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Material Safety Data Sheet

Identity: Molybdenum Oxide Pieces

Formula: MoO₃

SECTION I - GENERAL INFORMATION

Manufacturer: Advanced Engineering Materials Limited (AEM)

The information below is believed to be accurate and represents the best information available to AEM. However, AEM makes no warranty, expressed or implied with respect to such information and assumes no liability resulting from its use.

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Form Weight: 143.94

CAS #	OSHA PEL	ACGIH TLV	%
1313-27-5	5mg (Mo)/m ³	5mg (Mo)/m ³	0-100%

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: 1155°C

Vapor Pressure (vs. air or mmHg): N/A

Melting Point: 795°C

Flash Point: N/A

Evaporation Rate: N/A

Density: N/A

Solubility in water: Soluble

Appearance and odor: Pale yellow to white powder and pieces, no odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

Method Used: Non-Flammable

Explosive Limits: LEL: N/A UEL: N/A

Extinguishing Media: Use suitable extinguishing agent for surrounding material and type of fire.

Special Fire Fighting Procedures:

Firefighters must wear full face, self-contaminated breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.



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Unusual Fire and Explosion Hazards:

When heated to decomposition, may emit toxic fumes of molybdenum. May have an incandescent reaction with hot sodium, potassium, or lithium. Has violent reaction with interhalogens. Has explosive reaction with molten magnesium.

SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid (stability): None

Incompatibility: Chlorine trifluoride, potassium, sodium, molten magnesium, aluminum, lithium, silicon.

Hazardous Polymerization: Will not occur

Hazardous Decomposition or Byproducts: Molybdenum and molybdenum oxides.

Conditions to avoid (hazardous polymerization): None

SECTION VI - HEALTH HAZARD DATA

Routes of Entry: *Inhalation:* Yes *Skin:* Yes *Eyes:* Yes *Ingestion:* Yes *Other:* No

Health Hazards (Acute and Chronic):

Inhalation: May cause red, dry throat, coughing, sneezing, difficulty breathing, pulmonary fibrosis.

Ingestion: May cause severe gastrointestinal irritation, diarrhea, loss of weight, anorexia, anemia deficient lactation, male sterility, osteoporosis, bone joint abnormalities.

Skin: May cause severe irritation, rashes, redness, itching, burning, or swelling. Poison by subcutaneous and intraperitoneal routes.

Eye: May cause severe irritation, watering, burning and swelling.

Target Organ: Lungs, bones, spleen, and heart.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

Medical Conditions Aggravated by Exposure: Pre-existing respiratory conditions.

Emergency and First Aid Procedures:

Inhalation: Remove victim to fresh air, keep warm and quiet, and give oxygen if breathing is difficult; seek medical attention

Ingestion: 1-2 glasses of milk or water and induce vomiting, seek medical attention. Never induce vomiting or give anything by mouth to an unconscious person.

Skin: Remove contaminated clothing, brush material off skin, wash affected area with mild soap and water, and seek medical attention if symptoms persist.

Eye: Flush eyes with lukewarm water, lifting upper and lower eyelids for at least 15 minutes and seek medical attention.



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SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken in case material is released or spilled:

Wear appropriate respiratory and protective equipment specified in section VIII-Control Measures. Isolate spill area, provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.

Waste disposal method:

Dispose of in accordance with state, local, and federal regulations.

Hazard Label Information:

Store in cool, dry area and in tightly sealed container. Wash thoroughly after handling.

SECTION VIII - CONTROL MEASURES

Protective Equipment Summary (Hazard Label Information):

NIOSH approved respirator, impervious gloves, safety glasses, clothes to prevent contact.

Ventilation:

Local Exhaust: To maintain concentration at low exposure levels.

Mechanical (General): Recommended.

Work/Hygienic/Maintenance Practices:

Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air.

Please be advised that N/A can either mean Not Applicable or No Data Has Been Established