

SAFETY DATA SHEET

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



OKS 235

Version	Revision Date:	Date of last issue: 18.07.2019	Print Date:
1.5	07.11.2019	Date of first issue: 30.03.2013	07.11.2019

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

1.1 Product identifier

Product name : OKS 235

Article-No. :

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

Use of the Sub- : Lubricant
stance/Mixture

Recommended restrictions : Restricted to professional users.
on use

1.3 Details of the supplier of the safety data sheet

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

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

1.4 Emergency telephone number

Emergency telephone num- : +49 8142 3051 517
ber

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

Additional Labelling

EUH210 Safety data sheet available on request.
EUH208 Contains calcium bis(dinonylnaphthalenesulphonate);
Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts. May produce
an allergic reaction.

SAFETY DATA SHEET

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



OKS 235

Version
1.5

Revision Date:
07.11.2019

Date of last issue: 18.07.2019
Date of first issue: 30.03.2013

Print Date:
07.11.2019

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 : Synthetic hydrocarbon oil
Metal powder

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration limits M-Factor Notes	Concentration (% w/w)
calcium bis(dinonylnaphthalen esulphonate)	57855-77-3 260-991-2	Skin Irrit.2; H315 Eye Irrit.2; H319 Skin Sens.1; H317		$\geq 0.1 - < 1$
Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts	70024-69-0 274-263-7 01-2119492616-28-XXXX	Skin Sens.1B; H317	$\geq 10\%$ Skin Sens.1B,	$\geq 0.1 - < 1$
Substances with a workplace exposure limit :				
aluminium powder (stabilised)	7429-90-5 231-072-3 013-002-00-1 01-2119529243-45-XXXX	Flam. Sol.1; H228		$\geq 1 - < 10$
silicon dioxide	7631-86-9 231-545-4 01-2119379499-16-XXXX	Not classified		$\geq 1 - < 10$
titanium dioxide	13463-67-7 236-675-5 01-2119489379-17-XXXX	Not classified		$\geq 1 - < 10$

SAFETY DATA SHEET

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



OKS 235

Version	Revision Date:	Date of last issue: 18.07.2019	Print Date:
1.5	07.11.2019	Date of first issue: 30.03.2013	07.11.2019

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- If inhaled : 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.
Wash off immediately with soap and plenty of water.
Get medical attention immediately if irritation develops and persists.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.
- 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.
If unconscious, place in recovery position and seek medical advice.
Keep respiratory tract clear.
Do not induce vomiting without medical advice.
Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : Allergic appearance
- Risks : May cause an allergic skin reaction.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

SAFETY DATA SHEET

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



OKS 235

Version	Revision Date:	Date of last issue: 18.07.2019	Print Date:
1.5	07.11.2019	Date of first issue: 30.03.2013	07.11.2019

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
Metal oxides
Oxides of phosphorus

5.3 Advice for firefighters

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.

Further information : Standard procedure for chemical fires.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Evacuate personnel to safe areas.
Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust).
Do not breathe vapours, aerosols.
Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions

Environmental precautions : Try to prevent the material from entering drains or water courses.
Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Clean up promptly by sweeping or vacuum.
Keep in suitable, closed containers for disposal.

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 : Avoid contact with skin and eyes.

SAFETY DATA SHEET

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



OKS 235

Version	Revision Date:	Date of last issue: 18.07.2019	Print Date:
1.5	07.11.2019	Date of first issue: 30.03.2013	07.11.2019

For personal protection see section 8.
Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
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 repack.
These safety instructions also apply to empty packaging which may still contain product residues.
Keep container closed when not in 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 : 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. Store in accordance with the particular national regulations. Keep in properly labelled containers.

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
aluminium powder (stabilised)	7429-90-5	TWA (inhalable dust)	10 mg/m ³	GB EH40 (2011-12-01)
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m ⁻³ 8-hour TWA of inhalable dust or 4 mg.m ⁻³ 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific			

SAFETY DATA SHEET

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



OKS 235

Version	Revision Date:	Date of last issue: 18.07.2019	Print Date:
1.5	07.11.2019	Date of first issue: 30.03.2013	07.11.2019

	<p>WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.</p>			
		TWA (Respirable dust)	4 mg/m ³	GB EH40 (2011-12-01)
Further information	<p>For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m⁻³ 8-hour TWA of inhalable dust or 4 mg.m⁻³ 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.</p>			
silicon dioxide	7631-86-9	TWA (inhalable dust)	6 mg/m ³ (Silica)	GB EH40 (2011-12-01)
Further information	<p>For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m⁻³ 8-hour TWA of inhalable dust or 4 mg.m⁻³ 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human res-</p>			

SAFETY DATA SHEET

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



OKS 235

Version
1.5

Revision Date:
07.11.2019

Date of last issue: 18.07.2019
Date of first issue: 30.03.2013

Print Date:
07.11.2019

	piratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			
		TWA (Respirable dust)	2.4 mg/m ³ (Silica)	GB EH40 (2011-12-01)
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m ⁻³ 8-hour TWA of inhalable dust or 4 mg.m ⁻³ 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			
		TWA (Respirable dust)	0.1 mg/m ³	2004/37/EC (2017-12-27)
Further information	Carcinogens or mutagens			
titanium dioxide	13463-67-7	TWA (inhalable dust)	10 mg/m ³	GB EH40 (2011-12-01)
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m ⁻³ 8-hour TWA of inhalable dust or 4 mg.m ⁻³ 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour,			

SAFETY DATA SHEET

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



OKS 235

Version
1.5

Revision Date:
07.11.2019

Date of last issue: 18.07.2019
Date of first issue: 30.03.2013

Print Date:
07.11.2019

	deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.		
	TWA (Respirable dust)	4 mg/m ³	GB EH40 (2011-12-01)
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m ⁻³ 8-hour TWA of inhalable dust or 4 mg.m ⁻³ 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.		

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

Substance name	End Use	Exposure routes	Potential health effects	Value
Benzene, mono-C10-13-alkyl derivs., distn. residues	Workers	Inhalation	Long-term systemic effects	3.2 mg/m ³
	Workers	Skin contact	Long-term systemic effects	4.3 mg/kg bw/day
aluminium powder (stabilised)	Workers	Inhalation	Long-term systemic effects	3.72 mg/m ³
	Workers	Inhalation	Long-term local effects	3.72 mg/m ³
silicon dioxide	Workers	Inhalation		4 mg/m ³
titanium dioxide	Workers	Inhalation	Long-term local ef-	10 mg/m ³

SAFETY DATA SHEET

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



OKS 235

Version 1.5 Revision Date: 07.11.2019 Date of last issue: 18.07.2019
Date of first issue: 30.03.2013

Print Date:
07.11.2019

			fects	
White mineral oil (petroleum)	Workers	Inhalation	Long-term systemic effects	160 mg/m ³
	Workers	Skin contact	Long-term systemic effects	220 mg/kg
calcium bis(dinonylnaphthalenesulphonate)	Workers	Inhalation	Long-term systemic effects	2.23 mg/m ³
	Workers	Skin contact	Long-term systemic effects	0.32 mg/kg

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

Substance name	Environmental Compartment	Value
Benzene, mono-C10-13-alkyl derivs., distn. residues	Fresh water	0.001 mg/l
	Intermittent use/release	0.001 mg/l
	Marine water	0 mg/l
	Microbiological Activity in Sewage Treatment Systems	2 mg/l
	Fresh water sediment	1.65 mg/kg
	Marine sediment	0.165 mg/kg
	Soil	0.329 mg/kg
aluminium powder (stabilised)	Fresh water	0.0749 mg/l
	Sewage treatment plant	20 mg/l
titanium dioxide	Fresh water	0.184 mg/l
	Intermittent use/release	0.193 mg/l
	Marine water	0.0184 mg/l
	Sewage treatment plant	100 mg/l
	Marine sediment	100 mg/l
	Fresh water sediment	1000 mg/l
	Soil	100 mg/l
calcium bis(dinonylnaphthalenesulphonate)	Fresh water	0.27 mg/l
	Marine water	0.027 mg/l
	Intermittent use/release	2.7 mg/l
	Microbiological Activity in Sewage Treatment Systems	10 mg/l
	Fresh water sediment	4.69 mg/kg
	Marine sediment	0.469 mg/kg
	Soil	0.936 mg/kg

8.2 Exposure controls

Engineering measures

none

Personal protective equipment

Eye protection : Tightly fitting safety goggles

Hand protection
Material : butyl-rubber

SAFETY DATA SHEET

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



OKS 235

Version 1.5	Revision Date: 07.11.2019	Date of last issue: 18.07.2019 Date of first issue: 30.03.2013	Print Date: 07.11.2019
----------------	------------------------------	---	---------------------------

Protective index : Class 1

Remarks : Wear protective gloves. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 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 : Not required; except in case of aerosol formation.

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 : paste

Colour : grey

Odour : characteristic

Odour Threshold : No data available

pH : Not applicable

Melting point/range : No data available

Boiling point/boiling range : No data available

Flash point : Not applicable

Evaporation rate : No data available

Flammability (solid, gas) : Combustible Solids

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

SAFETY DATA SHEET

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



OKS 235

Version	Revision Date:	Date of last issue: 18.07.2019	Print Date:
1.5	07.11.2019	Date of first issue: 30.03.2013	07.11.2019

Vapour pressure : < 0.001 hPa (20 °C)

Relative vapour density : No data available

Density : 0.98 g/cm³
(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 : No data available

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

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

SAFETY DATA SHEET

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



OKS 235

Version	Revision Date:	Date of last issue: 18.07.2019	Print Date:
1.5	07.11.2019	Date of first issue: 30.03.2013	07.11.2019

10.4 Conditions to avoid

Conditions to avoid : No conditions to be specially mentioned.

10.5 Incompatible materials

Materials to avoid : No materials to be especially mentioned.

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: This information is not available.

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

Acute dermal toxicity : Symptoms: Redness, Local irritation

Components:

calcium bis(dinonylnaphthalenesulphonate):

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

Acute dermal toxicity : LD50 (Rabbit): > 20,000 mg/kg

Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 1.9 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : (Rabbit): > 5,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes

aluminium powder (stabilised):

Acute inhalation toxicity : LC50 (Rat): > 5.09 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

SAFETY DATA SHEET

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



OKS 235

Version	Revision Date:	Date of last issue: 18.07.2019	Print Date:
1.5	07.11.2019	Date of first issue: 30.03.2013	07.11.2019

tion toxicity

silicon dioxide:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

titanium dioxide:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401
GLP: yes

Acute inhalation toxicity : (Rat): > 5.09 mg/l
Method: OECD Test Guideline 403
GLP: no

Skin corrosion/irritation

Product:

Remarks : This information is not available.

Components:

calcium bis(dinonylnaphthalenesulphonate):

Species : Rabbit
Assessment : Irritating to skin.
Result : Irritating to skin.

Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts:

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

aluminium powder (stabilised):

Species : Rabbit
Assessment : No skin irritation
Result : No skin irritation

silicon dioxide:

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

SAFETY DATA SHEET

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



OKS 235

Version	Revision Date:	Date of last issue: 18.07.2019	Print Date:
1.5	07.11.2019	Date of first issue: 30.03.2013	07.11.2019

titanium dioxide:

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

Serious eye damage/eye irritation

Product:

Remarks : This information is not available.

Components:

calcium bis(dinonylnaphthalenesulphonate):

Species : Rabbit
Assessment : Irritating to eyes.
Result : Irritating to eyes.

Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts:

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

aluminium powder (stabilised):

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

silicon dioxide:

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

titanium dioxide:

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

Respiratory or skin sensitisation

Product:

Remarks : This information is not available.

SAFETY DATA SHEET

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



OKS 235

Version	Revision Date:	Date of last issue: 18.07.2019	Print Date:
1.5	07.11.2019	Date of first issue: 30.03.2013	07.11.2019

Components:

calcium bis(dinonylnaphthalenesulphonate):

Species : Guinea pig
Assessment : May cause sensitisation by skin contact.
Result : May cause sensitisation by skin contact.

Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts:

Test Type : Buehler Test
Species : Guinea pig
Assessment : The product is a skin sensitiser, sub-category 1B.
Result : The product is a skin sensitiser, sub-category 1B.

aluminium powder (stabilised):

Species : Guinea pig
Assessment : Did not cause sensitisation on laboratory animals.
Result : Did not cause sensitisation on laboratory animals.

silicon dioxide:

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

titanium dioxide:

Species : Mouse
Assessment : Does not cause skin sensitisation.
Method : OECD Test Guideline 429
Result : Does not cause skin sensitisation.

Germ cell mutagenicity

Product:

Genotoxicity in vitro : Remarks: No data available

Genotoxicity in vivo : Remarks: No data available

Components:

Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative

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

SAFETY DATA SHEET

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



OKS 235

Version 1.5	Revision Date: 07.11.2019	Date of last issue: 18.07.2019 Date of first issue: 30.03.2013	Print Date: 07.11.2019
----------------	------------------------------	---	---------------------------

assessment mutagenic effects.

silicon dioxide:

Germ cell mutagenicity- Assessment : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

titanium dioxide:

Germ cell mutagenicity- Assessment : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Carcinogenicity

Product:

Remarks : No data available

Components:

Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

silicon dioxide:

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

titanium dioxide:

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

Components:

calcium bis(dinonylnaphthalenesulphonate):

Reproductive toxicity - Assessment : No toxicity to reproduction

Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts:

Effects on fertility : Test Type: reproductive and developmental toxicity study
Species: Rat
Application Route: Oral

SAFETY DATA SHEET

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



OKS 235

Version	Revision Date:	Date of last issue: 18.07.2019	Print Date:
1.5	07.11.2019	Date of first issue: 30.03.2013	07.11.2019

General Toxicity - Parent: NOAEL: > 500 mg/kg body weight
General Toxicity F1: NOAEL: > 500 mg/kg body weight
Method: OECD Test Guideline 415

Reproductive toxicity - Assessment : No toxicity to reproduction
No toxicity to reproduction

silicon dioxide:

Reproductive toxicity - Assessment : No toxicity to reproduction
No effects on or via lactation

titanium dioxide:

Reproductive toxicity - Assessment : No toxicity to reproduction
No effects on or via lactation

STOT - single exposure

Components:

calcium bis(dinonylnaphthalenesulphonate):

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

Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts:

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

silicon dioxide:

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

titanium dioxide:

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

STOT - repeated exposure

Components:

calcium bis(dinonylnaphthalenesulphonate):

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

Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts:

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

SAFETY DATA SHEET

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



OKS 235

Version	Revision Date:	Date of last issue: 18.07.2019	Print Date:
1.5	07.11.2019	Date of first issue: 30.03.2013	07.11.2019

silicon dioxide:

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

titanium dioxide:

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.

Components:

Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts:

Species : Rat
NOAEL : 500 mg/kg
NOAEL : 500 mg/kg
Application Route : Oral
Exposure time : 28
Method : OECD Test Guideline 407

Species : Rat
NOAEL : 0.05 mg/l
NOAEL : 0.05 mg/l
Application Route : Inhalation
Test atmosphere : dust/mist
Exposure time : 28
Method : OECD Test Guideline 412

Species : Rat
NOAEL : > 1000 mg/kg
NOAEL : > 1,000 mg/kg
Application Route : Dermal
Exposure time : 28
Method : OECD Test Guideline 410

Aspiration toxicity

Product:

This information is not available.

Components:

calcium bis(dinonylnaphthalenesulphonate):

No aspiration toxicity classification

SAFETY DATA SHEET

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



OKS 235

Version 1.5	Revision Date: 07.11.2019	Date of last issue: 18.07.2019 Date of first issue: 30.03.2013	Print Date: 07.11.2019
----------------	------------------------------	---	---------------------------

silicon dioxide:

No aspiration toxicity classification

titanium dioxide:

No aspiration toxicity classification

Further information

Product:

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

SECTION 12: Ecological information

12.1 Toxicity

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:

calcium bis(dinonylnaphthalenesulphonate):

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): > 0.28 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203
Remarks: No toxicity at the limit of solubility

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 0.27 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
Remarks: No toxicity at the limit of solubility

Ecotoxicology Assessment

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts:

SAFETY DATA SHEET

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



OKS 235

Version	Revision Date:	Date of last issue: 18.07.2019	Print Date:
1.5	07.11.2019	Date of first issue: 30.03.2013	07.11.2019

- Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 10,000 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203
Remarks: No toxicity at the limit of solubility
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
Remarks: No toxicity at the limit of solubility
- Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 1,500 mg/l
Exposure time: 72 h
Test Type: Growth inhibition
Remarks: No toxicity at the limit of solubility
- Toxicity to microorganisms : LC50 (activated sludge): > 10,000 mg/l
Exposure time: 3 h
Test Type: Respiration inhibition
Method: OECD Test Guideline 209

Ecotoxicology Assessment

- Chronic aquatic toxicity : This product has no known ecotoxicological effects., No toxicity at the limit of solubility

aluminium powder (stabilised):

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.12 mg/l
Exposure time: 96 h
Test Type: static test
Remarks: No toxicity at the limit of solubility

Ecotoxicology Assessment

- Acute aquatic toxicity : This product has no known ecotoxicological effects.
- Chronic aquatic toxicity : This product has no known ecotoxicological effects.

silicon dioxide:

- Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 10,000 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

titanium dioxide:

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203

SAFETY DATA SHEET

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



OKS 235

Version	Revision Date:	Date of last issue: 18.07.2019	Print Date:
1.5	07.11.2019	Date of first issue: 30.03.2013	07.11.2019

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202

12.2 Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Physico-chemical removability : Remarks: No data available

Components:

calcium bis(dinonylnaphthalenesulphonate):

Biodegradability : Result: Not readily biodegradable.

Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts:

Biodegradability : Test Type: aerobic
Inoculum: activated sludge
Result: Not rapidly biodegradable
Biodegradation: 8 %
Exposure time: 28 d
Method: OECD Test Guideline 301D
GLP: yes

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:

calcium bis(dinonylnaphthalenesulphonate):

Partition coefficient: n-octanol/water : log Pow: 10.96

Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts:

Bioaccumulation : Remarks: Due to the distribution coefficient n-octanol/water, accumulation in organisms is possible.

Partition coefficient: n-octanol/water : log Pow: 16.09 (25 °C)

SAFETY DATA SHEET

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



OKS 235

Version	Revision Date:	Date of last issue: 18.07.2019	Print Date:
1.5	07.11.2019	Date of first issue: 30.03.2013	07.11.2019

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:

calcium bis(dinonylnaphthalenesulphonate):

Assessment : Non-classified PBT substance. Non-classified vPvB substance.

silicon dioxide:

Assessment : Non-classified vPvB substance. Non-classified PBT substance.

titanium dioxide:

Assessment : Non-classified vPvB substance. Non-classified PBT substance.

12.6 Other adverse effects

Product:

Additional ecological information : No information on ecology is available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : The product should not be allowed to enter drains, water courses or the soil.
Do not dispose of with domestic refuse.
Dispose of as hazardous waste in compliance with local and national regulations.

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

SAFETY DATA SHEET

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



OKS 235

Version 1.5	Revision Date: 07.11.2019	Date of last issue: 18.07.2019 Date of first issue: 30.03.2013	Print Date: 07.11.2019
----------------	------------------------------	---	---------------------------

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:

SECTION 14: Transport information

14.1 UN number

ADR : Not regulated as a dangerous good
IMDG : Not regulated as a dangerous good
IATA : Not regulated as a dangerous good

14.2 UN proper shipping name

ADR : Not regulated as a dangerous good
IMDG : Not regulated as a dangerous good
IATA : Not regulated as a dangerous good

14.3 Transport hazard class(es)

ADR : Not regulated as a dangerous good
IMDG : Not regulated as a dangerous good
IATA : Not regulated as a dangerous good

14.4 Packing group

ADR : Not regulated as a dangerous good
IMDG : Not regulated as a dangerous good
IATA (Cargo) : Not regulated as a dangerous good
IATA (Passenger) : Not regulated as a dangerous good

14.5 Environmental hazards

ADR : Not regulated as a dangerous good
IMDG : Not regulated as a dangerous good
IATA (Passenger) : Not regulated as a dangerous good
IATA (Cargo) : Not regulated as a dangerous good

14.6 Special precautions for user

Not applicable

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

Remarks : Not applicable for product as supplied.

SAFETY DATA SHEET

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



OKS 235

Version	Revision Date:	Date of last issue: 18.07.2019	Print Date:
1.5	07.11.2019	Date of first issue: 30.03.2013	07.11.2019

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 (Annex XIV) : Not applicable
- 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.
Not applicable
- Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)
Not applicable

15.2 Chemical safety assessment

This information is not available.

SECTION 16: Other information

Full text of H-Statements

- H228 : Flammable solid.
H315 : Causes skin irritation.
H317 : May cause an allergic skin reaction.
H319 : Causes serious eye irritation.

Full text of other abbreviations

SAFETY DATA SHEET

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



OKS 235

Version	Revision Date:	Date of last issue: 18.07.2019	Print Date:
1.5	07.11.2019	Date of first issue: 30.03.2013	07.11.2019

2004/37/EC : Europe. Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work

GB EH40 : UK. EH40 WEL - Workplace Exposure Limits

2004/37/EC / TWA : Long term exposure limit

GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)

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

This safety data sheet applies only to products originally packed and labelled by OKS Spezialschmierstoffe. 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 customers 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 Spezialschmierstoffe provides no guarantee that

SAFETY DATA SHEET

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



OKS 235

Version	Revision Date:	Date of last issue: 18.07.2019	Print Date:
1.5	07.11.2019	Date of first issue: 30.03.2013	07.11.2019

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. The existence of a safety data sheet for a particular jurisdiction does not necessarily mean that import or use within that jurisdiction is legally permitted. If you have any questions, please contact your responsible sales contact or authorised trading partner of OKS Spezialschmierstoffe.