

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: Molybdenum
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 Negligible fire or explosion hazard in bulk form.

Hazard Statements: None.

Precautionary Statements:

Prevention: None.

Response: None.

Appearance/Form:

Form: Solid

Color: Metallic solid

Odor: None

Hazard Summary: Negligible fire or explosion hazard in bulk form. Dust may present a fire or explosion hazard under favoring conditions of particle size, dispersion and strong ignition source. When heated to decomposition it emits toxic fumes of Mo.

Acute Health Effects

Skin: Can cause skin irritation.

Eyes: Can cause eye irritation.

Ingestion: Can cause irritation. Low ingestion risk as sold.

Inhalation: Can cause irritation.

Chronic Exposure: Molybdenum dust and fumes (formed above 400° C) can cause irritation of the eyes, nose, throat, and respiratory tract.

Aggravated Medical Conditions: Dust may aggravate respiratory conditions. Ingestion may aggravate gastrointestinal conditions.

Carcinogenicity: Not listed as a known or suspected carcinogen.

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Section 3: Composition/Information on Ingredients

| Chemical Name | CAS-No. | | Reach # | |
|---------------|-----------|---------------|-----------|---------|
| Molybdenum | 7439-98-7 | Not available | 231-107-2 | 100 wt% |

Section 4: FIRST AID MEASURES

Skin Contact: Wash with soap and water. If irritation or rash occurs, isolate from exposure. If rash persists, seek medical attention.

Inhalation: If large amounts of dust are inhaled, move the exposed person to fresh air. If necessary, perform artificial respiration and seek medical attention.

Ingestion: If ingested, get medical attention. DO NOT MAKE AN UNCONSCIOUS PERSON VOMIT.

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing Media: Use Class D fire extinguishing agents (dry powder), dry sand or limestone.

Unsuitable extinguishing media: Do not use water

Specific hazards during firefighting: May form toxic metal fumes. Dusts at sufficient concentrations can form explosive mixtures with air.

Special protective equipment for firefighters: For a powder fire confined to a small area-use a respirator approved for toxic dusts and mists. For a large fire-use self contained breathing apparatus.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Avoid breathing (dust, vapor, mist, gas). Practice good chemical hygiene during and after use.

Environmental Precautions: Avoid release to the environment.

Methods for Cleaning Up: If material is released or spilled, ventilate the area of the spill. Clean up using methods which avoid the generation of dusts. Such methods include wet mopping or vacuuming (assuring that the vacuum is equipped with the proper filter to prevent airborne dust levels which exceed the PEL or TLV). If airborne dust is generated, use the appropriate NIOSH approved respiratory protection. Spilled material may be collected in an appropriate container and returned to the supplier for reclaim.

Section 7: HANDLING AND STORAGE

Handling: Product as sold needs no special handling. Molybdenum powder, as with other metal powders, may present an explosion hazard under ideal conditions of particle size and in the presence of a strong ignition source. Special precautions should be observed in order to minimize dust created. The generation of dust or mists may present a health hazard if the exposure limits are exceeded. Maintain good housekeeping procedures to prevent the accumulation of dust and the generation of airborne dust particles. Practice good chemical hygiene.

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 | Component Exposure Limits | |
|------------|---------------------------|-------|
| | Location | Value |
| Molybdenum | USA ACGIH TLV TWA | 3 |
| | USA OSHA OEL TWA | 15 |
| | Canada - AB, BC, ON TWA | 3 |
| | Canada - PQ | 10 |
| | Europe TWA | 10 |
| | Poland TWA (Respirable) | 4 |
| | Poland STEL (Respirable) | 10 |
| | Spain TWA (Respirable) | 3 |

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Eye Contact: If irritation occurs, flush with large amounts of water for at least 15 minutes. If irritation persists, seek medical attention.

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| | |
|--------------------------|----|
| Sweden TWA (Respirable) | 5 |
| Australia, NZ, Singapore | 10 |
| UK WEL TWA | 10 |
| UK WEL STEL | 20 |

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: Protective gloves or barrier creams are recommended when contact with dust or mist is likely. Wash thoroughly prior to applying barrier creams or using 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: Lustrous grey

Melting Point: 2622° C

Boiling Point: 4825° C

Vapor Pressure: 1 mm @ 3102° C, N/A at 25° C

Vapor Density (air = 1): N/A

Evaporation Rate: N/A

Solubility In Water: insoluble

Specific Gravity (water = 1): 10.2

Atomic Weight: 95.94

% Volatility By Volume: Hazardous polymerization not known to occur

Density: 10.2

Section 10: STABILITY AND REACTIVITY

Stability: Stable at ordinary temperatures.

Incompatible Materials: Avoid contact of dust with strong oxidizers and acids

Hazardous Decomposition Products: Molybdenum trioxide fumes may form when the metal is exposed to high temperatures.

Reactions:

Possibility of Hazardous Reactions: Hazardous polymerization not known to occur

Section 11: TOXICOLOGICAL INFORMATION

Acute Toxicity: Not available at this time

Chronic Toxicity: Not available at this time.

Reproductive Toxicity: Not available at this time.

Mutagenicity: No data available

Carcinogenicity: Not listed.

Other: N/A

Section 12: ECOLOGICAL INFORMATION

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Ecotoxicity: 96-hour LC50: 80 mg/L (Oncorhynchus mykiss)

Persistence/Degradability: Not available

Bioaccumulation/Accumulation: Not available

Mobility in Environment: Not available

Section 13: DISPOSAL CONSIDERATIONS

Waste Classification: Follow all SDS/label precautions even after container is emptied because it may retain product residues. Dispose of residues as metal waste. 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: All components of this product are included in inventory, exempt, or notified.

STATE REGULATIONS

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

| Component | CAS # | CA | MA | MN | NJ | | |
|------------|-----------|----|----|-----|-----|-----|-----|
| Molybdenum | 7439-98-7 | No | No | Yes | Yes | 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): All components of this product are included in inventory, exempt, or notified.

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

GENERAL COMMENTS

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory.

Section 16: OTHER INFORMATION

Information Contact: sds@finemetalscorp.com

Issue Date: 10/10/2001

Revision Date: 1/1/2015

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| HMIS® (11) | | NFPA | |
|---------------|---|------|---|
| Health: | 0 | | |
| Flammability: | 0 | 0 | |
| Reactivity: | 0 | 0 | 0 |

PPE:

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

