

# MATERIAL SAFETY DATA SHEET

Product Name molybdenum disulphide

Revision date 25-May-2023

## SECTION 1: Identification of the substance /mixture and of the company/undertaking

### 1.1. Product identifier

Product Name	molybdenum disulphide
CAS No	1317-33-5
EC No	215-263-9
REACH registration number	No information available

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use	Used as additive in lubricant and friction materials.
Uses advised against	No information available

### 1.3. Details of the supplier of the safety data sheet

Supplier	Hebei Disha Import and Export Trade Co., LTD.
Address	5-505, No. 3 Guang 'an Street, Chang 'an District, Shijiazhuang City, Hebei Province, China
Postal Code	050000
Phone	+86 18033885665
E-mail	sales02@hebeidisha.com

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]  
Not classified.

### 2.2. Label elements

Symbols/Pictograms	None
Signal word	None
Hazard Statements	Not applicable
Precautionary Statements	Not applicable

### 2.3. Other hazards

No information available.

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Chemical Name	EC No	CAS No	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Molybdenum (IV) sulfide	215-263-9	1317-33-5	≥99	Not classified

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General advice

Remove contaminated clothing and shoes. If symptoms persist, call a physician.

#### Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

#### Skin Contact

Wash off immediately with soap and plenty of water. If skin irritation persists, call a physician.

#### Eye contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

#### Ingestion

Rinse mouth. Get medical attention. Never give anything by mouth to an unconscious person.

### 4.2. Most important symptoms and effects, both acute and delayed

No information available.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

Water spray (fog). Foam. Dry chemical. Carbon dioxide (CO<sub>2</sub>). Dry sand.

#### Unsuitable extinguishing media

No information available.

### 5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Contact with flames may catch fire. Reacts violently with hydrogen peroxide. Powdered materials may form explosive dust mixed with sodium nitrate.

### 5.3. Advice for firefighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Stay upwind. Ensure adequate ventilation, especially in confined areas. Move containers from fire area if you can do it without risk. Cool drums with water spray. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Evacuate personnel to safe areas.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Ensure adequate ventilation, especially in confined areas. Remove all sources of ignition. Do not touch or walk through spilled material. Avoid creating dust. Avoid breathing dust/fume/gas/mist/vapors/spray.

## 6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system. Should not be released into the environment.

## 6.3. Methods and material for containment and cleaning up

Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Avoid generation of dust. Remove all sources of ignition. Ventilation. Flush area with flooding quantities of water.

## 6.4. Reference to other sections

See Section 7 for more information  
See section 8 for more information  
See section 13 for more information

# SECTION 7: Handling and storage

## 7.1. Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment as required. Wash thoroughly after handling. Ensure adequate ventilation, especially in confined areas. Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Avoid contact with skin, eyes or clothing. Do not breathe dust/fume/gas/mist/vapors/spray.

## 7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat. Keep locked up and out of reach of children. Store in accordance with local regulations.

## 7.3. Specific end use(s)

Apart from the uses mentioned in SECTION 1.2 no other specific uses are stipulated.

# SECTION 8: Exposure controls/personal protection

## 8.1. Control parameters

Chemical Name	Australia	Austria	Belgium	Denmark	European Union
Molybdenum (IV) sulfide (CAS #: 1317-33-5)	10 mg/m <sup>3</sup>	STEL 20 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup>	-	TWA: 10 mg/m <sup>3</sup>	-

Chemical Name	Norway	United Kingdom	ACGIH TLV	OSHA PEL	NIOSH IDLH
Molybdenum (IV) sulfide (CAS #: 1317-33-5)	TWA: 10 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup>	-	TWA: 10 mg/m <sup>3</sup> Mo inhalable fraction TWA: 3 mg/m <sup>3</sup> Mo respirable fraction	-	IDLH: 5000 mg/m <sup>3</sup> Mo

## Derived No Effect Level (DNEL)

No information available

## Predicted No Effect Concentration (PNEC)

No information available

## 8.2. Exposure controls

### Engineering Controls

Ensure adequate ventilation, especially in confined areas.

### Personal protective equipment

Eye/face protection      Wear safety glasses with side shields (or goggles).

Hand Protection	Wear protective gloves.
Skin and body protection	Suitable protective clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	None under normal processing

**Environmental exposure controls**

Prevent product from entering drains.

## **SECTION 9: Physical and chemical properties**

### **9.1. Information on basic physical and chemical properties**

<b>Appearance</b>	Powder
<b>Color</b>	Grey black
<b>Odor</b>	Odorless
<b>Odor Threshold</b>	Not determined
<b>pH</b>	Not applicable
<b>Melting point/freezing point</b>	1185°C
<b>Boiling point / boiling range</b>	Not determined
<b>Flash point</b>	Not applicable
<b>Evaporation rate</b>	Not applicable
<b>Flammability (solid, gas)</b>	Not determined
<b>Explosive limits</b>	Not determined
<b>Flammability Limit in Air</b>	Not determined
<b>Vapor Pressure</b>	Not applicable.
<b>Vapor density</b>	Not determined
<b>Density</b>	4.5-4.8g/cm <sup>3</sup>
<b>Relative density</b>	Not determined
<b>Solubility(ies):</b>	Insoluble in water. Soluble in strong Sulfuric acid.
<b>Partition coefficient (LogPow)</b>	Not determined
<b>Autoignition temperature</b>	Not determined
<b>Decomposition temperature</b>	Not determined
<b>Kinematic viscosity</b>	Not applicable.
<b>Dynamic viscosity</b>	Not applicable.
<b>Explosive properties</b>	No explosion properties.
<b>Oxidizing properties</b>	No oxidizing properties.

### **9.2. Other information**

No information available

## **SECTION 10: Stability and reactivity**

### **10.1. Reactivity**

Stable under recommended storage and handling conditions (see SECTION 7, handling and storage).

### **10.2. Chemical stability**

Stable under normal conditions.

### **10.3. Possibility of hazardous reactions**

Reacts violently with hydrogen peroxide.

### **10.4. Conditions to avoid**

Heat, flames and sparks. Incompatible materials.

### **10.5. Incompatible materials**

Hydrogen peroxide, sodium nitrate, strong alkali, strong oxidizing materials.

#### 10.6. Hazardous decomposition products

Molybdenum compound, sulfur compound.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

##### Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Molybdenum (IV) sulfide (CAS #: 1317-33-5)	>2000 mg/kg (rat)	>2000 mg/kg (rat)	> 2820 mg/m <sup>3</sup> ( Rat ) 4 h

##### Skin corrosion/irritation

No information available.

##### Serious eye damage/eye irritation

No information available.

##### Sensitization

No information available.

##### Germ cell mutagenicity

No information available.

##### Carcinogenicity

No information available

##### Reproductive toxicity

No information available.

##### STOT - single exposure

No information available.

##### STOT - repeated exposure

No information available.

##### Aspiration hazard

No information available.

### SECTION 12: Ecological information

#### 12.1. Toxicity

No information available

#### 12.2. Persistence and degradability

No information available.

#### 12.3. Bioaccumulative potential

No information available.

#### 12.4. Mobility in soil

No information available.

#### 12.5. Results of PBT and vPvB assessment

PBT/vPvB assessment information is not available as chemical safety assessment not conducted.

## 12.6. Other adverse effects

No information available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste from residues/unused products Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Disposal should be in accordance with applicable regional, national and local laws and regulations.

## SECTION 14: Transport information

14.1. UN number Not regulated

14.2. UN proper shipping name Not regulated

14.3. Transport hazard class(es) Not regulated

14.4. Packing group Not regulated

14.5. Environmental hazards Not regulated

14.6. Special precautions for user No information available

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code Does not apply

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### European Union

Component	EINECS/ELINCS	SVHC candidates	RESTRICTIONS - REACH TITLE VIII
Molybdenum (IV) sulfide 1317-33-5	X	-	-

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Take note of Directive 94/33/EC on the protection of young people at work

Take note of Directive 92/85/EC on the protection of pregnant and breastfeeding women at work

#### International Inventories

Component	TSCA	DSL/NDSL	ENCS	IECSC	KECL	PICCS	AICS
Molybdenum (IV) sulfide 1317-33-5	X	X	X	X	X	X	X

"-" Not Listed

"X" Listed

### 15.2. Chemical safety assessment

No information available.

## SECTION 16: Other information

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

**Issue Date** 25-May-2023  
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**Revision Note** Not applicable

**Key or legend to abbreviations and acronyms used in the safety data sheet**

**TWA** - TWA (time-weighted average)

**STEL** - STEL (Short Term Exposure Limit)

**Ceiling** - Maximum limit value

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**Key literature references and sources for data**

ECHA: <http://echa.europa.eu/>

**Full text of H-Statements referred to under section 3**

Not classified

**Disclaimer**

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