

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519  
CN



## OKS 110

Version 1.5      Revision Date: 2022-08-03      Date of last issue: 2021-03-01  
Date of first issue: 2014-06-27      Print Date: 2022-08-04

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : OKS 110

Chemical nature : Molybdenum disulfide

#### Manufacturer or supplier's details

Company name of supplier : OKS Spezialschmierstoffe GmbH  
Ganghoferstr. 47  
D-82216 Maisach-Gernlinden  
Tel.: +49 8142 3051 500  
Fax.: +49 8142 3051 599  
info@oks-germany.com

E-mail address of person responsible for the SDS : mcm@oks-germany.com  
Material Compliance Management

National contact :

Emergency telephone number : +86 532 8388 9090 (NRCC, only for hazardous chemicals)  
+86 21 69225521

#### Recommended use of the chemical and restrictions on use

Recommended use : solid lubricant

Restrictions on use : Restricted to professional users.

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

<b>Appearance</b>	: powder
<b>Colour</b>	: grey
<b>Odour</b>	: odourless

Not a hazardous substance or mixture.

#### GHS Classification

Not a hazardous substance or mixture.

#### GHS label elements

Not a hazardous substance or mixture.

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### Physical and chemical hazards

Not classified based on available information.

### Health hazards

Not classified based on available information.

### Environmental hazards

Not classified based on available information.

### Other hazards which do not result in classification

None known.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

### Components

Chemical name	CAS-No.	Concentration (% w/w)
molybdenum disulphide	1317-33-5	$\geq 90$ - $\leq 100$

## 4. FIRST AID MEASURES

- If inhaled : Remove person to fresh air. If signs/symptoms continue, get medical attention.  
Keep patient warm and at rest.  
If breathing is irregular or stopped, administer artificial respiration.
- In case of skin contact : Remove contaminated clothing. If irritation develops, get medical attention.  
In case of contact, immediately flush skin with plenty of water.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes.  
If eye irritation persists, consult a specialist.
- If swallowed : Move the victim to fresh air.  
Do not induce vomiting without medical advice.  
Rinse mouth with water.
- Most important symptoms and effects, both acute and delayed : No information available.  
None known.
- Notes to physician : No information available.

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### 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- Unsuitable extinguishing media : High volume water jet
- Hazardous combustion products : Sulphur oxides  
Metal oxides
- Specific extinguishing methods : Standard procedure for chemical fires.  
Cool containers/tanks with water spray.
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.  
Exposure to decomposition products may be a hazard to health.

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### 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Evacuate personnel to safe areas.  
Keep people away from and upwind of spill/leak.  
Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust).  
Avoid dust formation.  
Avoid breathing dust.  
Refer to protective measures listed in sections 7 and 8.
- Environmental precautions : Try to prevent the material from entering drains or water courses.  
Prevent further leakage or spillage.  
Local authorities should be advised if significant spillages cannot be contained.
- Methods and materials for containment and cleaning up : Clean up promptly by sweeping or vacuum.  
Keep in suitable, closed containers for disposal.  
Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).

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### 7. HANDLING AND STORAGE

#### Handling

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Advice on protection against fire and explosion : Avoid dust formation.

Advice on safe handling : Do not use in areas without adequate ventilation.  
Do not breathe vapours/dust.  
In case of insufficient ventilation, wear suitable respiratory equipment.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Wash hands and face before breaks and immediately after handling the product.  
Ensure all equipment is electrically grounded before beginning transfer operations.  
Avoid dust accumulation in enclosed space.

Avoidance of contact : No materials to be especially mentioned.

### Storage

Conditions for safe storage : Store in original container.  
Keep container closed when not in use.  
Keep in a dry, cool and well-ventilated place.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
Electrical installations / working materials must comply with the technological safety standards.  
Store in accordance with the particular national regulations.  
Keep in properly labelled containers.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
molybdenum disulphide	1317-33-5	PC-TWA	6 mg/m <sup>3</sup> (Molybdenum)	CN OEL (2019-08-27)
		TWA (Inhalable particulate matter)	10 mg/m <sup>3</sup> (Molybdenum)	ACGIH (2019-03-05)
		TWA (Respirable particulate matter)	3 mg/m <sup>3</sup> (Molybdenum)	ACGIH (2019-03-05)

Engineering measures : Local exhaust  
Ensure that dust-handling systems (such as exhaust ducts,

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dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

### Personal protective equipment

- Respiratory protection : Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust).
- Filter type : P2 filter
- Eye/face protection : Safety glasses with side-shields
- Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
- Hand protection
- Material : Nitrile rubber
  - Break through time : > 10 min
  - Protective index : Class 1
- Remarks : For prolonged or repeated contact use protective gloves. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case.
- Protective measures : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
- Hygiene measures : Wash face, hands and any exposed skin thoroughly after handling.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : powder
- Colour : grey
- Odour : odourless
- Odour Threshold : No data available

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pH	:	Not applicable substance/mixture is non-soluble (in water)
Melting point/range	:	1,185 °C
Boiling point/boiling range	:	No data available
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Will not burn
Self-ignition	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	250,000 mg/m <sup>3</sup>
Vapour pressure	:	< 0.001 hPa (20 °C)
Relative vapour density	:	No data available
Density	:	4.80 g/cm <sup>3</sup> (20 °C)
Bulk density	:	400 - 1,400 kg/m <sup>3</sup>
Solubility(ies)		
Water solubility	:	insoluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	520 °C
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available

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Explosive properties : Not explosive

Oxidizing properties : No data available

Sublimation point : No data available

### 10. STABILITY AND REACTIVITY

Reactivity : No hazards to be specially mentioned.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Dust can form an explosive mixture in air.

Conditions to avoid : No conditions to be specially mentioned.

Incompatible materials : No materials to be especially mentioned.

Hazardous decomposition products : No decomposition if stored and applied as directed.

### 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

##### Product:

Acute oral toxicity : Remarks: This information is not available.

Acute inhalation toxicity : Symptoms: Inhalation may provoke the following symptoms:, Respiratory disorder, Dust may cause sore throat and pains in the lungs and chest.

Acute dermal toxicity : Remarks: This information is not available.

##### Components:

##### **molybdenum disulphide:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute dermal toxicity : LD50 (Rat): > 16,000 mg/kg

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### Skin corrosion/irritation

**Product:**

Remarks : This information is not available.

**Components:**

**molybdenum disulphide:**

Assessment : No skin irritation  
Result : No skin irritation

### Serious eye damage/eye irritation

**Product:**

Remarks : Contact with eyes may cause irritation.

**Components:**

**molybdenum disulphide:**

Result : No eye irritation  
Assessment : No eye irritation

### Respiratory or skin sensitisation

**Product:**

Remarks : This information is not available.

**Components:**

**molybdenum disulphide:**

Assessment : Does not cause skin sensitisation.  
Result : Does not cause skin sensitisation.

### Germ cell mutagenicity

**Product:**

Genotoxicity in vitro : Remarks: No data available



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Genotoxicity in vivo : Remarks: No data available

### Components:

#### **molybdenum disulphide:**

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.

### **Carcinogenicity**

#### Product:

Remarks : No data available

### Components:

#### **molybdenum disulphide:**

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

### **Reproductive toxicity**

#### Product:

Effects on fertility : Remarks: No data available

Effects on foetal development : Remarks: No data available

### **STOT - single exposure**

#### Components:

#### **molybdenum disulphide:**

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

### **STOT - repeated exposure**

#### Components:

#### **molybdenum disulphide:**

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

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### Repeated dose toxicity

**Product:**

Remarks : This information is not available.

### Aspiration toxicity

**Product:**

This information is not available.

### Further information

**Product:**

Remarks : Prolonged or repeated inhalation may cause damage to the lungs.

**Components:**

**molybdenum disulphide:**

Remarks : Information given is based on data on the components and the toxicology of similar products.

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## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

**Product:**

Toxicity to fish :  
Remarks: No data available

Toxicity to daphnia and other aquatic invertebrates :  
Remarks: No data available

Toxicity to algae/aquatic plants :  
Remarks: No data available

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Toxicity to microorganisms : Remarks: No data available

### Components:

#### **molybdenum disulphide:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l  
Exposure time: 72 h

### **Persistence and degradability**

#### Product:

Biodegradability : Remarks: No data available

Physico-chemical removability : Remarks: No data available

### **Bioaccumulative potential**

#### Product:

Bioaccumulation : Remarks: This substance is not considered to be persistent, bioaccumulating and toxic (PBT).  
This substance is not considered to be very persistent and very bioaccumulating (vPvB).

### **Mobility in soil**

#### Product:

Mobility : Remarks: No data available

Distribution among environmental compartments : Remarks: No data available

### **Other adverse effects**

#### Product:

Additional ecological information : No information on ecology is available.

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### 13. DISPOSAL CONSIDERATIONS

#### Disposal methods

- Waste from residues : The product should not be allowed to enter drains, water courses or the soil.
- Contaminated packaging : Packaging that is not properly emptied must be disposed of as the unused product.  
Dispose of waste product or used containers according to local regulations.

### 14. TRANSPORT INFORMATION

#### International Regulations

##### UNRTDG

Not regulated as a dangerous good

##### IATA-DGR

Not regulated as a dangerous good

##### IMDG-Code

Not regulated as a dangerous good

#### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

#### National Regulations

##### GB 6944/12268

Not regulated as a dangerous good

#### Special precautions for user

Not applicable

### 15. REGULATORY INFORMATION

#### National regulatory information

##### Law on the Prevention and Control of Occupational Diseases

#### Regulations on Safety Management of Hazardous Chemicals

Hazardous Chemicals for Priority Management under SAWS : Not applicable

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China Severely Restricted Toxic Chemicals for Import and Export : Not applicable

Catalogue of Hazardous Chemicals : Not applicable

### The components of this product are reported in the following inventories:

IECSC : On the inventory, or in compliance with the inventory

## 16. OTHER INFORMATION

Date format : yyyy/mm/dd

### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
CN OEL : Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.  
ACGIH / TWA : 8-hour, time-weighted average  
CN OEL / PC-TWA : Permissible concentration - time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECl - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No

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1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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