

# molybdenum disulphide

## Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 11/12/2019 Revision date: 11/12/2019 Version: 1.0

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

#### 1.1. Product identifier

Product form : Substance  
Trade 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

##### 1.2.1. Relevant identified uses

Use of the substance/mixture : Used as additive in lubricant and friction materials.

##### 1.2.2. Uses advised against

Restrictions on use : No information available

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

Luoyang Shenyu Molybdenum Co., Ltd  
Miaozi, Luanchuan, Luoyang, Henan, China  
471003  
T +86-379-69911868  
F +86-379-69911862  
Info@shenyumoly.com

#### 1.4. Emergency telephone number

Emergency number : +86-15503792966

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

##### Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

#### 2.2. Label elements

##### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

No labelling applicable

#### 2.3. Other hazards

No additional information available

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Molybdenum(IV) sulfide	(CAS-No.) 1317-33-5 (EC-No.) 215-263-9	>= 98	Not classified

#### 3.2. Mixtures

Not applicable

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

First-aid measures general : Immediately remove contaminated or damp clothing. If symptoms persist call a doctor.  
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If necessary seek medical advice.  
First-aid measures after skin contact : Wash skin with plenty of water. If skin irritation occurs: Call a POISON CENTER/doctor.  
First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.  
First-aid measures after ingestion : Rinse mouth out with water. Call a poison center or a doctor if you feel unwell. Never give anything by mouth to an unconscious person.

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

Symptoms/effects : No information available.

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### 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. Dry powder. Foam. Carbon dioxide (CO<sub>2</sub>). dry sand.

Unsuitable extinguishing media : No information available.

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

Fire hazard : Thermal decomposition may produce : Toxic and irritating gases are released. Contact with flames may catch fire. Reacts violently with hydrogen peroxide. Powdered materials may form explosive dust mixed with sodium nitrate.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. 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.

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Use proper personal protective equipment. Remove all sources of ignition. Do not touch or walk on the spilled product. Avoid creating or spreading dust. Avoid breathing dust, mist or spray.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment. Do not allow to enter into surface water or drains.

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

Methods for cleaning up : Take up mechanically (sweeping, shovelling) and collect in suitable container for disposal. Avoid generation of dust. Remove all sources of ignition. Ventilation. Flush area with flooding quantities of water.

Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Wash thoroughly after handling. Keep away from naked flames/heat. No smoking. Avoid contact with skin, eyes and clothing. Do not breathe dust.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Storage conditions : Store in a well-ventilated place. Keep cool. Keep away from heat. Keep locked up. Store in accordance with local regulations.

### 7.3. Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Exposure controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station.

#### Hand protection:

Protective gloves

#### Eye protection:

Wear safety glasses with side shields (or goggles).

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### Skin and body protection:

Wear suitable protective clothing

### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

### Environmental exposure controls:

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

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

Physical state	: Solid
Appearance	: Grey black powder
Molecular mass	: No data available
Colour	: No data available.
Odour	: Odorless
Odour threshold	: No data available
pH	: Not applicable
pH solution	: No data available
Relative evaporation rate (butylacetate=1)	: Not applicable
Relative evaporation rate (ether=1)	: Not applicable
Melting point	: 1185°C
Freezing point	: No data available
Boiling point	: No data available
Flash point	: Not applicable
Critical temperature	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: Not applicable
Critical pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Relative density of saturated gas/air mixture	: No data available
Density	: 4.5-4.8g/cm <sup>3</sup>
Relative gas density	: No data available
Solubility	: Insoluble in water. Soluble in strong Sulfuric acid.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: Not applicable
Explosive properties	: No data available.
Oxidising properties	: No data available.
Explosive limits	: No data available
Lower explosive limit (LEL)	: No data available
Upper explosive limit (UEL)	: No data available
Dust deflagration index	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 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.

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### 10.5. Incompatible materials

Hydrogen peroxide. Sodium nitrate. Strong alkalis. Strong oxidizing agents.

### 10.6. Hazardous decomposition products

Molybdenum compound, sulfur compounds.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified  
Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Not classified

#### Molybdenum(IV) sulfide (1317-33-5)

LD50 oral rat (mg/l)	>2000 mg/kg
LD50 dermal rat (mg/l)	>2000 mg/kg
LC50 inhalation rat (mg/l)	> 2820 mg/m <sup>3</sup> (Exposure time: 4 h)
Skin corrosion/irritation	: Not classified pH: Not applicable
Serious eye damage/irritation	: Not classified pH: Not applicable
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.  
Acute aquatic toxicity : Not classified  
Chronic aquatic toxicity : Not classified

### 12.2. Persistence and degradability

#### molybdenum disulphide (1317-33-5)

Persistence and degradability	No information available.
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### 12.3. Bioaccumulative potential

#### molybdenum disulphide (1317-33-5)

Log Pow	No data available
Log Kow	No data available
Bioaccumulative potential	No information available.

### 12.4. Mobility in soil

#### molybdenum disulphide (1317-33-5)

Ecology - soil	No information available.
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### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

Other adverse effects : No information available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

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ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.2. UN proper shipping name</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.3. Transport hazard class(es)</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.4. Packing group</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.5. Environmental hazards</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

### 14.6. Special precautions for user

#### Overland transport

Not regulated

#### Transport by sea

Not regulated

#### Air transport

Not regulated

#### Inland waterway transport

Not regulated

#### Rail transport

Not regulated

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

molybdenum disulphide is not on the REACH Candidate List

molybdenum disulphide is not on the REACH Annex XIV List

E54075 EUSDS molybdenum disulphide is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

E54075 EUSDS molybdenum disulphide is not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC

#### 15.1.2. National regulations

##### Germany

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

##### Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

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### SECTION 16: Other information

#### Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
BCF	Bioconcentration factor
ATE	Acute Toxicity Estimate
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
DPD	Dangerous Preparations Directive 1999/45/EC
DSD	Dangerous Substances Directive 67/548/EEC
EC50	Median effective concentration
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOEC	No-Observed Effect Concentration
NOAEL	No-Observed Adverse Effect Level
PBT	Persistent Bioaccumulative Toxic
OECD	Organisation for Economic Co-operation and Development
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
TLM	Median Tolerance Limit
vPvB	Very Persistent and Very Bioaccumulative

Data sources : LOLI.

Training advice : Normal use of this product shall imply use in accordance with the instructions on the packaging.

#### SDS EU (REACH Annex II)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*