



MATERIAL SAFETY DATA SHEET
COMPLIES WITH 29 CFR 1910.1200.
OSHA HAZARD COMMUNICATION RULE

DATE OF LAST REVISION: 02-06-00

CHEMICAL IDENTITY

LABEL IDENTITY	MOLYBDENUM OXIDE
CALCULATED MOLECULAR WEIGHT	143.94
FORMULA	MoO₃
CHEMICAL FAMILY	METAL OXIDE
CAS REGISTRY NUMBER	1313-27-5, LISTED IN THE TSCA INVENTORY
HAZARDOUS INGREDIENTS	MOLYBDENUM METAL
%: 0-100%	TLV: 10mg/m³ OSHA/PEL: 5mg/m³

PHYSICAL AND CHEMICAL PROPERTIES

COLOR, FORM	White to Off White Powder
ODOR	Odorless
BOILING POINT	1150° C
DENSITY (gm/cc)	NA
VAPOR PRESSURE @ 20°	NA
% VOLATILE BY VOLUME (%)	NA
EVAPORATION RATE (H ₂ O=1)	NA
SOLUBILITY IN WATER	0.107 G/100 G Water @ 18C
MELTING POINT	795°C

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT	NA
AUTOIGNITION TEMPERATURE (°C)	NA
FLAMMABILITY	NA
EXTINGUISHING MEDIA	Use that which is appropriate for the surrounding fire.
SPECIAL FIRE FIGHTING PROCEDURES	Wear appropriate protective equipment including respiratory protection as conditions warrant. Stop spill/release if it can be done without risk. Move undamaged containers from fire area if it can be done without risk. Water spray may be useful in minimizing or Dispensing vapors and cooling equipment exposed to heat and flame.
UNUSUAL FIRE & EXPLOSION HAZARDS	No unusual fire or explosion hazards are expected.



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HEALTH HAZARD INFORMATION

TOXICITY DATA orl-rat TDLo: **6050ug/kg (35W pre)** orl-mus TDLo: **448mg/kg (MGN)**
 ipr-rat LDLo: **114mg/kg** itr-rbt LDLo: **70mg/kg**

HMIS RATING:

HEALTH: **2** FLAMMABILITY: **0** REACTIVITY: **0**

PERSONAL PROTECTION: **Wear fully protective impervious suit.**

ROUTES OF ENTRY

INHALATION: **Yes**
SKIN: **Yes**
INGESTION: **Yes**
EYES: **Yes**

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: **Persons with pre-existing skin disorders or eye problems or impaired respiratory function may be more susceptible to the effects of the substance.**

EFFECTS OF OVEREXPOSURE (acute and chronic): **IRRITATION**

INHALATION: **This material is toxic by inhalation. Breathing dusts may be harmful. Effects of overexposure may include irritation of the nose and throat, diarrhea and Tremors. Respiratory symptoms associated with pre-existing lung disorders. (Eg. Asthma-like conditions). May be aggravated by exposure to this material.**

DERMAL/EYE: **Irritation, contact with dusts may cause stinging, tearing, redness, And swelling.**

INGESTION: **This material is toxic and may be harmful if swallowed. Effects of over exposure may include diarrhea, fatigue, loss of appetite and tremors.**

SKIN: **Contact with dusts may be abrasive and irritating to the skin and may cause redness and burning. There is insufficient information available on this material to predict the effects from skin absorption.**

CARCINOGENICITY: NTP: **no** IARC MONOGRAPHS: **no** OSHA REGULATE: **no**

EMERGENCY FIRST AID PROCEDURES:

INGESTION: **If victim is conscious and alert, vomiting should be induced for ingestion of more than one swallow (1-2 tablespoons for an adult), preferably with syrup of ipecac under direction from a physician or poison center. If syrup of ipecac is not available, vomiting can be induced by gently placing two fingers in the back of the throat. If possible, do not leave victim unattended.**

INHALATION: **Immediately move victim away from exposure and into fresh air. If respiratory symptoms or other symptoms of exposure develop, seek immediate medical attention. If victim is not breathing immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.**



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SKIN CONTACT: Remove contaminated shoes and clothing and flush affected area(s) with large amounts of water. If skin surface is damaged, apply a clean dressing, and seek medical attention. If skin surface is not damaged, cleanse the affected area(s) thoroughly by washing with mild soap and water. If irritation or redness develops, seek medical attention.

EYE CONTACT: Move victim away from exposure and into fresh air. If irritation or redness Develops, flush eyes with clean water and seek medical attention. For direct contact hold Eyelids apart and flush the affected eye(s) with clean water for at least 15 minutes. Seek medical attention.

REACTIVITY DATA

STABILITY	Stable under normal conditions
CONDITIONS CONTRIBUTING TO UNSTABILITY	None
INCOMPATIBILITY (MATERIALS TO AVOID)	Avoid contact with strong alkali metals or hot magnesium.
HAZARDOUS DECOMPOSITION PRODUCTS	None
HAZARDOUD POLYMERZATION	Will Not Occur
CONDITIONS TO AVOID	None

SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Stay upwind and away from spill/release. Isolate hazard area and limit entry to authorized personnel. Stop spill/release if it can be done without risk. Wear appropriate protective equipment. Including respiratory protection as conditions warrant. Prevent spilled material from entering sewers, storm drains, and other unauthorized treatment/drainage systems and natural waterways. Minimize dust generation sweep up and place appropriately for disposal. Notify appropriate federal, state and local agencies. Clean-up procedure should insure minimizing dust; vacuum dust rather than sweep, for example. Do not allow material to enter source of drinking water.
WASTE DISPOSAL METHOD: Dispose of in accordance with local, state and federal regulations. May be sold as scrap for reclaim or returned to the producer.

SPECIAL PROTECTIVE INFORMATION

RESPIRATORY PROTECTION	If airborne concentrations exceed established Exposure limits, a exhaust system may be required.
LOCAL EXHAUST	If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional ventilation or exhaust systems may be required.



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PROTECTIVE GLOVES

The use of gloves impermeable to the specific materials handled is advised to prevent skin contact, possible irritation and absorption. Approved eye protection to safeguard against Potential eye contact, irritation or injury is recommended.

EYE PROTECTION

OTHER:

It is suggested that a source of clean water be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed.

SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING/STORAGE: **Avoid contact with strong alkali metals (particularly sodium) or hot magnesium. Use and store this material in cool, dry, well ventilated areas. Keep container(s) closed. Store only in approved containers. Keep away from any incompatible materials. Protect container(s) against physical damage. Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM-4276. The use of respiratory protection is advised when concentrations exceed any established exposure limits. Wash thoroughly after handling. Do not wear contaminated clothing or shoes. Use good personal hygiene practice.**

STORAGE: **Store in a cool, dry place.**

OTHER PRECAUTIONS: **Avoid contact with eyes, skin, cloth & prolong repeated exposure. Avoid inhalation.**

TRANSPORTATION REQUIREMENTS

DOT CLASS: **Not Classified**
UN NUMBER: **NA**
IMCO CLASS: **Not Classified**
OTHER: **ND**

PRECAUTIONARY LABELING

NONE

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NA= NOT APPLICABLE

ND= NO DATA FOUND

NR=NOT RECORDED