International Advanced Materials

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Material Data Safety Sheet

Quick Identifier: Molybdenum

I. PRODUCT IDENTIFICATION

Trade Name: Molybdenum
Synonyms:
CAS #: 7439-98-7
Formula: Mo
Molecular Weight:

II. HAZARDOUS INGREDIENTS

Hazardous Components:	OSHA PEL:	ACGIH TLV:	Other Limits:
Molybdenum	15 mg/m3 (Insoluble cmpds) 10 mg/m3 (Soluble cmpds)	10 mg/m3	Unknown

Sec. 302 (EHS): No **Sec. 304 RQ**: No **Sec. 313**: No
HMIS Ratings (0-4): **Health**: N/A **Flammability**: N/A **Reactivity**: N/A
HMIS Protective Equipment: N/A

III. PHYSICAL DATA

Boiling Point: 4800 C
Specific Gravity (H_2O=1): 10.2
Vapor Pressure (mm Hg): 10 (at 2525 C)
% Volatiles by Volume: N/A
Melting Point: 2610 C
Vapor Density (Air=1): Not Volatile
Evaporation Rate: N/A
Solubility in H_2O: Insoluble

Appearance and Odor: Silver-gray to black with metallic luster. odorless

IV. FIRE AND EXPLOSION HAZARDS DATA

Flash Point/Method: See Below
Explosive Limits: **LEL**: Not Tested **UEL**: Not tested
Auto-Ignition Temperature: 360 C for 0-74 micron dusts

Extinguishing Media: Dry Chemical, foam, sand or granular limestone.
Special Fire Fighting Procedures: For a powder fire confined to a small area, use a respirator approved for toxic dusts and fumes. For a large fire involving this material, fire fighters should use self-contained breathing apparatus.
Unusual Fire and Explosion Hazards: Dust may present a fire or explosion hazard under favoring conditions of particle size, Dispersion and strong ignition source. However, this is not expected to be a problem under normal handling conditions. After ignition source is removed, the metal may continue to glow until complete oxidation ahs occurred.

V. HEALTH HAZARD INFORMATION

Routes of Entry: Inhalation, Skin and Eyes, Ingestion
Target Organs: N/A
Carcinogenicity: **NTP**: N/A **IARC Monographs**: N/A **OSHA Regulated**: No
LD50/LC50: No toxicity data recorded.

Health Hazards (Acute and Chronic):

Inhalation:

Acute: Dust and fumes can cause irritation of the eyes, nose, throat, and respiratory tract.
Chronic: N/A

Ingestion:

Acute: Dust and fumes can cause irritation of the eyes, nose, throat, and respiratory tract.
Chronic: N//A

Skin:

Acute: Dust and fumes can cause irritation of the eyes, nose, throat, and respiratory tract.
Chronic: N/A

Eye:

Acute: Dust and fumes can cause irritation of the eyes, nose, throat, and respiratory tract.
Chronic: N/A

Signs and Symptoms of Exposures:

Inhalation: N/A
Ingestion: N/A
Skin: N/A
Eye: N/A
Medical Conditions Generally Aggravated by Exposure: N/A

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: If irritation occurs, remove from exposure. Seek medical attention
INGESTION: If subs. Amts. Are swallowed, dilute with large amount of water, induce vomiting, and seek medical attention
SKIN: If irritation occurs, thoroughly wash affected area with mild soap and water, and prevent further contact. If irritation persists, seek medical attention.
EYE: If irritation occurs, flush with copious amounts of water and prevent further contact. If irritation persists, seek medical attention

VI. REACTIVITY DATA

Stability:	Stable
Incompatibility (Material to avoid):	Avoid contact of dust with strong oxidizers and acids.
Hazardous Decomposition Products:	Molybdenum trioxide fumes may form when metal is exposed to high temperatures.
Hazardous Polymerization:	Will not occur
Conditions to Avoid:	Not Applicable

VII. SPILL OR LEAK PROCEDURES

Steps to Be Taken in Case Material Is Released or Spilled:	Applicable for grinding dust. Ventilate area of spill. Clean up using methods which avoid dust generation such as vacuuming (with appropriate filter to prevent airborne dust levels which exceed the PEL or TLV), wet dust mop or wet clean-up. If airborne dust is generated, use an appropriate NIOSH approved respirator.
Waste Disposal Method:	Dispose of in accordance with appropriate government regulations. May be sold as scrap for reclaim.
Precautions to Be Taken in Handling and Storing:	Maintain good housekeeping procedures to prevent accumulation of dust. Use clean-up methods which minimize dust generation, such as vacuuming or wet clean-up. If airborne dust is generated, use an appropriate NIOSH approved respirator.
Other precautions	Wash thoroughly after handling and before eating or smoking, and at the end of the work shift. Do not shake clothing or other items to remove dust. Use a vacuum. Avoid dust inhalation and direct skin contact.

VIII. SPECIAL PROTECTION INFORMATION

Respiratory Protection:	Use and appropriate NIOSH approved respirator if airborne dust concentrations exceed the appropriate PEL or TLV.
Ventilation: **Local Exhaust**:	Use adequate or use respirators as specified above.
Mechanical (General):	N/A
Protective Gloves:	Recommended.
Eye Protection:	Safety glasses or goggles are recommended
Other Protective Clothing or Equipment:	None Suggested
Work/Hygienic/Maintenance Practices:	Normal hygienic practices.

IX. ADDITIONAL COMMENTS

Some of the chemicals listed herein are research or experimental substances which may be toxic, as defined by various governmental regulations. In accordance with Environmental Protection Agency regulations and the Toxic Substance Control Act (TSCA), these materials should only be handled by, or under the direct supervision of a "technically qualified individual", as defined in 40 CFR 710.2(aa).

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