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## MATERIAL SAFETY DATA SHEET

### Section 1- PRODUCT IDENTIFICATION

COMPOSITION <b>Mo</b>	PRODUCT NAME <b>Molybdenum</b>
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### Section 2- HAZARDOUS INGREDIENTS

Note: Products under normal conditions do not represent an inhalation, ingestion or contact health hazard.

MATERIAL OR COMPONENT	CAS NUMBER	WT%	EXPOSURE LIMITS	
			OSHA PEL (Mg/M3)	ACGIH TLV(MG/M3)
<b>Molybdenum</b>	<b>7439-92-7</b>	<b>99.95%</b>	<b>15mg / m<sup>3</sup></b>	<b>10mg/m<sup>3</sup></b>

### Section 3- PHYSICAL DATA

MATERIAL IS (AT NORMAL CONDITIONS) <input type="checkbox"/> Liquid <input type="checkbox"/> Solid <input type="checkbox"/> Gas <input type="checkbox"/> Other	APPEARANCE AND ODOR <b>Metallic grey billet, sheet or powder.        (Odorless)</b>
MELTING POINT (BASE METAL) <b>2610° C</b>	SPECIFIC GRAVITY <b>10.2</b>

### Section 4- FIRE AND EXPLOSION

Flash Point (Method Used) <b>N/A</b>	Flammable Limits <b>N/A</b>	LEL <b>N.A.</b>	UEL <b>N.A.</b>
EXTINGUISHING MEDIA <b>Dry chemical or dry sand</b>			
SPECIAL FIRED FIGHTING PROCEDURES <b>Wear self-contained breathing apparatus with protective clothing.</b>			
UNUSUAL FIRE AND EXPLOSION HAZARDS <b>None.</b>			

### Section 5- REACTIVITY DATA

STABILITY <b>Stable</b>	INCOMPATABILITY (MATERIALS TO AVOID) <b>None Known</b>
CONDITIONS TO AVOID	
HAZARDOUS DECOMPOISTION PRODUCTS <b>Molybdenum Trioxide at high temperatures</b>	

## Section 6- HEALTH HAZARD GUIDE

MAJOR EXPOSURE HAZARD

Inhalation Skin Skin Absorption Eye Contact Ingestion

EFFECTS OF OVEREXPOSURE

**SYSTEMIC:** No reports of toxic effects of molybdenum in the industrial setting are known. Animal studies indicate that insoluble molybdenum compounds are of a low toxicity. Freshly generated molybdenum oxide fumes can be more toxic (according to certain animal tests). Inhalation of high concentrations (by animals) of molybdenum trioxide fumes has caused copper deficiency in animals.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** Chronic respiratory disease may be aggravated by exposure to molybdenum dust or fume.

**CARCINOGENIC ASSESSMENT:** Molybdenum has NOT been identified as a known or suspect carcinogen by NTP, IARC or OSHA.

EMERGENCY & FIRST AID PROCEDURES (FOR DUST & FUME ONLY)

**INHALATION:** Remove from exposed area to fresh air immediately; give oxygen if breathing is difficult.

**INGESTION:** Give large amounts of water to induce vomiting.

**SKIN CONTACT:** Wash affected area with soap or mild detergent and large amounts of water until no evidence of the chemical remains. Seek medical attention.

**EYE CONTACT:** Flush eyes with lukewarm water lifting up the upper and lower lids for at least fifteen minutes. Seek medical attention if irritation persists.

## Section 7- SPILL OR LEAK PROCEDURES

SPILL OR LEAK PROCEDURES

**Avoid causing material to be airborne. Vacuum with appropriate filter to prevent airborne dust levels which exceed the TLV. Wet clean up methods are recommended to prevent dust generation.**

WASTE DISPOSAL METHODS

**Observe all federal, state and local regulations when storing or disposing. Scrap molybdenum pieces or powders for reclamation.**

## Section 8- SPECIAL PROTECTION

RESPIRATORY

**A NIOSH approved dust respirator is required if the TLV is exceeded. The exact type depends upon concentration.**

VENTILATION

**General and local ventilation is recommended for handling powders and in grinding and/or cutting where dust or mist is generated.**

EYE PROTECTION & PROTECTIVE CLOTHING

**Protective gloves are recommended along with safety glasses with side shields.**

## Section 9- SPECIAL PRECAUTIONS

**Use good housekeeping procedures to prevent dust accumulation during grinding, etc. Other precautions: Mists from wet grinding or cutting may contain molybdenum particles; If TLV is exceeded, wear a NIOSH approved respirator. Wash hands thoroughly after handling, before smoking or eating. Wash exposed skin at the end of work shift. Do not shake clothing, rags, or other items to remove dust. Do not use air hose to remove dust. Dust should be removed by washing or vacuuming (with appropriate filters) the clothing, rags or other items.**

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