

MATERIAL SAFETY DATA SHEET**1. PRODUCT AND MANUFACTURER IDENTIFICATION**

Chemical Name: Molybdenum

Synonym: Molybdenum Metal Product

Chemical Family: Refractory metal

Formula: Mo

Manufacturer: Bango Alloy Technologies Co., Ltd.

2. COMPOSITION DETAILS

Ingredient name	CAS Number	% WT
Molybdenum	7439-98-7	>=99%

3. HAZARDS IDENTIFICATION

Hazard Rating Systems:

HMIS Ratings(Solid): Health 0 Flammability 0 Reactivity 0

HMIS Ratings(Powder): Health 1 Flammability 2 Reactivity 1

4. PHYSICAL DATA

Appearance: Silver-grey to black with metallic luster.

Odor: Odorless

Boiling Point: 4325 °C (8717 °F)

Vapor Pressure (mmHg): NA

% Volatile (by volume): 0

Specific Gravity (H₂O=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.

Generic Description: Specialty metal; may be powder, wire, or fabricated metal parts.

5. FIRE AND EXPLOSION HAZARDS DATA

Flash Point (Method used): N/A

Autoignition Temp: N/A

Flammable Limits: Lower: N/A

Upper: N/A

Extinguishing Media: Fine dust generated during grinding operations may ignite if allowed to accumulate and subjected to an ignition source. Cover burning material with an inert powder, such as dry sand or limestone, to exclude oxygen.

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, firefighters 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.

6. HEALTH HAZARD INFORMATION

Effects of Exposure: Molybdenum dust and fumes (formed above 400 °C) can cause irritation of the eyes, nose, throat, and respiratory tract. Aside from isolated reports in the Russian literature suggesting an association between molybdenum exposure and pulmonary and joint disorders (gout-like condition), there are no recognized long term effects attributed to industrial exposure to molybdenum. In general, molybdenum and its compounds are considered to be of low toxicity.

Routes of Exposure: Dust, mist and/or fumes generated during physical or metallurgical treatment may be inhaled, swallowed or come in contact with the skin or eyes.

7. EMERGENCY AND FIRST AID PROCEDURES

Inhalation: If irritation occurs, remove from exposure. Seek medical attention.

Ingestion: If substantial quantities are swallowed, give person (if conscious) a large quantity of water to drink, induce vomiting. 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. If irritation persists seek medical attention.

8. REACTIVITY DATA

Stability: Stable

Conditions to Avoid: N/A

Hazardous Polymerization: Will not occur.

Incompatibility (Material to Avoid): 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.

9. HANDLING AND STORAGE

No special precautions are required for these welding electrodes.

Welding electrodes are dense materials and can give rise to a handling hazard when multiple packages are lifted or handled incorrectly or with poor lifting posture.

Good practice for handling and storage should be adopted to prevent physical injuries.

10. 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.

11. OTHER INFORMATION

Prepared By: Bango Alloy Technologies

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