OKS 2511

Version	Revision Date:	Date of last issue: 02.08.2017	Print Date:
2.2	15.11.2018	Date of first issue: 28.06.2016	15.11.2018

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

1.1 Product identifier

Product name : OKS 2511

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

Use of the Substance/Mixture : Anticorrosion additive

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.
Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Specific target organ toxicity - repeated exposure, Category 2, Liver, Kidney	H373: May cause damage to organs through prolonged or repeated exposure if swallowed.
Specific target organ toxicity - repeated exposure, Category 2, Central nervous system	H373: May cause damage to organs through prolonged or repeated exposure if inhaled.

Acute aquatic toxicity, Category 1	H400: Very toxic to aquatic life.
Chronic aquatic toxicity, Category 1	H410: Very toxic to aquatic life with long lasting effects.

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.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H373	May cause damage to organs (Liver, Kidney) through prolonged or repeated exposure if swallowed.
H373	May cause damage to organs (Central nervous system) through prolonged or repeated exposure if inhaled.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P260	Do not breathe mist.
P273	Avoid release to the environment.

Response:

P391	Collect spillage.

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:

xylene

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

Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration limits M-Factor Notes	Concentration (% w/w)
zinc powder -zinc dust (stabilised)	7440-66-6 231-175-3 030-001-01-9 01-2119467174-37-XXXX	Aquatic Acute1; H400 Aquatic Chronic1; H410	M-Factor: 1/1	>= 25 - < 30
xylene	1330-20-7 215-535-7 601-022-00-9 01-2119488216-32-XXXX	Flam. Liq.3; H226 Acute Tox.4; H332 Acute Tox.4; H312 Skin Irrit.2; H315 Eye Irrit.2; H319 STOT SE3; H335 STOT RE2; H373 STOT RE2; H373 Asp. Tox.1; H304	Note C	>= 10 - < 20
Hydrocarbons, C11-C12, isoalkanes, < 2% aromatics	Not Assigned918-167-1 01-2119472146-39-XXXX	Flam. Liq.3; H226 Asp. Tox.1; H304		>= 1 - < 10
ethylbenzene	100-41-4 202-849-4 601-023-00-4 01-2119489370-35-XXXX	Flam. Liq.2; H225 Acute Tox.4; H332 STOT RE2; H373 Asp. Tox.1; H304 Aquatic Chronic3; H412		>= 2,5 - < 10
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
Substances with a workplace exposure limit :				
butane	106-97-8 203-448-7	Flam. Gas1; H220 Press. GasCompr. Gas; H280	Note U (table	>= 30 - < 50

	601-004-00-0 01-2119474691-32-XXXX		3.1), Note C	
propane	74-98-6 200-827-9 601-003-00-5 01-2119486944-21-XXXX	Flam. Gas1; H220 Press. GasCompr. Gas; H280	Note U (table 3.1)	>= 10 - < 20
2-methoxy-1-methylethyl acetate	108-65-6 203-603-9 607-195-00-7 01-2119475791-29-XXXX	Flam. Liq.3; H226		>= 1 - < 10
isobutane	75-28-5 200-857-2 601-004-00-0 01-2119485395-27-XXXX	Flam. Gas1; H220 Press. GasCompr. Gas; H280	Note U (table 3.1), Note C	>= 1 - < 10
n-butyl acetate	123-86-4 204-658-1 607-025-00-1 01-2119485493-29-XXXX	Flam. Liq.3; H226 STOT SE3; H336		>= 1 - < 10

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. Seek medical advice.
If swallowed	:	Move the victim to fresh air. Keep respiratory tract clear. Do NOT induce vomiting. Obtain medical attention. Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	:	Inhalation may provoke the following symptoms: Unconsciousness Dizziness Drowsiness Headache Nausea Tiredness Skin contact may provoke the following symptoms: Erythema
Risks	:	Causes skin irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment	:	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 Metal oxides Fire Hazard Do not let product enter drains. Contains gas under pressure; may explode if heated. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

5.3 Advice for firefighters

Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment. In the case of respirable dust and/or fumes, use self-contained breathing apparatus. Exposure to decomposition products may be a hazard to health.
Further information	:	Standard procedure for chemical fires. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Cool containers/tanks with water spray.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Evacuate personnel to safe areas. Ensure adequate ventilation. Remove all sources of ignition. Do not breathe vapours or spray mist. 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 contact with skin and eyes.
For personal protection see section 8.
Keep away from fire, sparks and heated surfaces.
Smoking, eating and drinking should be prohibited in the application area.
Wash hands and face before breaks and immediately after handling the product.
Do not get in eyes or mouth or on skin.
Do not get on skin or clothing.
Do not ingest.
Do not use sparking tools.
These safety instructions also apply to empty packaging which may still contain product residues.
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use.

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

7.2 Conditions for safe storage, including any incompatibilities

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

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

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
butane	106-97-8	AGW	1.000 ppm 2.400 mg/m3	DE TRGS 900 (2006-01-01)
Peak-limit: excursion factor (category)	4;(II)			
Further information	Senate commission for the review of compounds at the work place dangerous			

	for the health (MAK-commission).			
xylene	1330-20-7	TWA	50 ppm 221 mg/m3	2000/39/EC (2000-06-16)
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	100 ppm 442 mg/m3	2000/39/EC (2000-06-16)
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
		AGW	100 ppm 440 mg/m3	DE TRGS 900 (2010-08-04)
Peak-limit: excursion factor (category)	2;(II)			
Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission)., European Union (The EU has established a limit value: deviations in value and peak limit are possible), Skin absorption			
		AGW	200 mg/m3	DE TRGS 900 (2009-02-16)
Peak-limit: excursion factor (category)	2;(II)			
Further information	Group exposure limit for hydrocarbon solvent mixtures, Commission for dangerous substances, See also No. 2.9 of the TRGS 900			
propane	74-98-6	AGW	1.000 ppm 1.800 mg/m3	DE TRGS 900 (2006-01-01)
Peak-limit: excursion factor (category)	4;(II)			
Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
2-methoxy-1-methylethyl acetate	108-65-6	TWA	50 ppm 275 mg/m3	2000/39/EC (2000-06-16)
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	100 ppm 550 mg/m3	2000/39/EC (2000-06-16)
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
		AGW	50 ppm 270 mg/m3	DE TRGS 900 (2006-01-01)
Peak-limit: excursion factor (category)	1;(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			
isobutane	75-28-5	AGW	1.000 ppm	DE TRGS

			2.400 mg/m3	900 (2006-01-01)
Peak-limit: excursion factor (category)	4;(II)			
Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
ethylbenzene	100-41-4	TWA	100 ppm 442 mg/m3	2000/39/EC (2000-06-16)
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	200 ppm 884 mg/m3	2000/39/EC (2000-06-16)
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
		AGW	20 ppm 88 mg/m3	DE TRGS 900 (2015-11-06)
Peak-limit: excursion factor (category)	2;(II)			
Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission)., European Union (The EU has established a limit value: deviations in value and peak limit are possible), Skin absorption, When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
		AGW	200 mg/m3	DE TRGS 900 (2009-02-16)
Peak-limit: excursion factor (category)	2;(II)			
Further information	Group exposure limit for hydrocarbon solvent mixtures, Commission for dangerous substances, See also No. 2.9 of the TRGS 900			
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

Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
xylene	1330-20-7	xylene: 1,5 mg/l (Blood)	Immediately after exposure or after working hours	TRGS 903
		methylhippuric acid (all isomers): 2 g/l (Urine)	Immediately after exposure or after working hours	TRGS 903
ethylbenzene	100-41-4	mandelic acid + phenylglyoxylic acid: 250 mg/g Creatinine (Urine)	Immediately after exposure or after working hours	TRGS 903
acetone	67-64-1	Acetone: 80 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
zinc powder -zinc dust (stabilised)	Workers	Inhalation	Long-term systemic effects	5 mg/m3
	Workers	Skin contact	Long-term systemic effects	83 mg/kg
xylene	Workers	Inhalation	Long-term exposure, Systemic effects	77 mg/m3
	Workers	Inhalation	Short-term exposure, Systemic effects	289 mg/m3
	Workers	Skin contact	Long-term exposure, Systemic effects	180 mg/kg
	Consumers	Inhalation	Long-term exposure, Systemic effects	14,8 mg/m3
	Consumers	Inhalation	Short-term exposure, Systemic effects	174 mg/m3
	Consumers	Ingestion	Long-term exposure, Systemic effects	1,6 mg/kg
2-methoxy-1-methylethyl acetate	Workers	Inhalation	Long-term exposure, Systemic effects	275 mg/m3
	Workers	Skin contact	Long-term exposure, Systemic effects	153,5 mg/kg
	Consumers	Skin contact	Long-term exposure, Systemic effects	54,8 mg/kg
	Consumers	Ingestion	Long-term exposure, Systemic effects	1,67 mg/kg
ethylbenzene	Workers	Skin contact	Long-term systemic	180 mg/kg

			effects	bw/day
	Workers	Inhalation	Long-term systemic effects	77 mg/m3
	Workers	Inhalation	Acute local effects	293 mg/m3

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

Substance name	Environmental Compartment	Value
zinc powder -zinc dust (stabilised)	Fresh water	0,0206 mg/l
	Fresh water sediment	117,8 mg/kg
	Marine water	0,0061 mg/l
	Marine sediment	56,5 mg/kg
	Microbiological Activity in Sewage Treatment Systems	0,052 mg/l
	Soil	35,6 mg/kg
xylene	Fresh water	0,327 mg/l
	Marine water	0,327 mg/l
	Fresh water sediment	12,46 mg/l
	Marine sediment	12,46 mg/l
	Soil	2,31 mg/kg
2-methoxy-1-methylethyl acetate	Fresh water	0,635 mg/l
	Marine water	0,0635 mg/l
	Intermittent use/release	6,35 mg/l
	Microbiological Activity in Sewage Treatment Systems	100 mg/l
	Fresh water sediment	3,29 mg/kg
	Marine sediment	0,329 mg/kg
	Soil	0,29 mg/kg
ethylbenzene	Fresh water	0,1 mg/l
	Marine water	0,01 mg/l
	Intermittent use/release	0,1 mg/l
	Microbiological Activity in Sewage Treatment Systems	9,6 mg/l
	Fresh water sediment	13,7 mg/kg
	Marine sediment	1,37 mg/kg
	Soil	2,68 mg/kg
	Oral	20 mg/kg

8.2 Exposure controls

Engineering measures

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

Personal protective equipment

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

Hand protection

Material	:	Nitrile rubber
Protective index	:	Class 1
Remarks	:	Wear protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case.
Respiratory protection	:	Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.
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	:	-41 °C (1.013 hPa)
Flash point	:	-60,00 °C Method: Abel-Pensky, closed cup
Evaporation rate	:	No data available

Flammability (solid, gas)	:	Extremely flammable aerosol.
Upper explosion limit	:	10,9 %(V)
Lower explosion limit	:	1,1 %(V)
Vapour pressure	:	4.000 hPa (20 °C)
Relative vapour density	:	No data available
Density	:	0,80 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	:	not determined
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.

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 inhalation toxicity : Symptoms: Inhalation may provoke the following symptoms:, Respiratory disorder

Acute toxicity estimate: > 20 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

Remarks: Harmful by inhalation.

Acute dermal toxicity : Acute toxicity estimate: > 2.000 mg/kg
Method: Calculation method

Symptoms: Redness, Local irritation

Components:

zinc powder -zinc dust (stabilised):

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 401
GLP: yes
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat): > 5,41 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Method: OECD Test Guideline 403
GLP: yes
Assessment: The substance or mixture has no acute inhalation toxicity

xylene:

Acute oral toxicity	:	LD50 (Rat): 4.300 mg/kg
Acute inhalation toxicity	:	Assessment: The component/mixture is moderately toxic after short term inhalation.
Acute dermal toxicity	:	Assessment: The component/mixture is moderately toxic after single contact with skin.

Hydrocarbons, C11-C12, isoalkanes, < 2% aromatics:

Acute oral toxicity	:	LD50 Oral (Rat): > 5.000 mg/kg Method: OECD Test Guideline 401
Acute dermal toxicity	:	LD50 (Rabbit): > 5.000 mg/kg Method: OECD Test Guideline 402

ethylbenzene:

Acute oral toxicity	:	LD50 (Rat): 3.500 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): 17,2 mg/l Exposure time: 4 h Test atmosphere: vapour
Acute dermal toxicity	:	LD50 (Rabbit): 15.400 mg/kg

acetone:

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

butane:

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

2-methoxy-1-methylethyl acetate:

Acute oral toxicity	:	LD50 (Rat): 6.190 mg/kg Method: OECD Test Guideline 401 GLP: yes
Acute dermal toxicity	:	LD50 (Rabbit): > 5.000 mg/kg Method: OECD Test Guideline 402

isobutane:

Acute inhalation toxicity	:	LC50 (Rat): 658 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: Irritating to skin.

Components:

zinc powder -zinc dust (stabilised):

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

xylene:

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

Hydrocarbons, C11-C12, isoalkanes, < 2% aromatics:

Result: Repeated exposure may cause skin dryness or cracking.

ethylbenzene:

Species: Rabbit
Result: Mild skin irritation

acetone:

Result: Repeated exposure may cause skin dryness or cracking.

2-methoxy-1-methylethyl acetate:

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

n-butyl acetate:

Result: Repeated exposure may cause skin dryness or cracking.

Serious eye damage/eye irritation

Product:

Remarks: Irritating to eyes.

Components:

zinc powder -zinc dust (stabilised):

Species: Rabbit
Exposure time: 24 h
Assessment: No eye irritation
Method: OECD Test Guideline 405
Result: No eye irritation
GLP: yes

xylene:

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

ethylbenzene:

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

acetone:

Species: Rabbit
Result: Eye irritation

2-methoxy-1-methylethyl acetate:

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

Respiratory or skin sensitisation

Product:

Remarks: This information is not available.

Components:

zinc powder -zinc dust (stabilised):

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

GLP: yes

xylene:

Species: Mouse
Assessment: Did not cause sensitisation on laboratory animals.
Method: OECD Test Guideline 429
Result: Did not cause sensitisation on laboratory animals.

ethylbenzene:

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

2-methoxy-1-methylethyl acetate:

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

Germ cell mutagenicity

Product:

Genotoxicity in vitro	:	Remarks: No data available
Genotoxicity in vivo	:	Remarks: No data available

Components:

zinc powder -zinc dust (stabilised):

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

xylene:

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

ethylbenzene:

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

2-methoxy-1-methylethyl acetate:

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

Carcinogenicity

Product:

Remarks: No data available

Components:

zinc powder -zinc dust (stabilised):

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

xylene:

Carcinogenicity - Assessment	:	Not classifiable as a human carcinogen.

ethylbenzene:

Carcinogenicity - Assessment	:	Not classifiable as a human carcinogen.

2-methoxy-1-methylethyl acetate:

Carcinogenicity - Assessment	:	Not classifiable as a human carcinogen.

Reproductive toxicity

Product:

Effects on fertility	:	Remarks: No data available
Effects on foetal development	:	Remarks: No data available

Components:

zinc powder -zinc dust (stabilised):

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

xylene:

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

ethylbenzene:

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

2-methoxy-1-methylethyl acetate:

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

STOT - single exposure

Components:

xylene:

Exposure routes: Inhalation
Target Organs: Respiratory system
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

ethylbenzene:

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

acetone:

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

2-methoxy-1-methylethyl acetate:

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

n-butyl acetate:

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

STOT - repeated exposure

Components:

xylene:

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

Exposure routes: Ingestion
Target Organs: Liver, Kidney
Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

ethylbenzene:

Exposure routes: Inhalation
Target Organs: hearing organs

Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

2-methoxy-1-methylethyl acetate:

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.

Aspiration toxicity

Product:

This information is not available.

Components:

zinc powder -zinc dust (stabilised):

No aspiration toxicity classification

xylene:

May be fatal if swallowed and enters airways.

Hydrocarbons, C11-C12, isoalkanes, < 2% aromatics:

May be fatal if swallowed and enters airways.

ethylbenzene:

May be fatal if swallowed and enters airways.

2-methoxy-1-methylethyl acetate:

No aspiration toxicity classification

Further information

Product:

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

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish	:	Remarks: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Toxicity to daphnia and other aquatic invertebrates	:	Remarks: No data available
Toxicity to algae	:	Remarks: No data available
Toxicity to microorganisms	:	Remarks: No data available

Components:

zinc powder -zinc dust (stabilised):

Toxicity to fish	:	LC50 (Oncorhynchus kisutch (coho salmon)): 0,727 mg/l Exposure time: 96 h Test Type: static test
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0,937 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202
M-Factor (Acute aquatic toxicity)	:	1
M-Factor (Chronic aquatic toxicity)	:	1

Ecotoxicology Assessment

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

xylene:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 2,6 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 3,82 mg/l Exposure time: 48 h Test Type: flow-through test
Toxicity to algae	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 2,2

		mg/l Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201 GLP: yes
Toxicity to microorganisms	:	EC50 (activated sludge): > 157 mg/l Exposure time: 3 h Test Type: Respiration inhibition Method: OECD Test Guideline 209 GLP:
Toxicity to fish (Chronic toxicity)	:	NOEC: > 1,3 mg/l Exposure time: 56 d Species: Oncorhynchus mykiss (rainbow trout) Test Type: flow-through test
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	EC50: 2,90 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: static test Method: OECD Test Guideline 211 GLP: yes

ethylbenzene:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 4,2 mg/l Exposure time: 96 h Test Type: semi-static test Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 2,4 mg/l Exposure time: 48 h Test Type: static test
Toxicity to algae	:	EC50 (Skeletonema costatum (marine diatom)): 4,6 mg/l Exposure time: 72 h Test Type: static test
Toxicity to fish (Chronic toxicity)	:	NOEC: 3,3 mg/l Exposure time: 96 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0,96 mg/l Exposure time: 7 d Species: Ceriodaphnia dubia (water flea) Test Type: semi-static test

2-methoxy-1-methylethyl acetate:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 - 180 mg/l Exposure time: 96 h Test Type: static test

		Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 373 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae	:	NOEC (Pseudokirchneriella subcapitata (green algae)): >= 1.000 mg/l Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201 GLP: yes
Toxicity to microorganisms	:	EC10 (activated sludge): > 1.000 mg/l Exposure time: 0,5 h Test Type: static test Method: OECD Test Guideline 209 GLP:
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	EC50: > 100 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: Reproduction Test Method: OECD Test Guideline 211

12.2 Persistence and degradability

Product:

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

Components:

xylene:

Biodegradability	:	Result: Readily biodegradable.

Hydrocarbons, C11-C12, isoalkanes, < 2% aromatics:

Biodegradability	:	Result: Not readily biodegradable.

ethylbenzene:

Biodegradability	:	Result: Readily biodegradable.

acetone:

Biodegradability	:	Result: rapidly biodegradable

2-methoxy-1-methylethyl acetate:

Biodegradability : Test Type: aerobic
Inoculum: activated sludge
Result: rapidly biodegradable
Biodegradation: 83 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
GLP: yes

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 persistent and very bioaccumulating (vPvB).

Components:

xylene:

Bioaccumulation : Bioconcentration factor (BCF): 25,9

Partition coefficient: n-octanol/water : log Pow: 2,77 - 3,15

Hydrocarbons, C11-C12, isoalkanes, < 2% aromatics:

Bioaccumulation : Remarks: No data available

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

ethylbenzene:

Bioaccumulation : Bioconcentration factor (BCF): 1

Partition coefficient: n-octanol/water : log Pow: 3,6 (20 °C)

acetone:

Bioaccumulation : Remarks: Does not bioaccumulate.

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

butane:

Partition coefficient: n- : log Pow: 2,89

octanol/water		Method: OECD Test Guideline 107

propane:

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

2-methoxy-1-methylethyl acetate:

Bioaccumulation	:	Bioconcentration factor (BCF): 3,16
Partition coefficient: n-octanol/water	:	log Pow: 0,36 (25 °C) Method: OECD Test Guideline 107 GLP: yes

isobutane:

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

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..

Components:

xylene:

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

ethylbenzene:

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

stance.

2-methoxy-1-methylethyl acetate:

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

12.6 Other adverse effects

Product:

Additional ecological information : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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
(zinc powder - zinc dust (stabilized))

IATA : Aerosols, flammable

14.3 Transport hazard class(es)

ADR	:	2
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	:	yes

IMDG

Marine pollutant	:	yes

IATA (Passenger)

Environmentally hazardous	:	no

IATA (Cargo)

Environmentally hazardous	:	no

14.6 Special precautions for user

No special precautions required.

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

Remarks	:	Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).
REACH - List of substances subject to authorisation (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
E1	ENVIRONMENTAL HAZARDS	100 t	200 t
P2			
E1			
P5c			
34	Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams),(d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar properties as regards flammability and environ-	2.500 t	25.000 t

		mental hazards as the products referred to in points (a) to (d)
Water contaminating class (Germany)	:	WGK 2 significantly 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 3: 26,62 % Inorganic substances in vapour or gaseous form: Not applicable Organic Substances: portion Class 1: 0,02 % others: 68,8 % Carcinogenic substances: Not applicable Mutagenic: Not applicable Toxic to reproduction: Not applicable
Volatile organic compounds	:	Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control) Volatile organic compounds (VOC) content: 73,38 % Remarks: VOC content excluding water

Other regulations:

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

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.

H312	:	Harmful in contact with skin.
H315	:	Causes skin irritation.
H319	:	Causes serious eye irritation.
H332	:	Harmful if inhaled.
H335	:	May cause respiratory irritation.
H336	:	May cause drowsiness or dizziness.
H373	:	May cause damage to organs through prolonged or repeated exposure if inhaled.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H412	:	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

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

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No

Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:		**Classification procedure:**
Aerosol 1	H222, H229	Based on product data or assessment
Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method
STOT RE 2	H373	Calculation method
STOT RE 2	H373	Calculation method
Aquatic Acute 1	H400	Calculation method
Aquatic Chronic 1	H410	Calculation method