



OKS 221

Version 2.0

Revision Date 13.08.2018

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1. Identification of the substance/mixture and of the company/undertaking

Product information

Product name : OKS 221

Use of the Substance/Mixture : Lubricant spray

Company : OKS Spezialschmierstoffe GmbH
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2. Hazards identification

GHS Classification

: Aerosols, Category 1
Skin irritation, Category 3
Serious eye damage, Category 1
Specific target organ toxicity - single exposure, Category 3,
Central nervous system
Aspiration hazard, Category 1
Chronic aquatic toxicity, Category 3

GHS-Labeling

Symbol(s) :    

Signal word : Danger

Hazard statements : H222: Extremely flammable aerosol.
H229: Pressurised container: May burst if heated.
H304: May be fatal if swallowed and enters airways.
H316: Causes mild skin irritation.
H318: Causes serious eye damage.
H336: May cause drowsiness or dizziness.
H412: Harmful to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.



OKS 221

Version 2.0

Revision Date 13.08.2018

Print Date 13.08.2018

P211 Do not spray on an open flame or other ignition source.
P251 Do not pierce or burn, even after use.
P280 Wear eye protection/ face protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

P305 + P351 + P338 + P310 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.

P331 Do NOT induce vomiting.

Storage:

P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

3. Composition/information on ingredients

Chemical nature : Active substance with propellant

Hazardous components

Chemical name	CAS-No.	Concentration[%]
Pentane	109-66-0	30 - 50
Butane	106-97-8	10 - 20
propane	74-98-6	10 - 20
molybdenum disulphide	1317-33-5	1 - 10
calcium dihydroxide	1305-62-0	3 - 10
Isobutane	75-28-5	1 - 10
Natural graphite	7782-42-5	1 - 10

4. First aid measures

If inhaled : Call a physician or poison control centre immediately.
Remove person to fresh air. If signs/symptoms continue, get medical attention.
Keep patient warm and at rest.
If unconscious, place in recovery position and seek medical advice.
Keep respiratory tract clear.
If breathing is irregular or stopped, administer artificial respiration.

In case of skin contact : Take off all contaminated clothing immediately.
Get medical attention immediately if irritation develops and persists.



OKS 221

Version 2.0

Revision Date 13.08.2018

Print Date 13.08.2018

Wash clothing before reuse.
Thoroughly clean shoes before reuse.
Wash skin thoroughly with soap and water or use recognized skin cleanser.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes.
If easy to do, remove contact lens, if worn.
Get medical attention immediately.

If swallowed : Move the victim to fresh air.
If accidentally swallowed obtain immediate medical attention.
Keep respiratory tract clear.
Do NOT induce vomiting.
Rinse mouth with water.
Aspiration hazard if swallowed - can enter lungs and cause damage.

Notes to physician

Symptoms : Inhalation may provoke the following symptoms:
Unconsciousness
Dizziness
Drowsiness
Headache
Nausea
Tiredness
Skin contact may provoke the following symptoms:
Erythema

Aspiration may cause pulmonary oedema and pneumonitis.

Risks : Central nervous system depression
Can be absorbed through skin.
Risk of product entering the lungs on vomiting after ingestion.
Health injuries may be delayed.

Treatment : Treat symptomatically.

5. Firefighting measures

Suitable extinguishing media : ABC powder
Unsuitable extinguishing media : High volume water jet
Specific hazards during firefighting : Fire may cause evolution of:
Carbon oxides



OKS 221

Version 2.0

Revision Date 13.08.2018

Print Date 13.08.2018

- Metal oxides
- Sulphur oxides
- : Fire Hazard
Do not let product enter drains.
Contains gas under pressure; may explode if heated.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.
In the case of respirable dust and/or fumes, use self-contained breathing apparatus.
Exposure to decomposition products may be a hazard to health.
- Further information : Standard procedure for chemical fires.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Cool containers/tanks with water spray.

6. Accidental release measures

- Personal precautions : Evacuate personnel to safe areas.
Ensure adequate ventilation.
Remove all sources of ignition.
Do not breathe vapours or spray mist.
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Refer to protective measures listed in sections 7 and 8.
- Environmental precautions : Do not allow contact with soil, surface or ground water.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods for cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
Keep in suitable, closed containers for disposal.
Non-sparking tools should be used.
- Additional advice : Only qualified personnel equipped with suitable protective equipment may intervene.



OKS 221

Version 2.0

Revision Date 13.08.2018

Print Date 13.08.2018

7. Handling and storage

Handling

Advice on safe handling : Do not use in areas without adequate ventilation.
 Do not breathe vapours or spray mist.
 In case of insufficient ventilation, wear suitable respiratory equipment.
 Avoid contact with skin and eyes.
 For personal protection see section 8.
 Keep away from fire, sparks and heated surfaces.
 Smoking, eating and drinking should be prohibited in the application area.
 Wash hands and face before breaks and immediately after handling the product.
 Do not get in eyes or mouth or on skin.
 Do not get on skin or clothing.
 Do not ingest.
 Do not use sparking tools.
 These safety instructions also apply to empty packaging which may still contain product residues.
 Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use.

Storage

Requirements for storage areas and containers : BEWARE: Aerosol is pressurized. Keep away from direct sun exposure and temperatures over 50 °C. Do not open by force or throw into fire even after use. Do not spray on flames or red-hot objects.
 Store in accordance with the particular national regulations.

8. Exposure controls/personal protection

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis
Pentane	109-66-0	MPC-TWA	300 mg/m3	2011-07-12	RU OEL
Pentane	109-66-0	MPC-STEL	900 mg/m3	2011-07-12	RU OEL
Butane	106-97-8	MPC-TWA	300 mg/m3	2011-07-12	RU OEL



OKS 221

Version 2.0

Revision Date 13.08.2018

Print Date 13.08.2018

Butane	106-97-8	MPC- STEL	900 mg/m3	2011-07-12	RU OEL
propane	74-98-6	MPC- TWA	300 mg/m3	2013-09-16	RU OEL
propane	74-98-6	MPC- STEL	900 mg/m3	2013-09-16	RU OEL
molybdenum disulphide	1317-33-5	MPC- TWA	1 mg/m3	2011-07-12	RU OEL
molybdenum disulphide	1317-33-5	MPC- STEL	6 mg/m3	2011-07-12	RU OEL
molybdenum disulphide	1317-33-5	MPC- TWA	1 mg/m3	2013-09-16	RU OEL
molybdenum disulphide	1317-33-5	MPC- STEL	6 mg/m3	2013-09-16	RU OEL
calcium dihydroxide	1305-62-0	MPC- STEL	2 mg/m3	2011-07-12	RU OEL
Isobutane	75-28-5	MPC- TWA	300 mg/m3	2013-09-16	RU OEL
Isobutane	75-28-5	MPC- STEL	900 mg/m3	2013-09-16	RU OEL

Engineering measures

Use only in an area equipped with explosion proof exhaust ventilation.
Handle only in a place equipped with local exhaust (or other appropriate exhaust).

Personal protective equipment

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.
Recommended Filter type:

: Organic gas and low boiling vapour type

Hand protection : Fluorinated rubber



OKS 221

Version 2.0

Revision Date 13.08.2018

Print Date 13.08.2018

Manufacturer, importer, supplier: Class 1

Wear protective gloves.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

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 conforming to EN166
- Hygiene measures : Wash face, hands and any exposed skin thoroughly after handling.
- Protective measures : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

9. Physical and chemical properties

Appearance

- Physical state : aerosol
- Colour : black
- Odour : characteristic

Safety data

- Flash point : -60 °C
Method: Abel-Pensky
- Ignition temperature : Remarks: No data available
- Lower explosion limit : 1,4 %(V)
- Upper explosion limit : 10,9 %(V)
- Flammability (solid, gas) : Extremely flammable aerosol.
- Oxidizing properties : Note: No data available
- Auto-ignition temperature : Note: No data available
- pH : Note: Not applicable



OKS 221

Version 2.0

Revision Date 13.08.2018

Print Date 13.08.2018

Melting point/range	: Note: No data available
Boiling point/boiling range	: -161 °C at 1.013,00 hPa
Sublimation point	: Note: No data available
Vapour pressure	: 3.700,00 hPa at 20 °C
Density	: 0,68 g/cm ³ at 20 °C
Bulk density	: Note: No data available
Water solubility	: Note: insoluble
Partition coefficient: n-octanol/water	: Note: No data available
Solubility in other solvents	: Note: No data available
Viscosity, dynamic	: Note: No data available
Viscosity, kinematic	: < 20,5 mm ² /s at 40 °C
Relative vapour density	: Note: No data available
Evaporation rate	: Note: No data available

10. Stability and reactivity

Conditions to avoid	: Heat, flames and sparks.
Materials to avoid	: Oxidizing agents
Hazardous decomposition products	: No decomposition if stored and applied as directed.
Thermal decomposition	: Note: No data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Acute oral toxicity	: Remarks: Effects due to ingestion may include:
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OKS 221

Version 2.0

Revision Date 13.08.2018

Print Date 13.08.2018

:
Symptoms: Central nervous system depression

Acute inhalation toxicity : Remarks: Respiration of solvent vapour may cause dizziness.

: Symptoms: Inhalation may provoke the following symptoms:,
Respiratory disorder, Local irritation, Respiratory disorders,
Dizziness, Drowsiness, Vomiting, Fatigue, Vertigo, Central
nervous system depression

Acute dermal toxicity :
Remarks: Prolonged or repeated skin contact with liquid may
cause defatting resulting in drying, redness and possible
blistering.

:
Symptoms: Skin disorders

Skin corrosion/irritation

Skin irritation : Remarks: This information is not available.

Serious eye damage/eye irritation

Eye irritation : Remarks: Risk of serious damage to eyes.

Respiratory or skin sensitisation

Sensitisation : Remarks: This information is not available.

Germ cell mutagenicity

Genotoxicity in vitro : Remarks: No data available

Genotoxicity in vivo : Remarks: No data available

Germ cell mutagenicity

Remarks
molybdenum disulphide : Animal testing did not show any mutagenic effects.

Carcinogenicity

Remarks
molybdenum disulphide : No evidence of carcinogenicity in animal studies.

Target Organ Systemic Toxicant - Single exposure

Pentane : Remarks: May cause drowsiness or dizziness.



OKS 221

Version 2.0

Revision Date 13.08.2018

Print Date 13.08.2018

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

calcium dihydroxide : Remarks: May cause respiratory irritation.

Target Organ Systemic Toxicant - Repeated exposure

: This information is not available.

Target Organ Systemic Toxicant - Repeated exposure

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

Aspiration hazard

Aspiration toxicity : May be fatal if swallowed and enters airways.

Further information : Ingestion causes irritation of upper respiratory system and gastrointestinal disturbance.

12. Ecological information

Ecotoxicity effects

Toxicity to fish :
Remarks:
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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

Toxicity to algae : Remarks:
No data available

Toxicity to bacteria : Remarks:
No data available

Elimination information (persistence and degradability)

Bioaccumulation : Remarks:
This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).



OKS 221

Version 2.0

Revision Date 13.08.2018

Print Date 13.08.2018

This mixture contains no substance considered to be very persistent and very bioaccumulating (vPvB).

Mobility : Remarks:
No data available

Distribution among environmental compartments : Remarks:
No data available

Biodegradability : Remarks:
No data available

Physico-chemical removability : Remarks:
No data available

Further information on ecology

Acute aquatic toxicity
Pentane :

calcium dihydroxide : This product has no known ecotoxicological effects.

Chronic aquatic toxicity
Pentane : Harmful to aquatic life with long lasting effects.

calcium dihydroxide : This product has no known ecotoxicological effects.

Pentane :

calcium dihydroxide :

Pentane :

calcium dihydroxide :

Pentane :

calcium dihydroxide :

Additional ecological information : Toxic to aquatic life with long lasting effects.



OKS 221

Version 2.0

Revision Date 13.08.2018

Print Date 13.08.2018

13. Disposal considerations

- Product : Do not dispose of with domestic refuse.
Dispose of as hazardous waste in compliance with local and national regulations.
- Contaminated packaging : Packaging that is not properly emptied must be disposed of as the unused product.
Offer empty spray cans to an established disposal company.
Pressurized container: Do not pierce or burn, even after use.

14. Transport information

ADR

- UN number : 1950
- Description of the goods : AEROSOLS
- Class : 2
- Classification Code : 5F
- Labels : 2.1
- Environmentally hazardous : yes

IATA

- UN number : 1950
- Description of the goods : Aerosols, flammable
- Class : 2.1
- Labels : 2.1
- Packing instruction (cargo aircraft) : 203



OKS 221

Version 2.0

Revision Date 13.08.2018

Print Date 13.08.2018

Packing instruction : 203
(passenger aircraft)

Packing instruction : Y203
(passenger aircraft)

Environmentally hazardous : no

IMDG

UN number : 1950

Description of the goods : AEROSOLS
(pentane)

Class : 2.1

Labels : 2.1

EmS Number : F-D, S-U

Marine pollutant : no

Other information : No special precautions required.

15. Regulatory information

16. Other information

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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OKS 221

Version 2.0

Revision Date 13.08.2018

Print Date 13.08.2018

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