

SAFETY DATA SHEET

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



OKS 2541

Version	Revision Date:	Date of last issue: 28.06.2016	Print Date:
1.1	19.10.2018	Date of first issue: 28.06.2016	19.10.2018

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

1.1 Product identifier

Product name : OKS 2541

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

Use of the Sub-stance/Mixture : Anticorrosion additive, Base coating

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.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Specific target organ toxicity - single exposure, Category 3, Central nervous system	H336: May cause drowsiness or dizziness.
Chronic aquatic toxicity, Category 3	H412: Harmful to aquatic life with long lasting effects.

SAFETY DATA SHEET

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





OKS 2541

Version	Revision Date:	Date of last issue: 28.06.2016	Print Date:
1.1	19.10.2018	Date of first issue: 28.06.2016	19.10.2018

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. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness. H412 Harmful to aquatic life with long lasting effects.
Supplemental Hazard Statements	:	EUH066 Repeated exposure may cause skin dryness or cracking.
Precautionary statements	:	Prevention: 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. P261 Avoid breathing mist. P273 Avoid release to the environment. Storage: P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

Hazardous components which must be listed on the label:
ethyl acetate

Additional Labelling

EUH208 Contains nickel. May produce an allergic reaction.

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. Metal powder
-----------------	---	---

SAFETY DATA SHEET

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



OKS 2541

Version 1.1 Revision Date: 19.10.2018 Date of last issue: 28.06.2016 Date of first issue: 28.06.2016 Print Date: 19.10.2018

Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration limits M-Factor Notes	Concentration (% w/w)
ethyl acetate	141-78-6 205-500-4 607-022-00-5 01-2119475103-46	Flam. Liq.2; H225 Eye Irrit.2; H319 STOT SE3; H336		>= 20 - < 30
acetone	67-64-1 200-662-2 606-001-00-8 01-2119471330-49-XXXX	Flam. Liq.2; H225 Eye Irrit.2; H319 STOT SE3; H336		>= 1 - < 10
Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics	Not Assigned920-750-0 01-2119473851-33-XXXX	Flam. Liq.2; H225 STOT SE3; H336 Asp. Tox.1; H304 Aquatic Chronic2; H411		>= 1 - < 2,5
Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane	Not Assigned926-605-8 01-2119486291-36-XXXX	Flam. Liq.2; H225 Skin Irrit.2; H315 STOT SE3; H336 Asp. Tox.1; H304 Aquatic Chronic3; H412		>= 1 - < 2,5
nickel	7440-02-0 231-111-4 028-002-00-7	Skin Sens.1; H317 Carc.2; H351 STOT RE1; H372 Aquatic Chronic3; H412	** , Note S, Note 7	>= 0,25 - < 1
cyclohexane	110-82-7 203-806-2 601-017-00-1	Flam. Liq.2; H225 Skin Irrit.2; H315 STOT SE3; H336 Asp. Tox.1; H304 Aquatic Acute1; H400 Aquatic Chronic1; H410		>= 0,1 - < 0,25
n-hexane	110-54-3 203-777-6 601-037-00-0	Flam. Liq.2; H225 Skin Irrit.2; H315 Repr.2; H361f STOT SE3; H336 STOT RE2; H373 Asp. Tox.1; H304 Aquatic Chronic2; H411	>= 5 % STOT RE2, H373 ** , ***	>= 0,1 - < 0,25
Substances with a workplace exposure limit :				
dimethyl ether	115-10-6	Flam. Gas1; H220		>= 30 - < 50

SAFETY DATA SHEET

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



OKS 2541

Version 1.1 Revision Date: 19.10.2018 Date of last issue: 28.06.2016 Print Date: 19.10.2018
Date of first issue: 28.06.2016

	204-065-8 603-019-00-8 01-2119472128-37-XXXX	Press. GasLiquefied gas; H280	Note U (table 3.1)	
n-butyl acetate	123-86-4 204-658-1 607-025-00-1 01-2119485493-29-XXXX	Flam. Liq.3; H226 STOT SE3; H336		$\geq 10 - < 20$

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.
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 while removing all contaminated clothes and shoes.
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.
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.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : Inhalation may provoke the following symptoms:

SAFETY DATA SHEET

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



OKS 2541

Version	Revision Date:	Date of last issue: 28.06.2016	Print Date:
1.1	19.10.2018	Date of first issue: 28.06.2016	19.10.2018

Unconsciousness
Dizziness
Drowsiness
Headache
Nausea
Tiredness
Skin contact may provoke the following symptoms:
Erythema
Allergic appearance

Risks : Central nervous system depression
Can be absorbed through skin.
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.
Treat symptomatically.

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.

SAFETY DATA SHEET

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



OKS 2541

Version	Revision Date:	Date of last issue: 28.06.2016	Print Date:
1.1	19.10.2018	Date of first issue: 28.06.2016	19.10.2018

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.

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 exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Keep away from fire, sparks and heated surfaces.
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 ap-

SAFETY DATA SHEET

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



OKS 2541

Version	Revision Date:	Date of last issue: 28.06.2016	Print Date:
1.1	19.10.2018	Date of first issue: 28.06.2016	19.10.2018

plication 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

7.3 Specific end use(s)

Specific use(s) : Consult the technical guidelines for the use of this substance/mixture.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
dimethyl ether	115-10-6	TWA	1.000 ppm 1.920 mg/m ³	2000/39/EC (2000-06-16)
Further information	Indicative			
		AGW	1.000 ppm 1.900 mg/m ³	DE TRGS 900 (2010-08-04)
Peak-limit: excursion factor (category)	8;(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)			

SAFETY DATA SHEET

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



OKS 2541

Version 1.1 Revision Date: 19.10.2018 Date of last issue: 28.06.2016 Print Date: 19.10.2018
 Date of first issue: 28.06.2016

ethyl acetate	141-78-6	AGW	200 ppm 730 mg/m3	DE TRGS 900 (2017-06-08)
Peak-limit: excursion factor (category)	2;(I)			
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			
		STEL	400 ppm 1.468 mg/m3	2017/164/EU (2017-02-01)
Further information	Indicative			
		TWA	200 ppm 734 mg/m3	2017/164/EU (2017-02-01)
Further information	Indicative			
n-butyl acetate	123-86-4	AGW	62 ppm 300 mg/m3	DE TRGS 900 (2012-09-13)
Peak-limit: excursion factor (category)	2;(I)			
Further information	Commission for dangerous substances, When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
acetone	67-64-1	TWA	500 ppm 1.210 mg/m3	2000/39/EC (2000-06-16)
Further information	Indicative			
		AGW	500 ppm 1.200 mg/m3	DE TRGS 900 (2015-03-02)
Peak-limit: excursion factor (category)	2;(I)			
Further information	Commission for dangerous substances, 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			
Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics	Not Assigned	AGW	1.000 mg/m3	
nickel	7440-02-0	AGW (Alveolate fraction)	0,006 mg/m3 (Nickel)	DE TRGS 900 (2015-11-06)
Peak-limit: excursion factor (category)	8;(II)			
Further information	Commission for dangerous substances, The threshold value is based on the element content of the corresponding metal., When there is compliance with the OEL and biological tolerance values, there is no risk of harming the un-			

SAFETY DATA SHEET

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



OKS 2541

Version 1.1 Revision Date: 19.10.2018 Date of last issue: 28.06.2016 Date of first issue: 28.06.2016 Print Date: 19.10.2018

	born child, Substance sensitizing through the skin			
cyclohexane	110-82-7	TWA	200 ppm 700 mg/m ³	2006/15/EC (2006-02-09)
Further information	Indicative			
		AGW	200 ppm 700 mg/m ³	DE TRGS 900 (2010-08-04)
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), European Union (The EU has established a limit value: deviations in value and peak limit are possible)			
n-hexane	110-54-3	TWA	20 ppm 72 mg/m ³	2006/15/EC (2006-02-09)
Further information	Indicative			
		AGW	50 ppm 180 mg/m ³	DE TRGS 900 (2010-08-04)
Peak-limit: excursion factor (category)	8;(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			

Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
acetone	67-64-1	Acetone: 80 mg/l (Urine)	Immediately after exposure or after working hours	TRGS 903
cyclohexane	110-82-7	1,2-cyclohexanediol: 150 mg/g Creatinine (Urine)	Immediately after exposure or after working hours, In case of long-term exposure: after more than one shift	TRGS 903
n-hexane	110-54-3	2,5-hexanedione plus 4,5-dihydroxy-2-hexanone: 5 mg/l (Urine)	Immediately after exposure or after working hours	TRGS 903

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

Substance name	End Use	Exposure routes	Potential health effects	Value
dimethyl ether	Workers	Inhalation	Long-term exposure	1894 mg/m ³
ethyl acetate	Consumers	Ingestion	Long-term systemic effects	4,5 mg/kg
Remarks:	Exposure time: 24 h			

SAFETY DATA SHEET

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



OKS 2541

Version 1.1 Revision Date: 19.10.2018 Date of last issue: 28.06.2016
Date of first issue: 28.06.2016

Print Date:
19.10.2018

	Consumers	Skin contact	Long-term systemic effects	37 mg/kg
Remarks:	Exposure time: 24 h			
	Workers	Skin contact	Long-term systemic effects	63 mg/kg
Remarks:	Exposure time: 8 h			
	Workers	Inhalation	Acute systemic effects	1468 mg/m ³
	Consumers	Inhalation	Acute systemic effects	734 mg/m ³
	Workers	Inhalation	Acute local effects	1468 mg/m ³
	Consumers	Inhalation	Acute local effects	734 mg/m ³
	Workers	Inhalation	Long-term local effects	734 mg/m ³
	Workers	Inhalation	Long-term systemic effects	734 mg/m ³
	Consumers	Inhalation	Long-term systemic effects	367 mg/m ³
	Consumers	Inhalation	Long-term local effects	367 mg/m ³
n-hexane	Workers	Inhalation	Long-term systemic effects	75 mg/m ³
	Workers	Skin contact	Long-term systemic effects	11 mg/kg

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

Substance name	Environmental Compartment	Value
dimethyl ether	Fresh water	0,155 mg/l
	Marine water	0,016 mg/l
	Sewage treatment plant	160 mg/l
	Fresh water sediment	0,681 mg/kg
	Marine sediment	0,069 mg/kg
ethyl acetate	Soil	0,045 mg/kg
	Water	0,26 mg/l
	Soil	0,22 mg/kg
	Fresh water sediment	0,34 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 : butyl-rubber
Protective index : Class 1

Remarks : Wear protective gloves. The selected protective gloves have

SAFETY DATA SHEET

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



OKS 2541

Version 1.1	Revision Date: 19.10.2018	Date of last issue: 28.06.2016 Date of first issue: 28.06.2016	Print Date: 19.10.2018
----------------	------------------------------	---	---------------------------

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.
- Filter type : Recommended Filter type:
Organic gas and low boiling vapour type (AX)
- 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 : grey
- Odour : characteristic
- Odour Threshold : No data available
- pH : Not applicable
- Melting point/range : No data available
- Boiling point/boiling range : -24,8 °C
(1.013 hPa)
- Flash point : -41,00 °C
Method: Abel-Pensky, closed cup
- Evaporation rate : No data available
- Flammability (solid, gas) : Extremely flammable aerosol.
- Upper explosion limit : 18,6 %(V)

SAFETY DATA SHEET

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



OKS 2541

Version	Revision Date:	Date of last issue: 28.06.2016	Print Date:
1.1	19.10.2018	Date of first issue: 28.06.2016	19.10.2018

Lower explosion limit : 1,2 %(V)

Vapour pressure : 3.500 hPa (20 °C)

Relative vapour density : No data available

Density : 0,81 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 : 235 °C

Decomposition temperature : No data available

Viscosity

Viscosity, dynamic : No data available

Viscosity, kinematic : < 20,5 mm²/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 2541

Version	Revision Date:	Date of last issue: 28.06.2016	Print Date:
1.1	19.10.2018	Date of first issue: 28.06.2016	19.10.2018

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:

ethyl acetate:

Acute oral toxicity : LD50 (Rat): 5.600 mg/kg

Acute inhalation toxicity : LC50 (Rat): 58 mg/l
Exposure time: 8 h
Assessment: The substance or mixture is classified as specific
target organ toxicant, single exposure, category 3 with narcot-
ic effects.

Acute dermal toxicity : LD50 (Rabbit): 18.000 mg/kg

acetone:

SAFETY DATA SHEET

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



OKS 2541

Version	Revision Date:	Date of last issue: 28.06.2016	Print Date:
1.1	19.10.2018	Date of first issue: 28.06.2016	19.10.2018

Acute oral toxicity : LD50 Oral (Rat): 5.800 mg/kg

Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics:

Acute oral toxicity : LD50 Oral (Rat): > 5.000 mg/kg

cyclohexane:

Acute inhalation toxicity : Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

n-hexane:

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

Acute inhalation toxicity : LC50 (Rat): 259,35 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): 3.350 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

dimethyl ether:

Acute inhalation toxicity : LC50 (Rat): 309 mg/l
Exposure time: 4 h
Test atmosphere: gas

n-butyl acetate:

Acute oral toxicity : LD50 Oral (Rat): 10.760 mg/kg

Skin corrosion/irritation

Product:

Remarks: This information is not available.

Components:

ethyl acetate:

Species: Rabbit
Result: No skin irritation

acetone:

Result: Repeated exposure may cause skin dryness or cracking.

SAFETY DATA SHEET

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



OKS 2541

Version	Revision Date:	Date of last issue: 28.06.2016	Print Date:
1.1	19.10.2018	Date of first issue: 28.06.2016	19.10.2018

Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics:

Result: Repeated exposure may cause skin dryness or cracking.

Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:

Species: Rabbit

Result: Skin irritation

cyclohexane:

Result: Skin irritation

n-hexane:

Species: Rabbit

Assessment: Irritating to skin.

Method: OECD Test Guideline 404

Result: Irritating to skin.

dimethyl ether:

Assessment: No skin irritation

Result: No skin irritation

n-butyl acetate:

Result: Repeated exposure may cause skin dryness or cracking.

Serious eye damage/eye irritation

Product:

Remarks: Irritating to eyes.

Components:

ethyl acetate:

Species: Rabbit

Result: Mild eye irritation

acetone:

Species: Rabbit

Result: Eye irritation

n-hexane:

Species: Rabbit

Assessment: No eye irritation

Method: OECD Test Guideline 405

Result: No eye irritation

dimethyl ether:

SAFETY DATA SHEET

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



OKS 2541

Version	Revision Date:	Date of last issue: 28.06.2016	Print Date:
1.1	19.10.2018	Date of first issue: 28.06.2016	19.10.2018

Assessment: No eye irritation
Result: No eye irritation

Respiratory or skin sensitisation

Product:

Remarks: This information is not available.

Components:

ethyl acetate:

Species: Guinea pig
Method: OECD Test Guideline 406
Result: Did not cause sensitisation on laboratory animals.

nickel:

Assessment: Probability or evidence of skin sensitisation in humans
Result: May cause sensitisation by skin contact.

n-hexane:

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

dimethyl ether:

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

Germ cell mutagenicity

Product:

Genotoxicity in vitro : Remarks: No data available

Genotoxicity in vivo : Remarks: No data available

Components:

dimethyl ether:

Genotoxicity in vitro : Test Type: Ames test
Method: OECD Test Guideline 471
Result: negative

Genotoxicity in vivo : Species: Drosophila melanogaster (vinegar fly)
Application Route: inhalation (gas)
Method: OECD Test Guideline 477
Result: negative

SAFETY DATA SHEET

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



OKS 2541

Version	Revision Date:	Date of last issue: 28.06.2016	Print Date:
1.1	19.10.2018	Date of first issue: 28.06.2016	19.10.2018

Carcinogenicity

Product:

Remarks: No data available

Components:

nickel:

Carcinogenicity - Assessment : Presumed to have carcinogenic potential for humans

dimethyl ether:

Species: Rat
Application Route: inhalation (gas)
Exposure time: 2 Years
47 mg/l
Method: OECD Test Guideline 453
Result: negative

Reproductive toxicity

Product:

Effects on fertility : Remarks: No data available

Effects on foetal development : Remarks: No data available

Components:

n-hexane:

Reproductive toxicity - Assessment : Suspected human reproductive toxicant

dimethyl ether:

Reproductive toxicity - Assessment : Animal testing did not show any effects on fertility.

STOT - single exposure

Components:

ethyl acetate:

Exposure routes: Inhalation
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

acetone:

SAFETY DATA SHEET

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



OKS 2541

Version	Revision Date:	Date of last issue: 28.06.2016	Print Date:
1.1	19.10.2018	Date of first issue: 28.06.2016	19.10.2018

Exposure routes: Inhalation
Assessment: May cause drowsiness or dizziness.

Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics:

Assessment: May cause drowsiness or dizziness.

Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:

Assessment: May cause drowsiness or dizziness.

n-hexane:

Exposure routes: Inhalation
Target Organs: Central nervous system
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

n-butyl acetate:

Exposure routes: Inhalation
Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure

Components:

nickel:

Exposure routes: inhalation (dust/mist/fume)
Assessment: Causes damage to organs through prolonged or repeated exposure.

n-hexane:

Exposure routes: Inhalation
Target Organs: Central nervous system
Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Repeated dose toxicity

Product:

Remarks: This information is not available.

Aspiration toxicity

Product:

This information is not available.

Components:

Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics:

May be fatal if swallowed and enters airways.

SAFETY DATA SHEET

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



OKS 2541

Version	Revision Date:	Date of last issue: 28.06.2016	Print Date:
1.1	19.10.2018	Date of first issue: 28.06.2016	19.10.2018

Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:

May be fatal if swallowed and enters airways.

cyclohexane:

May be fatal if swallowed and enters airways.

n-hexane:

May be fatal if swallowed and enters airways.

dimethyl ether:

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: Harmful 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:

ethyl acetate:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 230 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 717 mg/l
Exposure time: 48 h
Method: DIN 38412

SAFETY DATA SHEET

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



OKS 2541

Version	Revision Date:	Date of last issue: 28.06.2016	Print Date:
1.1	19.10.2018	Date of first issue: 28.06.2016	19.10.2018

Toxicity to microorganisms : EC10 (Pseudomonas putida): 2.900 mg/l
Exposure time: 16 h

Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics:

Ecotoxicology Assessment

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

Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:

Ecotoxicology Assessment

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

nickel:

Ecotoxicology Assessment

Chronic aquatic toxicity : May cause long lasting harmful effects to aquatic life.

cyclohexane:

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

n-hexane:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 12,51 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 21,85 mg/l
Exposure time: 48 h

Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): 9,285 mg/l
Exposure time: 72 h

dimethyl ether:

Toxicity to fish : LC50 (Poecilia reticulata (guppy)): > 4.100 mg/l
Exposure time: 96 h
Test Type: semi-static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 4.400 mg/l
Exposure time: 48 h
Test Type: static test

Toxicity to algae : EC50 (green algae): 154,9 mg/l
Exposure time: 96 h

SAFETY DATA SHEET

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



OKS 2541

Version	Revision Date:	Date of last issue: 28.06.2016	Print Date:
1.1	19.10.2018	Date of first issue: 28.06.2016	19.10.2018

12.2 Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Physico-chemical removability : Remarks: No data available

Components:

ethyl acetate:

Biodegradability : Biodegradation: 100 %
Exposure time: 28 d
Method: OECD Test Guideline 301D
Remarks: According to the results of tests of biodegradability this product is considered as being readily biodegradable.

acetone:

Biodegradability : Result: rapidly biodegradable

Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics:

Biodegradability : Result: Readily biodegradable.

n-hexane:

Biodegradability : Test Type: aerobic
Inoculum: activated sludge
Result: rapidly biodegradable
Biodegradation: 21 %
Exposure time: 28 d
GLP: yes

dimethyl ether:

Biodegradability : Test Type: aerobic
Inoculum: activated sludge
Result: Not readily biodegradable.
Biodegradation: 5 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

n-butyl acetate:

Biodegradability : Result: Readily biodegradable.

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

SAFETY DATA SHEET

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



OKS 2541

Version	Revision Date:	Date of last issue: 28.06.2016	Print Date:
1.1	19.10.2018	Date of first issue: 28.06.2016	19.10.2018

persistent and very bioaccumulating (vPvB).

Components:

acetone:

Bioaccumulation : Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: 0,2

Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics:

Bioaccumulation : Remarks: Not applicable

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

n-hexane:

Bioaccumulation : Bioconcentration factor (BCF): 501,19

Partition coefficient: n-octanol/water : log Pow: 4 (20 °C)
pH: 7

dimethyl ether:

Partition coefficient: n-octanol/water : log Pow: 0,07 (25 °C)

n-butyl acetate:

Bioaccumulation : Remarks: No data available

Partition coefficient: n-octanol/water : log Pow: 2,3

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..

SAFETY DATA SHEET

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



OKS 2541

Version	Revision Date:	Date of last issue: 28.06.2016	Print Date:
1.1	19.10.2018	Date of first issue: 28.06.2016	19.10.2018

Components:

dimethyl ether:

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

12.6 Other adverse effects

Product:

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : 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.

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

IATA : Aerosols, flammable

14.3 Transport hazard class(es)

ADR : 2

SAFETY DATA SHEET

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



OKS 2541

Version	Revision Date:	Date of last issue: 28.06.2016	Print Date:
1.1	19.10.2018	Date of first issue: 28.06.2016	19.10.2018

IMDG : 2.1

IATA : 2.1

14.4 Packing group

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 : no

IMDG

Marine pollutant : no

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

SAFETY DATA SHEET

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



OKS 2541

Version	Revision Date:	Date of last issue: 28.06.2016	Print Date:
1.1	19.10.2018	Date of first issue: 28.06.2016	19.10.2018

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.

		Quantity 1	Quantity 2
P3a	FLAMMABLE AEROSOLS	150 t	500 t
P2			
P5c			

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

TA Luft List (Germany) : Total dust:
Not applicable
Inorganic substances in powdered form:
portion Class 2: 0,25 %

Inorganic substances in vapour or gaseous form:
Not applicable
Organic Substances:
portion Class 1: 23,53 %
others: 53,62 %

Carcinogenic substances:
portion Class 2: 0,25 %

Mutagenic:
Not applicable
Toxic to reproduction:
Not applicable

SAFETY DATA SHEET

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



OKS 2541

Version	Revision Date:	Date of last issue: 28.06.2016	Print Date:
1.1	19.10.2018	Date of first issue: 28.06.2016	19.10.2018

Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)
Volatile organic compounds (VOC) content: 84,5 %
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.
H226 : Flammable liquid and vapour.
H280 : Contains gas under pressure; may explode if heated.
H304 : May be fatal if swallowed and enters airways.
H315 : Causes skin irritation.
H317 : May cause an allergic skin reaction.
H319 : Causes serious eye irritation.
H336 : May cause drowsiness or dizziness.
H351 : Suspected of causing cancer.
H361f : Suspected of damaging fertility.
H372 : Causes damage to organs through prolonged or repeated exposure.
H373 : May cause damage to organs through prolonged or repeated exposure.
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.
H412 : Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

** : Route of exposure cannot be excluded: For certain hazard classes, e.g. STOT, the route of exposure should be indicated

SAFETY DATA SHEET

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



OKS 2541

Version	Revision Date:	Date of last issue: 28.06.2016	Print Date:
1.1	19.10.2018	Date of first issue: 28.06.2016	19.10.2018

- in the hazard statement only if it is conclusively proven that no other route of exposure can cause the hazard in accordance to the criteria in Annex I. Under Directive 67/548/EEC the route of exposure was indicated for classifications with R48 when there was data justifying the classification for this route of exposure. The classification under 67/548/EEC indicating the route of exposure has been translated into the corresponding class and category according to this Regulation, but with a general hazard statement not specifying the route of exposure as the necessary information is not available.
- ***
- : Hazard statements for reproductive toxicity: Hazard statements H360 and H361 indicate a general concern for effects on fertility and/or development: 'May damage/Suspected of damaging fertility or the unborn child'. According to the criteria, the general hazard statement can be replaced by the hazard statement indicating the specific effect of concern in accordance with Section 1.1.2.1.2. When the other differentiation is not mentioned, this is due to evidence proving no such effect, inconclusive data or no data and the obligations in Article 4(3) shall apply for that differentiation. In order not to lose information from the harmonised classifications for fertility and developmental effects under Directive 67/548/EEC, the classifications have been translated only for those effects classified under that Directive
 - Note 7 : Alloys containing nickel are classified for skin sensitisation when the release rate of 0,5 ug Ni/cm²/week, as measured by the European Standard reference test method EN 1811, is exceeded.
 - Note S : This substance may not require a label according to Article 17 (see Section 1.3 of Annex I) (Table 3).
 - 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, 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

SAFETY DATA SHEET

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



OKS 2541

Version	Revision Date:	Date of last issue: 28.06.2016	Print Date:
1.1	19.10.2018	Date of first issue: 28.06.2016	19.10.2018

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
Eye Irrit. 2	H319
STOT SE 3	H336
Aquatic Chronic 3	H412

Classification procedure:

Based on product data or assessment
Calculation method
Calculation method
Calculation method

This safety datasheet applies only to products originally packaged and labelled by OKS Spezial-schmierstoffe. The information contained therein is protected by copyright and must not be reproduced or amended without the express written approval of OKS Spezialschmierstoffe. This document may be passed on only to the extent required by law. Any dissemination of our safety datasheets (e.g. as a document for download from the Internet) beyond this legally required extent is not permitted without express written consent. OKS Spezialschmierstoffe provides its customers with amended safety datasheets as prescribed by law. The customer is responsible for passing on safety datasheets and any amendments contained therein to its own customers, employees and other users of the product. OKS Spezialschmierstoffe provides no guarantee that safety datasheets received by users from third parties are up-to-date. All information and instructions in this safety datasheets were compiled to the best of our knowledge and are based on the information available to us. The data provided are intended to describe the product in relation to the required safety measures; they are neither an assurance of characteristics nor a guarantee of the product's suitability for particular applications and do not justify any contractual legal relationships.