

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



## OKS 481

Version	Revision Date:	Date of last issue: 07.05.2018	Print Date:
2.0	23.01.2019	Date of first issue: 07.06.2016	23.01.2019

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

#### 1.1 Product identifier

Product name : OKS 481

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

Use of the Sub-stance/Mixture : Lubricant spray

Recommended restrictions on use : Restricted to professional users.

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

Company : OKS Spezialschmierstoffe GmbH  
Ganghoferstr. 47  
D-82216 Maisach-Gernlinden  
Tel.: +49 8142 3051 500  
Fax.: +49 8142 3051 599

E-mail address of person responsible for the SDS : mcm@oks-germany.com  
National contact :

#### 1.4 Emergency telephone number

Emergency telephone number : +49 8142 3051 517

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Aerosols, Category 1 H222: Extremely flammable aerosol.  
H229: Pressurised container: May burst if heated.

Specific target organ toxicity - single exposure, Category 3, Central nervous system H336: May cause drowsiness or dizziness.

Aspiration hazard, Category 1 H304: May be fatal if swallowed and enters airways.

Chronic aquatic toxicity, Category 2 H411: Toxic to aquatic life with long lasting effects.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE







## OKS 481

Version	Revision Date:	Date of last issue: 07.05.2018	Print Date:
2.0	23.01.2019	Date of first issue: 07.06.2016	23.01.2019

### 2.2 Label elements

#### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms	:	   
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. H336 May cause drowsiness or dizziness. H411 Toxic to aquatic life with long lasting effects.
Supplemental Hazard Statements	:	EUH066 Repeated exposure may cause skin dryness or cracking.
Precautionary statements	:	<b>Prevention:</b> P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P211 Do not spray on an open flame or other ignition source. P251 Do not pierce or burn, even after use. P273 Avoid release to the environment. <b>Response:</b> P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor. P331 Do NOT induce vomiting. P391 Collect spillage. <b>Storage:</b> P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

Hazardous components which must be listed on the label:

pentane

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

Chemical nature : Active agent with propellant and solvent.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



## OKS 481

Version 2.0      Revision Date: 23.01.2019      Date of last issue: 07.05.2018      Print Date: 23.01.2019  
Date of first issue: 07.06.2016

### Hazardous components

Chemical name	CAS-No. EC-No.  Index-No. Registration number	Classification	Concentration limits M-Factor Notes	Concentration (% w/w)
pentane	109-66-0 203-692-4  601-006-00-1 01-2119459286-30-XXXX	Flam. Liq.2; H225 STOT SE3; H336 Asp. Tox.1; H304 Aquatic Chronic2; H411	Note C	$\geq 50 - < 70$
zinc oxide	1314-13-2 215-222-5  030-013-00-7 01-2119463881-32-XXXX	Aquatic Acute1; H400 Aquatic Chronic1; H410	M-Factor: 1/1	$\geq 0,25 - < 1$
Substances with a workplace exposure limit :				
butane	106-97-8 203-448-7  601-004-00-0 01-2119474691-32-XXXX	Flam. Gas1; H220 Press. GasCompr. Gas; H280	Note U (table 3.1), Note C	$\geq 10 - < 20$
propane	74-98-6 200-827-9  601-003-00-5 01-2119486944-21-XXXX	Flam. Gas1; H220 Press. GasCompr. Gas; H280	Note U (table 3.1)	$\geq 1 - < 10$
isobutane	75-28-5 200-857-2  601-004-00-0 01-2119485395-27-XXXX	Flam. Gas1; H220 Press. GasCompr. Gas; H280	Note U (table 3.1), Note C	$\geq 1 - < 10$

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of 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.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



## OKS 481

Version	Revision Date:	Date of last issue: 07.05.2018	Print Date:
2.0	23.01.2019	Date of first issue: 07.06.2016	23.01.2019

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.  
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.  
Seek medical advice.
- 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.

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

- 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.

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

- Treatment : Treat symptomatically.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



## OKS 481

Version	Revision Date:	Date of last issue: 07.05.2018	Print Date:
2.0	23.01.2019	Date of first issue: 07.06.2016	23.01.2019

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

Suitable extinguishing media : ABC powder

Unsuitable extinguishing media : High volume water jet

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

Specific hazards during fire-fighting : Fire may cause evolution of:  
Carbon 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.

#### 5.3 Advice for firefighters

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.

### SECTION 6: Accidental release measures

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

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.  
Only qualified personnel equipped with suitable protective equipment may intervene.

#### 6.2 Environmental precautions

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.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



## OKS 481

Version	Revision Date:	Date of last issue: 07.05.2018	Print Date:
2.0	23.01.2019	Date of first issue: 07.06.2016	23.01.2019

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

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.

### 6.4 Reference to other sections

For personal protection see section 8.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe 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.

Hygiene measures : Wash face, hands and any exposed skin thoroughly after handling.

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

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.

Storage class (TRGS 510) : 2B, Aerosol cans and lighters

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



## OKS 481

Version 2.0      Revision Date: 23.01.2019      Date of last issue: 07.05.2018      Print Date: 23.01.2019  
Date of first issue: 07.06.2016

### 7.3 Specific end use(s)

Specific use(s) : Specific instructions for handling, not required.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
pentane	109-66-0	TWA	1.000 ppm 3.000 mg/m <sup>3</sup>	2006/15/EC (2006-02-09)
Further information	Indicative			
		AGW	1.000 ppm 3.000 mg/m <sup>3</sup>	DE TRGS 900 (2010-08-04)
Peak-limit: excursion factor (category)	2;(II)			
Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission)., European Union (The EU has established a limit value: deviations in value and peak limit are possible), When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
		AGW	1.500 mg/m <sup>3</sup>	DE TRGS 900 (2009-02-16)
Peak-limit: excursion factor (category)	2;(II)			
Further information	Group exposure limit for hydrocarbon solvent mixtures, Commission for dangerous substances, See also No. 2.9 of the TRGS 900			
butane	106-97-8	AGW	1.000 ppm 2.400 mg/m <sup>3</sup>	DE TRGS 900 (2006-01-01)
Peak-limit: excursion factor (category)	4;(II)			
Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
propane	74-98-6	AGW	1.000 ppm 1.800 mg/m <sup>3</sup>	DE TRGS 900 (2006-01-01)
Peak-limit: excursion factor (category)	4;(II)			
Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
isobutane	75-28-5	AGW	1.000 ppm	DE TRGS

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



## OKS 481

Version 2.0      Revision Date: 23.01.2019      Date of last issue: 07.05.2018      Print Date: 23.01.2019  
Date of first issue: 07.06.2016

		2.400 mg/m <sup>3</sup>	900 (2006-01-01)
Peak-limit: excursion factor (category)	4;(II)		
Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).		

### Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
pentane	Workers	Inhalation	Long-term systemic effects	3000 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	432 mg/kg bw/day
zinc oxide	Workers	Inhalation	Long-term systemic effects	5 mg/m <sup>3</sup>
	Workers	Inhalation	Long-term local effects	0,5 mg/m <sup>3</sup>
	Workers	Skin contact	Long-term systemic effects	83 mg/kg

### Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
pentane	Fresh water	0,230 mg/l
	Marine water	0,230 mg/l
	Microbiological Activity in Sewage Treatment Systems	3,6 mg/l
	Fresh water sediment	1,2 mg/kg
	Marine sediment	1,2 mg/kg
zinc oxide	Fresh water	0,0206 mg/l
	Marine water	0,0061 mg/l
	Microbiological Activity in Sewage Treatment Systems	0,100 mg/l
	Fresh water sediment	117,8 mg/kg
	Marine sediment	56,5 mg/kg
	Soil	35,6 mg/kg

## 8.2 Exposure controls

### 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

Eye protection : Safety glasses with side-shields conforming to EN166

Hand protection

Material : Nitrile rubber

Protective index : Class 1



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



## OKS 481

Version	Revision Date:	Date of last issue: 07.05.2018	Print Date:
2.0	23.01.2019	Date of first issue: 07.06.2016	23.01.2019

- Remarks : 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.
- Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. Short term only
- Filter type : Filter type A-P
- 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.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- Appearance : aerosol
- Colour : beige
- Odour : characteristic
- Odour Threshold : No data available
- pH : Not applicable
- Melting point/range : No data available
- Boiling point/boiling range : -42 °C  
(1.013 hPa)
- Flash point : -60 °C  
Method: Abel-Pensky
- Evaporation rate : No data available
- Flammability (solid, gas) : Extremely flammable aerosol.
- Upper explosion limit : 10,9 %(V)

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



## OKS 481

Version 2.0	Revision Date: 23.01.2019	Date of last issue: 07.05.2018 Date of first issue: 07.06.2016	Print Date: 23.01.2019
----------------	------------------------------	---	---------------------------

Lower explosion limit : 1,4 %(V)

Vapour pressure : 2.000 hPa (20 °C)

Relative vapour density : No data available

Density : 0,65 g/cm<sup>3</sup>  
(20 °C)

Bulk density : No data available

Solubility(ies)  
Water solubility : insoluble

Solubility in other solvents : No data available

Partition coefficient: n-  
octanol/water : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity  
Viscosity, dynamic : No data available

Viscosity, kinematic : < 20,5 mm<sup>2</sup>/s (40 °C)

Explosive properties : Not explosive

Oxidizing properties : No data available

### 9.2 Other information

Sublimation point : No data available

Metal corrosion rate : Not corrosive to metals

Self-ignition : not auto-flammable

---

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No hazards to be specially mentioned.

### 10.2 Chemical stability

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



## OKS 481

Version	Revision Date:	Date of last issue: 07.05.2018	Print Date:
2.0	23.01.2019	Date of first issue: 07.06.2016	23.01.2019

Hazardous reactions : No dangerous reaction known under conditions of normal use.

### 10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

### 10.5 Incompatible materials

Materials to avoid : Oxidizing agents

### 10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

##### Product:

Acute oral toxicity : Remarks: Effects due to ingestion may include:  
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, 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: Redness, Local irritation, Skin disorders

##### Components:

##### **pentane:**

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 25,3 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Assessment: The substance or mixture has no acute inhalation toxicity

##### **zinc oxide:**

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg  
Method: OECD Test Guideline 401

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



## OKS 481

Version	Revision Date:	Date of last issue: 07.05.2018	Print Date:
2.0	23.01.2019	Date of first issue: 07.06.2016	23.01.2019

Acute inhalation toxicity : LC50 (Rat): > 5,7 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg  
Method: OECD Test Guideline 402  
GLP: yes  
Assessment: The substance or mixture has no acute dermal toxicity

### **butane:**

Acute inhalation toxicity : LC50 (Rat): 658 mg/l  
Exposure time: 4 h  
Test atmosphere: gas

### **isobutane:**

Acute inhalation toxicity : LC50 (Rat): 658 mg/l  
Exposure time: 4 h  
Test atmosphere: gas

### **Skin corrosion/irritation**

#### **Product:**

Remarks: Irritating to skin.

#### **Components:**

##### **pentane:**

Species: Rabbit  
Assessment: No skin irritation  
Result: Repeated exposure may cause skin dryness or cracking.

##### **zinc oxide:**

Species: Rabbit  
Assessment: No skin irritation  
Method: OECD Test Guideline 404  
Result: No skin irritation

### **Serious eye damage/eye irritation**

#### **Product:**

Remarks: Contact with eyes may cause irritation.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



## OKS 481

Version	Revision Date:	Date of last issue: 07.05.2018	Print Date:
2.0	23.01.2019	Date of first issue: 07.06.2016	23.01.2019

### Components:

#### **pentane:**

Species: Rabbit  
Assessment: No eye irritation  
Result: No eye irritation

#### **zinc oxide:**

Species: Rabbit  
Assessment: No eye irritation  
Method: OECD Test Guideline 405  
Result: No eye irritation  
GLP: yes

### **Respiratory or skin sensitisation**

#### Product:

Remarks: This information is not available.

### Components:

#### **pentane:**

Species: Guinea pig  
Assessment: Does not cause skin sensitisation.  
Method: OECD Test Guideline 406  
Result: Does not cause skin sensitisation.  
GLP: yes

#### **zinc oxide:**

Test Type: Maximisation Test  
Species: Guinea pig  
Assessment: Does not cause skin sensitisation.  
Method: OECD Test Guideline 406  
Result: Does not cause skin sensitisation.  
GLP: yes

### **Germ cell mutagenicity**

#### Product:

Genotoxicity in vitro : Remarks: No data available

Genotoxicity in vivo : Remarks: No data available

### Components:

#### **zinc oxide:**

Germ cell mutagenicity- As- : Tests on bacterial or mammalian cell cultures did not show



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



## OKS 481

Version	Revision Date:	Date of last issue: 07.05.2018	Print Date:
2.0	23.01.2019	Date of first issue: 07.06.2016	23.01.2019

### Repeated dose toxicity

**Product:**

Remarks: This information is not available.

### Aspiration toxicity

**Product:**

May be fatal if swallowed and enters airways.

**Components:**

**pentane:**

May be fatal if swallowed and enters airways.

**zinc oxide:**

No aspiration toxicity classification

### Further information

**Product:**

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

---

## SECTION 12: Ecological information

### 12.1 Toxicity

**Product:**

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 microorganisms : Remarks: No data available

**Components:**

**pentane:**

### Ecotoxicology Assessment

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



## OKS 481

Version	Revision Date:	Date of last issue: 07.05.2018	Print Date:
2.0	23.01.2019	Date of first issue: 07.06.2016	23.01.2019

### zinc oxide:

- Toxicity to fish : LC50 (Danio rerio (zebra fish)): 1,55 mg/l  
Exposure time: 96 h  
Test Type: static test
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1 mg/l  
Exposure time: 48 h  
Test Type: static test  
Method: OECD Test Guideline 202
- Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 0,136 mg/l  
Exposure time: 72 h  
Test Type: static test  
Method: OECD Test Guideline 201  
GLP: yes
- M-Factor (Acute aquatic toxicity) : 1
- Toxicity to microorganisms : EC50 (activated sludge): > 1.000 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209  
GLP: yes
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : 0,04 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Test Type: semi-static test  
Method: OECD Test Guideline 211
- M-Factor (Chronic aquatic toxicity) : 1

## 12.2 Persistence and degradability

### Product:

- Biodegradability : Remarks: No data available
- Physico-chemical removability : Remarks: No data available

### Components:

#### pentane:

- Biodegradability : Test Type: aerobic  
Inoculum: activated sludge  
Result: rapidly biodegradable  
Biodegradation: 87 %  
Method: OECD Test Guideline 301F



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



## OKS 481

Version	Revision Date:	Date of last issue: 07.05.2018	Print Date:
2.0	23.01.2019	Date of first issue: 07.06.2016	23.01.2019

GLP: yes

### **zinc oxide:**

Biodegradability : Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

## 12.3 Bioaccumulative potential

### **Product:**

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

### **Components:**

#### **butane:**

Partition coefficient: n-octanol/water : log Pow: 2,89  
Method: OECD Test Guideline 107

#### **propane:**

Partition coefficient: n-octanol/water : log Pow: 2,36

#### **isobutane:**

Partition coefficient: n-octanol/water : log Pow: 2,88  
Method: OECD Test Guideline 107

## 12.4 Mobility in soil

### **Product:**

Mobility : Remarks: No data available

Distribution among environmental compartments : Remarks: No data available

## 12.5 Results of PBT and vPvB assessment

### **Product:**

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

### **Components:**

#### **zinc oxide:**

Assessment : Remarks: Not applicable

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



## OKS 481

Version	Revision Date:	Date of last issue: 07.05.2018	Print Date:
2.0	23.01.2019	Date of first issue: 07.06.2016	23.01.2019

### 12.6 Other adverse effects

**Product:**

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

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Waste codes should be assigned by the user based on the application for which the product was used.

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.

The following Waste Codes are only suggestions:

## SECTION 14: Transport information

### 14.1 UN number

ADR : UN 1950

IMDG : UN 1950

IATA : UN 1950

### 14.2 UN proper shipping name

ADR : AEROSOLS

IMDG : AEROSOLS  
(pentane, zinc oxide)

IATA : Aerosols, flammable

### 14.3 Transport hazard class(es)

ADR : 2

IMDG : 2.1

IATA : 2.1

### 14.4 Packing group

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



## OKS 481

Version	Revision Date:	Date of last issue: 07.05.2018	Print Date:
2.0	23.01.2019	Date of first issue: 07.06.2016	23.01.2019

### ADR

Packing group : Not assigned by regulation  
Classification Code : 5F  
Labels : 2.1  
Tunnel restriction code : (D)

### IMDG

Packing group : Not assigned by regulation  
Labels : 2.1  
EmS Code : F-D, S-U

### IATA (Cargo)

Packing instruction (cargo aircraft) : 203  
Packing instruction (LQ) : Y203  
Packing group : Not assigned by regulation  
Labels : Flammable Gas

### IATA (Passenger)

Packing instruction (passenger aircraft) : 203  
Packing instruction (LQ) : Y203  
Packing group : Not assigned by regulation  
Labels : Flammable Gas

## 14.5 Environmental hazards

### ADR

Environmentally hazardous : yes

### IMDG

Marine pollutant : yes

### IATA (Passenger)

Environmentally hazardous : no

### IATA (Cargo)

Environmentally hazardous : no

## 14.6 Special precautions for user

No special precautions required.

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

Remarks : Not applicable for product as supplied.

## SECTION 15: Regulatory information

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59) : This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

REACH - List of substances subject to authorisation : Not applicable

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



## OKS 481

Version	Revision Date:	Date of last issue: 07.05.2018	Print Date:
2.0	23.01.2019	Date of first issue: 07.06.2016	23.01.2019

(Annex XIV)

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

		Quantity 1	Quantity 2
P3a	FLAMMABLE AEROSOLS	150 t	500 t
P2			
E2			
E2	ENVIRONMENTAL HAZARDS	200 t	500 t
34	Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams),(d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar properties as regards flammability and environmental hazards as the products referred to in points (a) to (d)	2.500 t	25.000 t

Water contaminating class (Germany) : WGK 2 significantly water endangering  
Classification according to AwSV, Annex 1 (5.2)

TA Luft List (Germany) : Total dust:  
others: 0,35 %

Inorganic substances in powdered form:  
Not applicable

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



## OKS 481

Version	Revision Date:	Date of last issue: 07.05.2018	Print Date:
2.0	23.01.2019	Date of first issue: 07.06.2016	23.01.2019

Inorganic substances in vapour or gaseous form:

Not applicable

Organic Substances:

others: 99,13 %

Carcinogenic substances:

Not applicable

Mutagenic:

Not applicable

Toxic to reproduction:

Not applicable

Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)  
Volatile organic compounds (VOC) content: 82,5 %  
Remarks: VOC content excluding water

Other regulations:

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

### 15.2 Chemical safety assessment

This information is not available.

## SECTION 16: Other information

### Full text of H-Statements

H220 : Extremely flammable gas.  
H225 : Highly flammable liquid and vapour.  
H280 : Contains gas under pressure; may explode if heated.  
H304 : May be fatal if swallowed and enters airways.  
H336 : May cause drowsiness or dizziness.  
H400 : Very toxic to aquatic life.  
H410 : Very toxic to aquatic life with long lasting effects.  
H411 : Toxic to aquatic life with long lasting effects.

### Full text of other abbreviations

Note C : Some organic substances may be marketed either in a specific isomeric form or as a mixture of several isomers. In this case the supplier must state on the label whether the substance is a specific isomer or a mixture of isomers.  
Note U (table 3.1) : When put on the market gases have to be classified as "Gases under pressure", in one of the groups compressed gas,

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



## OKS 481

Version	Revision Date:	Date of last issue: 07.05.2018	Print Date:
2.0	23.01.2019	Date of first issue: 07.06.2016	23.01.2019

liquefied gas, refrigerated liquefied gas or dissolved gas. The group depends on the physical state in which the gas is packaged and therefore has to be assigned case by case.

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; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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; 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; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

### Further information

#### Classification of the mixture:

Aerosol 1	H222, H229
STOT SE 3	H336
<b>Asp. Tox. 1</b>	<b>H304</b>
Aquatic Chronic 2	H411

#### Classification procedure:

Based on product data or assessment
Calculation method
<b>Calculation method</b>
Calculation method

This safety data sheet applies only to products originally packed and labelled by OKS Spezial-schmierstoffe. The information contained therein may not be reproduced or modified without the express written permission of OKS Spezialschmierstoffe. Any forwarding of this document is only permitted to the extent required by law. Any further, in particular public, dissemination of our safety data sheets (e.g. as a document for download from the Internet) is not permitted without the express written consent of OKS Spezialschmierstoffe. OKS Spezialschmierstoffe provides its cus-

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 - DE



## OKS 481

Version	Revision Date:	Date of last issue: 07.05.2018	Print Date:
2.0	23.01.2019	Date of first issue: 07.06.2016	23.01.2019

---

tomers with amended safety data sheets as prescribed by law. The customer is responsible for passing on safety data sheets and any amendments contained therein to its own customers, employees and other users of the product. OKS Spezienschmierstoffe provides no guarantee that safety data sheets received by users from third parties are up-to-date. All information and instructions in this safety data sheet have been compiled to the best of our knowledge and are based on the information available to us on the day of publication. The information provided is intended to describe the product in relation to the required safety measures; it is neither an assurance of characteristics nor a guarantee of the product's suitability for particular applications and does not justify any contractual legal relationship.