



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

DATE OF LAST REVISION: 05-22-96

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## CHEMICAL IDENTITY

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LABEL IDENTITY	<b>MOLYBDENUM SELENIDE</b>
CALCULATED MOLECULAR WEIGHT	<b>253.86</b>
FORMULA	<b>MoSe<sub>2</sub></b>
CHEMICAL FAMILY	<b>METAL SELENIDES</b>
CAS REGISTRY NUMBER	<b>12058-18-3, LISTED IN EPA TSCA INVENTORY</b>
HAZARDOUS INGREDIENTS	<b>MOLYBDENUM SELENIDE</b>
%: <b>100</b>	TLV: <b>0.2mg(Se)/m<sup>3</sup></b> OSHA/PEL: <b>200ug(Se)/m<sup>3</sup></b>

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## PHYSICAL AND CHEMICAL PROPERTIES

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COLOR, FORM AND ODOR	<b>Gray powder, "rotten egg" odor</b>
BOILING POINT	<b>ND</b>
DENSITY (gm/cc)	<b>6.90</b>
VAPOR PRESSURE @ 20°	<b>ND</b>
% VOLATILE BY VOLUME (%)	<b>NA</b>
REACTION WITH WATER	<b>NA</b>
EVAPORATION RATE (H <sub>2</sub> O=1)	<b>NA</b>
SOLUBILITY IN WATER	<b>Insoluble</b>
MELTING POINT	<b>ND</b>

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## FIRE AND EXPLOSION HAZARD DATA

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FLASH POINT	<b>NA</b>
AUTOIGNITION TEMPERATURE (°C)	<b>NA</b>
FLAMMABILITY	<b>Non-flammable</b>
EXTINGUISHING MEDIA	<b>Use agents for metal fires such as dry chemical, dry sand, or CO<sub>2</sub> to smother fire</b>
SPECIAL FIRE FIGHTING PROCEDURES	<b>Self-contained breathing apparatus should be worn by firemen fighting fires in structures in which molybdenum selenide is stored.</b>
UNUSUAL FIRE & EXPLOSION HAZARDS	<b>Finely divided Molybdenum selenide dust may be potential explosion hazards when exposed to sparks, open flames, or high heat sources.</b>



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### HEALTH HAZARD INFORMATION

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TOXICITY DATA

**No data**

HMIS RATING:

HEALTH: **3\*** FLAMMABILITY: **0** REACTIVITY: **2** PERSONAL PROTECTION: **X**

ROUTES OF ENTRY

INHALATION: **Yes**

SKIN: **Yes**

INGESTION: **No**

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: **Pre-existing lung disorders.**

EFFECTS OF OVEREXPOSURE (acute and chronic):

INHALATION: **dust or fumes of selenium compounds may cause irritation of the respiratory tract.**

DERMAL/EYE: **may cause dermatitis. Garlic odor of breath is a common symptom.**

OTHER: **Pallor, nervousness, depression and digestive disturbances have been reported in cases of chronic exposure.**

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

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EMERGENCY FIRST AID PROCEDURES:

INGESTION: **induce vomiting, seek medical attention**

INHALATION: **remove to fresh air, seek medical attention**

SKIN CONTACT: **remove contaminated clothing, wash with plenty of soap and water**

EYE CONTACT: **Flush eyes for at least 15 minutes with plenty of water, seek medical attention.**

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### REACTIVITY DATA

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STABILITY

**Stable**

CONDITIONS CONTRIBUTING TO UNSTABILITY

**None**

INCOMPATIBILITY (MATERIALS TO AVOID)

**Materials which could cause the production of hydrogen selenide or selenium oxychloride**

HAZARDOUS DECOMPOSITION PRODUCTS

**Avoid heating to the point where material can decompose to Se. Fumes of Se are toxic.**

HAZARDOUS POLYMERIZATION

**Will Not Occur**

CONDITIONS TO AVOID

**Avoid contact with acids or oxidizers**



## MOLYBDENUM SELENIDE MATERIAL SAFETY DATA SHEET

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### SAFE HANDLING AND USE

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STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

**Vacuum up spill and place in container for proper disposal. Take care not to raise dust.**

WASTE DISPOSAL METHOD:

**Consult federal, state and local regulations for proper disposal.**

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### SPECIAL PROTECTIVE INFORMATION

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RESPIRATORY PROTECTION	<b>NIOSH approved dust-mist-fume cartridge respirator</b>
LOCAL EXHAUST requirements	<b>Use local ventilation to meet TLV</b>
MECHANICAL (general)	<b>NA</b>
SPECIAL	<b>NA</b>
OTHER	<b>NA</b>
PROTECTIVE GLOVES	<b>Neoprene</b>
EYE PROTECTION	<b>Safety glasses</b>
OTHER PROTECTIVE EQUIPMENT	<b>Wear protective clothing to prevent contamination of skin and clothes</b>

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### SPECIAL PRECAUTIONS

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PRECAUTIONS TO BE TAKEN IN HANDLING/STORAGE:

**Keep containers closed. Wash hands and face thoroughly after handling material and before eating.**

TRANSPORTATION REQUIREMENTS	DOT CLASS:	<b>Not Classified</b>
	UN NUMBER:	<b>NC</b>
	IMCO CLASS:	<b>NC</b>
	OTHER:	<b>ND</b>

PRECAUTIONARY LABELING **NONE**

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**NA= NOT APPLICABLE**

**ND= NO DATA FOUND**

**NR=NOT RECORDED**