



OKS 110

Version 1.5 Revision Date: 03.08.2022 Date of last issue: 01.03.2021 Print Date: 04.08.2022
Date of first issue: 27.06.2014

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name : OKS 110

Manufacturer or supplier's details

Company name of supplier : OKS Spezialechmierstoffe 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

Emergency telephone number : +7 495 628 1687
+49 8142 3051 517

Recommended use of the chemical and restrictions on use

Recommended use : solid lubricant

Restrictions on use : Restricted to professional users.

2. HAZARDS IDENTIFICATION

GHS Classification (According to GOST 32423, GOST 32424 and GOST 32425)

Not a hazardous substance or mixture.

GHS-Labeling (According to GOST 31340)

Not a hazardous substance or mixture.

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Substance

Chemical nature : Molybdenum disulfide

Components

Chemical name	Concentration (% w/w)	Occupational Exposure Limits	CAS-No.	EC-No.
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OKS 110

Version 1.5	Revision Date: 03.08.2022	Date of last issue: 01.03.2021 Date of first issue: 27.06.2014	Print Date: 04.08.2022
----------------	------------------------------	---	---------------------------

		MAC value mg/m3 / TSEL value	Hazard Class		
molybdenum disulphide	>= 90 - <= 100	MPC-TWA: 1 mg/m3 Data Source: RU OEL	3	1317-33-5	215-263-9
		MPC-STEL: 6 mg/m3 Data Source: RU OEL	3		
		MPC-TWA: 1 mg/m3 Data Source: RU OEL	3		
		MPC-STEL: 6 mg/m3 Data Source: RU OEL	3		

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.

OKS 110

Version	Revision Date:	Date of last issue: 01.03.2021	Print Date:
1.5	03.08.2022	Date of first issue: 27.06.2014	04.08.2022

5. FIREFIGHTING MEASURES

Flammable properties

- Flash point : Not applicable
- Ignition temperature : 520 °C

- Upper explosion limit / Upper flammability limit : No data available

- Lower explosion limit / Lower flammability limit : 250.000 mg/m3

- Flammability (solid, gas) : Will not burn

- 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

- Further information : 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.

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 : Clean up promptly by sweeping or vacuum.



OKS 110

Version	Revision Date:	Date of last issue: 01.03.2021	Print Date:
1.5	03.08.2022	Date of first issue: 27.06.2014	04.08.2022

containment and cleaning up Keep in suitable, closed containers for disposal.
Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).

7. HANDLING AND STORAGE

- 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.
- 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	Data Source
molybdenum disulphide	1317-33-5	MPC-TWA (aerosol)	1 mg/m ³	RU OEL (2011-07-12)
Further information: Class 3 - Dangerous				
		MPC-STEL (aerosol)	6 mg/m ³	RU OEL (2011-07-12)
Further information: Class 3 - Dangerous				
		MPC-TWA (aerosol)	1 mg/m ³ (Molybdenum)	RU OEL (2021-02-03)
Further information: Class 3 - Moderately dangerous				



OKS 110

Version 1.5	Revision Date: 03.08.2022	Date of last issue: 01.03.2021 Date of first issue: 27.06.2014	Print Date: 04.08.2022
----------------	------------------------------	---	---------------------------

	MPC-STEL (aerosol)	6 mg/m3 (Molybdenum)	RU OEL (2021-02-03)
Further information: Class 3 - Moderately dangerous			

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

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.

Eye 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.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : powder

Colour : grey

Odour : odourless

OKS 110

Version 1.5	Revision Date: 03.08.2022	Date of last issue: 01.03.2021 Date of first issue: 27.06.2014	Print Date: 04.08.2022
----------------	------------------------------	---	---------------------------

Odour Threshold : No data available

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/m³

Vapour pressure : < 0,001 hPa (20 °C)

Relative vapour density : No data available

Density : 4,80 g/cm³ (20 °C)

Bulk density : 400 - 1.400 kg/m³

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

Explosive properties : Not explosive

OKS 110

Version	Revision Date:	Date of last issue: 01.03.2021	Print Date:
1.5	03.08.2022	Date of first issue: 27.06.2014	04.08.2022

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

OKS 110

Version	Revision Date:	Date of last issue: 01.03.2021	Print Date:
1.5	03.08.2022	Date of first issue: 27.06.2014	04.08.2022

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

Genotoxicity in vivo : Remarks: No data available

OKS 110

Version 1.5	Revision Date: 03.08.2022	Date of last issue: 01.03.2021 Date of first issue: 27.06.2014	Print Date: 04.08.2022
----------------	------------------------------	---	---------------------------

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.

Repeated dose toxicity

Product:

Remarks : This information is not available.

OKS 110

Version	Revision Date:	Date of last issue: 01.03.2021	Print Date:
1.5	03.08.2022	Date of first issue: 27.06.2014	04.08.2022

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.

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

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



OKS 110

Version	Revision Date:	Date of last issue: 01.03.2021	Print Date:
1.5	03.08.2022	Date of first issue: 27.06.2014	04.08.2022

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.

Hygienic standards:

(Allowable concentration in air, water, including fishery waters, soil)

Components	Air	Water	Soil	Data Source
molybdenum disulphide	Concentration that provides admissible (acceptable) levels of risk when exposed to at least 24 hours - average			

OKS 110

Version 1.5	Revision Date: 03.08.2022	Date of last issue: 01.03.2021 Date of first issue: 27.06.2014	Print Date: 04.08.2022
----------------	------------------------------	---	---------------------------

	daily: 0,02 mg/m ³ (Molybdenum) Limiting health hazard indicator: resorptive Class 3 - moderately dangerous			
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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.

The following Waste Codes are only suggestions:

Waste Code : unused product
06 06 03, wastes containing sulphides other than those mentioned in 06 06 02

uncleaned packagings
15 01 10, packaging containing residues of or contaminated by hazardous substances

14. TRANSPORT INFORMATION

ADR

Not regulated as a dangerous good

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.

OKS 110

Version	Revision Date:	Date of last issue: 01.03.2021	Print Date:
1.5	03.08.2022	Date of first issue: 27.06.2014	04.08.2022

15. REGULATORY INFORMATION

National regulatory information

Federal Law of 10.01.2002 No. 184-FZ "On Technical Regulation".
Federal Law of 10.01.2002 No. 7-FZ "On Environmental Protection".
Federal Law of 21.07.1997 No. 116-FZ (amended on 11.06.2021) "On industrial safety of hazardous production facilities".
Federal Law of 24.06.1998 No. 89-FZ (amended on 02.07.2021) "On production and consumption waste".
Federal Law of 10.01.2002 No. 7-FZ (amended on 02.07.2021) "On environmental protection".
Federal Law of 04.05.1999 No. 96-FZ "On the protection of atmospheric air" (as amended on December 8, 2020).
Federal Law of 30.03.1999 No. 52-FZ (amended on 02.07.2021) "On the Sanitary and Epidemiological Well-Being of the Population" (amended and supplemented, entered into force on 31.10.2021).
Federal Law of 27.12.2002 No. 184-FZ (amended on 02.07.2021) "On Technical Regulation" (amended and supplemented, entered into force on 01.09.2021).
TECHNICAL REGULATIONS OF THE CUSTOMS UNION TR CU 030/2012 On requirements for lubricants, oils and special fluids (amended on 03.03.2017).

16. OTHER INFORMATION

List of data sources used in the preparation of the Safety Data Sheet

GOST 30333-2007. Interstate standard. Safety data sheet for chemical products. Primary requirements.
GOST 12.1.007-76 Occupational safety standards system. Noxious substances. Classification and general safety requirements
GOST 12.1.044-89 Occupational safety standards system. Fire and explosion hazard of substances and materials. Nomenclature of indices and methods of their determination
GOST 14192-96. Interstate standard. Cargo marking. Minsk, 1998.
GOST 31340-2013. Interstate standard. Precautionary labeling of chemical products. General requirements.
GOST 32419-2013 Classification of the hazard of chemical products. General requirements.
GOST 32421-2013 Classification of chemical products, the hazard of which is due to physical and chemical properties. Test methods for explosive chemical products.
GOST 32423-2013 Hazard classification of mixed chemical products by their effects on the body.
GOST 32424-2013 Classification of the hazard of chemical products by their impact on the environment. Basic provisions.
GOST 32425-2013 Hazard classification of mixed chemical products in terms of environmental impact.
GOST R 53264-2009 Fire fighting equipment. Special protective clothing for firefighters. General technical requirements. Test methods.
GOST R 53265-2009 Fire fighting equipment. Personal protective equipment for the feet of the firefighter. General technical requirements. Test methods.
GOST R 53268-2009 Fire fighting equipment. Fire rescue belts. General technical requirements. Test methods.

OKS 110

Version	Revision Date:	Date of last issue: 01.03.2021	Print Date:
1.5	03.08.2022	Date of first issue: 27.06.2014	04.08.2022

GOST R 53269-2009 Fire fighting equipment. Firefighters helmets. General technical requirements. Test methods.
SanPiN 1.2.3685-21 "Hygienic standards and requirements for ensuring the safety and (or) harmlessness to humans of environmental factors" dated 28.01.2021.
SanPiN 2.1.3684-21 "Sanitary and epidemiological requirements for the maintenance of the territories of urban and rural settlements, for water bodies, drinking water and drinking water supply, atmospheric air, soils, living quarters, the operation of industrial, public premises, the organization and implementation of sanitary and anti-epidemic (preventive) measures".
European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). United Nations. New York and Geneva, 20.
International Maritime Dangerous Goods Code (IMDG-Code).
Water quality standards for fishery water bodies, including standards for maximum permissible concentrations of harmful substances in the waters of fishery water bodies (approved by order of the Ministry of Agriculture of Russia dated December 13, 2016 No. 552).
Regulations for the carriage of dangerous goods (Appendix 1 and 2) to the Agreement on International Goods Transport by Rail (SMGS), 2009.
UN Recommendations on the Transport of Dangerous Goods. Typical rules. Twenty-first revised edition. United Nations, New York and Geneva, 2019.

Full text of other abbreviations

RU OEL	:	Russia. Hygienic standards GN 2.2.5.1313-03 Permissible concentration (MAC) of harmful substances in the air of the working area
RU OEL	:	SanPiN 1.2.3685-21 Table 2.1, Table 2.8, Table 2.16 & Table 2.17 Maximum permissible concentrations (MPC) in the air of the working area
RU OEL / MPC-STEL	:	Maximum Permissible Concentration - Short Term Exposure
RU OEL / MPC-TWA	:	Maximum Permissible Concentration - Time Weighted Average
RU OEL / MPC-STEL	:	Maximum Permissible Concentration - Short Term Exposure
RU OEL / MPC-TWA	:	Maximum Permissible Concentration - Time Weighted Average

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; 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; 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; KECI - 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention;



OKS 110

Version	Revision Date:	Date of last issue: 01.03.2021	Print Date:
1.5	03.08.2022	Date of first issue: 27.06.2014	04.08.2022

PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; 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

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