



Section 1. Product and Company Identification

**Product Name** Molybdenum Disulfide  
**CAS Number** 1317-33-5

**Parchem - fine & specialty chemicals**

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**New Rochelle, NY 10801**

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EMERGENCY RESPONSE NUMBER  
CHEMTEL

Toll Free US & Canada: 1 (800) 255-3924

All other Origins: 1 (813) 248-0585

Collect Calls Accepted

Section 2. Hazards Identification

**Classification of the substance or mixture**

Not classified as a hazardous substance or mixture

**GHS Label Elements**

**Pictograms:** N/A

**Signal word:** N/A

**Hazard and precautionary statements**

None

**Hazards not otherwise classified (HNOC) or not covered by GHS:** None

Section 3. Composition / Information on Ingredients

**Common Name** Molybdenum Disulfide  
**Synonym(s)** Molybdenum(V) Sulfide  
**Formula** MoS<sub>2</sub>  
**CAS Number** 1317-33-5

COMPONENT	CAS NUMBER	CONCENTRATION
Molybdenum Disulfide	1317-33-5	<= 100%

Section 4. First Aid Measures

**Description of first-aid measures**

**Inhalation:** If breathed in, move person into fresh air. If not breathing, give artificial respiration.

**Skin contact:** Wash off with soap and plenty of water.

**Eye contact:** Flush eyes with water as a precaution.

**Ingestion:** Never give anything by mouth to an unconscious person. Rinse mouth with water.



**Most important symptoms and effects, both acute and delayed:** The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

**Indication of any immediate medical attention and special treatment needed:** No data available

#### Section 5. Firefighting Measures

##### **Extinguishing media**

**Suitable extinguishing media:** Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

**Special hazards arising from the substance or mixture:** Sulfur oxides, Molybdenum oxides

**Advice for firefighters:** Wear self-contained breathing apparatus for firefighting if necessary.

**Further information:** No data available

#### Section 6. Accidental Release Measures

**Personal precautions, protective equipment, and emergency procedures:** Avoid dust formation. Avoid breathing vapors, mist, or gas. For personal protection see section 8.

**Environmental precautions:** No special environmental precautions required.

**Methods and materials for containment and cleaning up:** Sweep up and shovel. Keep in suitable, closed containers for disposal.

**Reference to other sections:** For disposal see section 13.

#### Section 7. Handling and Storage

**Precautions for safe handling:** Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.

**Conditions for safe storage, including any incompatibilities:** Keep container tightly closed in a dry and well-ventilated place. Keep in a dry place.  
Storage class (TRGS 510): Non Combustible Solids

#### Section 8. Exposure Controls / Personal Protection

##### **Control parameters**

##### **Components with workplace control parameters**

Component	CAS-No.	Value	Control Parameters	Basis
Molybdenum(V) sulfide	1317-33-5	TWA	15.000000 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	10.000000 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
		TWA	3.000000 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
		TWA	15 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	10 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
		TWA	3 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)

**Exposure controls**

**Appropriate engineering controls:** General industrial hygiene practice.

**Personal protective equipment**

**Eye/face protection:** Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection:** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Body Protection:** Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection:** Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure:** No special environmental precautions required.

Section 9. Physical and Chemical Properties

**Information on basic physical and chemical properties**

**Appearance:** Powder

**Color:** Grey



**Odor:** No data available  
**Odor Threshold:** No data available  
**pH:** No data available  
**Melting point/freezing point:** 2,375°C (4,307°F)  
**Initial boiling point and boiling range:** No data available  
**Flash point:** No data available  
**Evaporation rate:** No data available  
**Flammability (solid, gas):** No data available  
**Upper/lower flammability or explosive limits:** No data available  
**Vapor pressure:** No data available  
**Vapor density:** No data available  
**Relative density:** 5.060 g/cm<sup>3</sup>  
**Water solubility:** No data available  
**Partition coefficient (n-Octanol/water):** No data available  
**Auto-ignition temperature:** No data available  
**Decomposition temperature:** No data available  
**Viscosity:** No data available  
**Explosive properties:** No data available  
**Oxidizing properties:** No data available

**Other safety information:** No data available

#### Section 10. Stability and Reactivity

**Reactivity:** No data available  
**Chemical stability:** Stable under recommended storage conditions.  
**Possibility of hazardous reactions:** No data available  
**Conditions to avoid:** No data available  
**Incompatible materials:** Hydrogen peroxide, Strong oxidizing agents

#### Hazardous decomposition products

**Other decomposition products:** No data available  
In the event of fire: see section 5

#### Section 11. Toxicological Information

##### Information on toxicological effects

##### Acute toxicity

**LC50 Inhalation - Rat:** > 2,820 mg/m<sup>3</sup> (4H)

**Remarks:** Lungs, Thorax, or Respiration: Other changes.

**Dermal:** No data available

**Skin corrosion/irritation:** No data available

**Serious eye damage/eye irritation:** No data available



**Respiratory or skin sensitization:** No data available

**Germ cell mutagenicity:** No data available

#### **Carcinogenicity**

**IARC:** No component of this product, present at levels greater than or equal to 0.1%, is identified as probable, possible or confirmed human carcinogen by IARC.

**ACGIH:** No component of this product, present at levels greater than or equal to 0.1%, is identified as a carcinogen or potential carcinogen by ACGIH.

**NTP:** No component of this product, present at levels greater than or equal to 0.1%, is identified as a known or anticipated carcinogen by NTP.

**OSHA:** No component of this product, present at levels greater than or equal to 0.1%, is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity:** No data available

**Specific target organ toxicity - single exposure:** No data available

**Specific target organ toxicity - repeated exposure:** No data available

**Aspiration hazard:** No data available

#### **Additional Information**

**RTECS:** QA4697000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

#### Section 12. Ecological Information

**Toxicity:** No data available

**Persistence and degradability:** No data available

**Bioaccumulative potential:** No data available

**Mobility in soil:** No data available

**Results of PBT and vPvB assessment:** PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**Other adverse effects:** No data available

#### Section 13. Disposal Considerations

**Waste Treatment Methods:** Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

#### Section 14. Transport Information

**DOT (US):** Not dangerous goods

**IMDG:** Not dangerous goods

**IATA:** Not dangerous goods



Section 15. Regulatory Information

**SARA 302 Components:** No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components:** This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards:** No SARA Hazards

**Massachusetts Right to Know Components**

Molybdenum(V) sulfide (CAS-No. 1317-33-5)  
Revision Date: 1993-04-24

**Pennsylvania Right to Know Components**

Molybdenum(V) sulfide (CAS-No. 1317-33-5)  
Revision Date: 1993-04-24

**New Jersey Right to Know Components**

Molybdenum(V) sulfide (CAS-No. 1317-33-5)  
Revision Date: 1993-04-24

**California Prop. 65 Components:** This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**HMIS Rating**

**Health:** 0  
**Flammability:** 0  
**Reactivity:** 0

**NFPA Rating**

**Health:** 0  
**Flammability:** 0  
**Reactivity:** 0

Section 16. Other Information

**Disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

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