for consequences of its use. Judgments as to the suitability of information for purchaser's purposes are purchaser's responsibility.