

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



ALU-ZINK SPRAY

Version	Revision Date:	SDS Number:	Date of last issue: 03.06.2024
17.0	14.11.2024	10781044-00015	Date of first issue: 23.06.2010

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

1.1 Product identifier

Trade name : ALU-ZINK SPRAY

Product code : 0893111

Product Registration Number : 1487122

Unique Formula Identifier (UFI) : REG7-906Q-A00N-GKVW

|| This substance/ mixture contains nanoforms (according to REACH Regulation)

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

Use of the Sub-stance/Mixture : Solvent-borne coatings
Professional use product

Recommended restrictions on use : Not applicable

1.3 Details of the supplier of the safety data sheet

Company : Würth Danmark A/S
Montagevej 6, Industri N2
6000 Kolding

Telephone : +45 7932 3232

Telefax : +45 7556 9710

E-mail address of person responsible for the SDS : prodsafe@wuerth.com

1.4 Emergency telephone number

+49 (0)6132 84463
Giftlinjen: +45 82121212

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.

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Eye irritation, Category 2

H319: Causes serious eye irritation.

Specific target organ toxicity - single exposure, Category 3

H336: May cause drowsiness or dizziness.

Long-term (chronic) aquatic hazard, Category 2

H411: 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.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.

Supplemental Hazard Statements

:

EUH066	Repeated exposure may cause skin dryness or cracking.
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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.
P273	Avoid release to the environment.

Response:

P391	Collect spillage.
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Storage:

P410 + P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.
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Hazardous components which must be listed on the label:

Dimethyl ether
n-Butyl acetate
Ethyl acetate
Acetone

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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.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Dimethyl ether	115-10-6 204-065-8 603-019-00-8 01-2119472128-37	Flam. Gas 1A; H220 Press. Gas Liquefied gas; H280 STOT SE 3; H336	>= 50 - < 70
Zinc	7440-66-6 231-175-3 030-001-01-9 01-2119467174-37	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	>= 2,5 - < 10
n-Butyl acetate	123-86-4 204-658-1 607-025-00-1 01-2119485493-29	Flam. Liq. 3; H226 STOT SE 3; H336 EUH066	>= 1 - < 10
Ethyl acetate	141-78-6 205-500-4 607-022-00-5	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 EUH066	>= 1 - < 10
Xylene	1330-20-7 215-535-7 601-022-00-9	Flam. Liq. 3; H226 Acute Tox. 4; H332 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 STOT RE 2; H373	>= 2,5 - < 10

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		(Auditory system) Asp. Tox. 1; H304 Aquatic Chronic 3; H412	
		Acute toxicity estimate	
		Acute inhalation toxicity (vapour): 11 mg/l Acute dermal toxicity: 1.100 mg/kg	
Acetone	67-64-1 200-662-2 606-001-00-8	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 EUH066	$\geq 1 - < 10$
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics	Not Assigned	Asp. Tox. 1; H304 EUH066	$\geq 1 - < 10$
Ethylbenzene	100-41-4 202-849-4 601-023-00-4	Flam. Liq. 2; H225 Acute Tox. 4; H332 STOT RE 2; H373 (Auditory system) Asp. Tox. 1; H304 Aquatic Chronic 3; H412	$\geq 2,5 - < 10$
		Acute toxicity estimate	
		Acute inhalation toxicity (vapour): 17,8 mg/l	
Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates	68308-64-5 269-662-8	Acute Tox. 4; H302 Acute Tox. 3; H311 Skin Corr. 1C; H314 Eye Dam. 1; H318 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 EUH071	$\geq 0,1 - < 0,25$
		M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 1	
		Acute toxicity estimate	

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		Acute oral toxicity: 570 mg/kg Acute dermal toxicity: 300 mg/kg	
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For explanation of abbreviations see section 16.

|| This substance/ mixture contains nanoforms (according to REACH Regulation)

Components:

Zeolites (nano):

Particle characteristics

Assessment	: This substance/ mixture contains nanoforms (according to REACH Regulation)
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SECTION 4: First aid measures

4.1 Description of first aid measures

- | | |
|----------------------------|--|
| General advice | : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice. |
| Protection of first-aiders | : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8). |
| If inhaled | : If inhaled, remove to fresh air.
Get medical attention if symptoms occur. |
| In case of skin contact | : In case of contact, immediately flush skin with plenty of water.
Remove contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse. |
| In case of eye contact | : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Get medical attention. |
| If swallowed | : If swallowed, DO NOT induce vomiting.
Get medical attention if symptoms occur.
Rinse mouth thoroughly with water. |

4.2 Most important symptoms and effects, both acute and delayed

Risks	: Causes serious eye irritation.
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May cause drowsiness or dizziness.
Repeated exposure may cause skin dryness or cracking.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry sand
Dry chemical

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Flash back possible over considerable distance.
Vapours may form explosive mixtures with air.
Exposure to combustion products may be a hazard to health.
If the temperature rises there is danger of the vessels bursting due to the high vapor pressure.

Hazardous combustion products : Carbon oxides
Metal oxides
Silicon oxides

5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Remove all sources of ignition.
Use personal protective equipment.
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

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6.2 Environmental precautions

Environmental precautions : Avoid release to the environment.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g. by containment or oil barriers).
Retain and dispose of contaminated wash water.
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 : Non-sparking tools should be used.
Soak up with inert absorbent material.
Suppress (knock down) gases/vapours/mists with a water spray jet.
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust ventilation.
If advised by assessment of the local exposure potential, use only in an area equipped with explosion-proof exhaust ventilation.

Advice on safe handling : Do not get on skin or clothing.
Do not breathe spray.
Do not swallow.
Do not get in eyes.
Wash skin thoroughly after handling.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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Take precautionary measures against static discharges.
Take care to prevent spills, waste and minimize release to the environment.
Do not spray on an open flame or other ignition source.

Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Do not pierce or burn, even after use. Keep cool. Protect from sunlight.

Advice on common storage : Do not store with the following product types:
Self-reactive substances and mixtures
Organic peroxides
Oxidizing agents
Flammable solids
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Substances and mixtures, which in contact with water, emit flammable gases
Explosives
Gases

Storage period : 24 Months

Recommended storage temperature : 15 - 25 °C

7.3 Specific end use(s)

Specific use(s) : No data available

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
Further information: Indicative				
		GV	1.000 ppm 1.920 mg/m ³	DK OEL
Further information: Guiding list of organic solvents.				

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		S	2.000 ppm 3.840 mg/m3	DK OEL
	Further information: Guiding list of organic solvents.			
n-Butyl acetate	123-86-4	STEL	150 ppm 723 mg/m3	2019/1831/E U
	Further information: Indicative			
		TWA	50 ppm 241 mg/m3	2019/1831/E U
	Further information: Indicative			
		GV	50 ppm 241 mg/m3	DK OEL
	Further information: Guiding list of organic solvents.			
		S	150 ppm 723 mg/m3	DK OEL
	Further information: Guiding list of organic solvents.			
Ethyl acetate	141-78-6	TWA	200 ppm 734 mg/m3	2017/164/EU
	Further information: Indicative			
		STEL	400 ppm 1.468 mg/m3	2017/164/EU
	Further information: Indicative			
		GV	150 ppm 540 mg/m3	DK OEL
	Further information: Guiding list of organic solvents.			
		S	400 ppm 1.468 mg/m3	DK OEL
	Further information: Guiding list of organic solvents.			
Xylene	1330-20-7	TWA	50 ppm 221 mg/m3	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	100 ppm 442 mg/m3	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		GV	25 ppm 109 mg/m3	DK OEL
	Further information: Means that the substance can be absorbed through the skin., Guiding list of organic solvents.			
		S	100 ppm 442 mg/m3	DK OEL
	Further information: Means that the substance can be absorbed through the skin., Guiding list of organic solvents.			
Acetone	67-64-1	TWA	500 ppm 1.210 mg/m3	2000/39/EC
	Further information: Indicative			
		GV	250 ppm 600 mg/m3	DK OEL
	Further information: Guiding list of organic solvents.			
		S	500 ppm 1.200 mg/m3	DK OEL

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	Further information: Guiding list of organic solvents.			
Aluminium	7429-90-5	GV (Fumes)	5 mg/m ³ (Aluminium)	DK OEL
		GV (total powder and dust)	5 mg/m ³ (Aluminium)	DK OEL
		GV (respirable powder and dust)	2 mg/m ³ (Aluminium)	DK OEL
		S (total powder and dust)	10 mg/m ³ (Aluminium)	DK OEL
		S (respirable powder and dust)	4 mg/m ³ (Aluminium)	DK OEL
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics	Not Assigned	GV (mist and particles)	1 mg/m ³	DK OEL
		S (mist and particles)	2 mg/m ³	DK OEL
Ethylbenzene	100-41-4	TWA	100 ppm 442 mg/m ³	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	200 ppm 884 mg/m ³	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		GV	50 ppm 217 mg/m ³	DK OEL
	Further information: Means that the substance can be absorbed through the skin., Carcinogenic substance, Guiding list of organic solvents.			
		S	100 ppm 434 mg/m ³	DK OEL
	Further information: Means that the substance can be absorbed through the skin., Carcinogenic substance, Guiding list of organic solvents.			

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

Substance name	End Use	Exposure routes	Potential health effects	Value
Ethyl acetate	Workers	Inhalation	Long-term systemic effects	734 mg/m ³
	Workers	Inhalation	Acute systemic effects	1468 mg/m ³
	Workers	Inhalation	Long-term local effects	734 mg/m ³
	Workers	Inhalation	Acute local effects	1468 mg/m ³
	Workers	Skin contact	Long-term systemic effects	63 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	367 mg/m ³
	Consumers	Inhalation	Acute systemic effects	734 mg/m ³

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	Consumers	Inhalation	Long-term local effects	367 mg/m3
	Consumers	Inhalation	Acute local effects	734 mg/m3
	Consumers	Skin contact	Long-term systemic effects	37 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	4,5 mg/kg bw/day
Acetone	Workers	Inhalation	Long-term systemic effects	1210 mg/m3
	Workers	Inhalation	Acute local effects	2420 mg/m3
	Workers	Skin contact	Long-term systemic effects	186 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	200 mg/m3
	Consumers	Skin contact	Long-term systemic effects	62 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	62 mg/kg bw/day
Ethylbenzene	Workers	Inhalation	Long-term systemic effects	77 mg/m3
	Workers	Inhalation	Acute local effects	293 mg/m3
	Workers	Skin contact	Long-term systemic effects	180 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	15 mg/m3
	Consumers	Ingestion	Long-term systemic effects	1,6 mg/kg bw/day
n-Butyl acetate	Workers	Inhalation	Acute systemic effects	600 mg/m3
	Workers	Inhalation	Acute local effects	600 mg/m3
	Workers	Inhalation	Long-term systemic effects	300 mg/m3
	Workers	Inhalation	Long-term local effects	300 mg/m3
	Consumers	Inhalation	Acute systemic effects	300 mg/m3
	Consumers	Inhalation	Acute local effects	300 mg/m3
	Consumers	Inhalation	Long-term systemic effects	35,7 mg/m3
	Consumers	Inhalation	Long-term local effects	35,7 mg/m3
	Consumers	Skin contact	Long-term systemic effects	11 mg/kg bw/day
	Consumers	Skin contact	Acute systemic effects	11 mg/kg bw/day
	Consumers	Skin contact	Long-term systemic effects	6 mg/kg bw/day
	Consumers	Skin contact	Acute systemic effects	6 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	2 mg/kg bw/day
	Consumers	Ingestion	Acute systemic effects	2 mg/kg

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			fects	bw/day
Dimethyl ether	Workers	Inhalation	Long-term systemic effects	1894 mg/m3
	Consumers	Inhalation	Long-term systemic effects	471 mg/m3
Aluminium	Workers	Inhalation	Long-term local effects	3,72 mg/m3
	Consumers	Ingestion	Long-term systemic effects	3,95 mg/kg bw/day
Zinc	Workers	Inhalation	Long-term systemic effects	5 mg/m3
	Workers	Skin contact	Long-term systemic effects	83 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	2,5 mg/m3
	Consumers	Skin contact	Long-term systemic effects	83 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	0,83 mg/kg bw/day
Xylene	Workers	Inhalation	Long-term systemic effects	221 mg/m3
	Workers	Inhalation	Acute systemic effects	442 mg/m3
	Workers	Inhalation	Long-term local effects	221 mg/m3
	Workers	Inhalation	Acute local effects	442 mg/m3
	Workers	Skin contact	Long-term systemic effects	212 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	65,3 mg/m3
	Consumers	Inhalation	Acute systemic effects	260 mg/m3
	Consumers	Inhalation	Long-term local effects	65,3 mg/m3
	Consumers	Inhalation	Acute local effects	260 mg/m3
	Consumers	Skin contact	Long-term systemic effects	125 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	12,5 mg/kg bw/day
Stearic acid	Workers	Inhalation	Long-term systemic effects	17,63 mg/m3
	Workers	Skin contact	Long-term systemic effects	10 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	4,348 mg/m3
	Consumers	Skin contact	Long-term systemic effects	5 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	2,5 mg/kg bw/day
Quaternary ammonium compounds, coco alkylethyldimethyl, Et	Workers	Inhalation	Long-term systemic effects	3,32 mg/m3

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sulfates				
	Workers	Skin contact	Long-term systemic effects	4,7 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	0,98 mg/m3
	Consumers	Skin contact	Long-term systemic effects	2,83 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	2,83 mg/kg bw/day

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

Substance name	Environmental Compartment	Value
Ethyl acetate	Fresh water	0,24 mg/l
	Marine water	0,024 mg/l
	Intermittent use/release	1,65 mg/l
	Sewage treatment plant	650 mg/l
	Fresh water sediment	1,15 mg/kg dry weight (d.w.)
	Marine sediment	0,115 mg/kg dry weight (d.w.)
	Soil	0,148 mg/kg dry weight (d.w.)
	Oral (Secondary Poisoning)	200 mg/kg food
Acetone	Fresh water	10,6 mg/l
	Marine water	1,06 mg/l
	Intermittent use/release	21 mg/l
	Sewage treatment plant	100 mg/l
	Fresh water sediment	30,4 mg/kg dry weight (d.w.)
	Marine sediment	3,04 mg/kg dry weight (d.w.)
	Soil	29,5 mg/kg dry weight (d.w.)
Ethylbenzene	Fresh water	0,1 mg/l
	Freshwater - intermittent	0,1 mg/l
	Marine water	0,01 mg/l
	Sewage treatment plant	9,6 mg/l
	Fresh water sediment	13,7 mg/kg dry weight (d.w.)
	Marine sediment	1,37 mg/kg dry weight (d.w.)
	Soil	2,68 mg/kg dry weight (d.w.)
	Oral (Secondary Poisoning)	20 mg/kg food
n-Butyl acetate	Fresh water	0,18 mg/l
	Marine water	0,018 mg/l
	Sewage treatment plant	35,6 mg/l
	Fresh water sediment	0,981 mg/kg dry weight (d.w.)
	Marine sediment	0,098 mg/kg dry weight (d.w.)
	Soil	0,09 mg/kg dry

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		weight (d.w.)
Dimethyl ether	Fresh water	0,155 mg/l
	Marine water	0,016 mg/l
	Intermittent use/release	1,549 mg/l
	Sewage treatment plant	160 mg/l
	Fresh water sediment	0,681 mg/kg dry weight (d.w.)
	Marine sediment	0,069 mg/kg dry weight (d.w.)
	Soil	0,045 mg/kg dry weight (d.w.)
Aluminium	Sewage treatment plant	20 mg/l
Zinc	Fresh water	20,6 µg/l
	Marine water	6,1 µg/l
	Sewage treatment plant	100 µg/l
	Fresh water sediment	117,8 mg/kg
	Marine sediment	56,5 mg/kg
	Soil	35,6 mg/kg
Xylene	Fresh water	0,327 mg/l
	Intermittent use/release	0,327 mg/l
	Marine water	0,327 mg/l
	Sewage treatment plant	6,58 mg/l
	Fresh water sediment	12,46 mg/kg dry weight (d.w.)
	Marine sediment	12,46 mg/kg dry weight (d.w.)
	Soil	2,31 mg/kg dry weight (d.w.)
Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates	Fresh water	0,001 mg/l
	Freshwater - intermittent	0,00036 mg/l
	Marine water	0,000068 mg/l
	Sewage treatment plant	0,9 mg/l
	Fresh water sediment	9,27 mg/kg dry weight (d.w.)
	Marine sediment	0,927 mg/kg dry weight (d.w.)
	Soil	7 mg/kg dry weight (d.w.)

8.2 Exposure controls

Engineering measures

Minimize workplace exposure concentrations.

If sufficient ventilation is unavailable, use with local exhaust ventilation.

If advised by assessment of the local exposure potential, use only in an area equipped with explosion-proof exhaust ventilation.

Personal protective equipment

Eye/face protection : Wear the following personal protective equipment:
Safety goggles
Equipment should conform to DS EN 166

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Hand protection

Material	:	butyl-rubber
Break through time	:	< 15 min
Glove thickness	:	0,7 mm

Remarks	:	Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.
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Skin and body protection

:	Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. Wear the following personal protective equipment: If assessment demonstrates that there is a risk of explosive atmospheres or flash fires, use flame retardant antistatic protective clothing. Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).
---	--

Respiratory protection

:	If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection. Equipment should conform to DS EN 137
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Filter type

:	Self-contained breathing apparatus
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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	Aerosol containing a liquefied gas
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Propellant	:	Dimethyl ether
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Colour	:	silver
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Odour	:	characteristic
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Odour Threshold	:	No data available
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Melting point/freezing point	:	No data available
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Initial boiling point and boiling range : -24 °C

Flammability (solid, gas) : Extremely flammable aerosol.

Upper explosion limit / Upper flammability limit : 18,6 %(V)

Lower explosion limit / Lower flammability limit : 3 %(V)

Flash point : 21 °C
Flash point is only valid for liquid portion in the aerosol can.

Auto-ignition temperature : No data available

Decomposition temperature : No data available

pH : Solvent mixture; pH value determination not possible, no aqueous solution

Viscosity
Viscosity, kinematic : Not applicable

Flow time : 15 - 30 s
Cross section: 4 mm

Solubility(ies)
Water solubility : insoluble

Partition coefficient: n-octanol/water : Not applicable

Vapour pressure : Not applicable

Density : 1,11 - 1,22 g/cm³

Relative vapour density : Not applicable

Particle characteristics

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Assessment	:	This substance/ mixture contains nanoforms (according to REACH Regulation)
Particle size	:	Not applicable

	:	Further particle properties for nanomaterials see section 3
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9.2 Other information

Explosives	:	Not explosive
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Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
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Evaporation rate	:	Not applicable
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SECTION 10: Stability and reactivity

10.1 Reactivity

Not classified as a reactivity hazard.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions	:	Extremely flammable aerosol. Vapours may form explosive mixture with air. If the temperature rises there is danger of the vessels bursting due to the high vapor pressure. Can react with strong oxidizing agents.
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10.4 Conditions to avoid

Conditions to avoid	:	Heat, flames and sparks.
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10.5 Incompatible materials

Materials to avoid	:	Oxidizing agents
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10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure	:	Inhalation Skin contact Ingestion
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Eye contact

Acute toxicity

Not classified based on available information.

Product:

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

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

Components:

Dimethyl ether:

Acute inhalation toxicity : LC50 (Rat): 164000 ppm
Exposure time: 4 h
Test atmosphere: gas

Zinc:

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

n-Butyl acetate:

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

Acute inhalation toxicity : LC50 (Rat): > 21,1 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): > 5.000 mg/kg

Ethyl acetate:

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

Acute inhalation toxicity : LC50 (Rat): > 22,5 mg/l
Exposure time: 6 h
Test atmosphere: vapour

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Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 20.000 mg/kg

Xylene:

Acute oral toxicity : LD50 (Rat): 3.523 mg/kg
Method: Directive 67/548/EEC, Annex V, B.1.

Acute inhalation toxicity : Acute toxicity estimate: 11 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Expert judgement
Remarks: Based on national or regional regulation.

Acute dermal toxicity : Acute toxicity estimate: 1.100 mg/kg
Method: Expert judgement
Remarks: Based on national or regional regulation.

Acetone:

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

Acute inhalation toxicity : LC50 (Rat): 76 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): 7.426 mg/kg

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 4.951 mg/m³
Exposure time: 4 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): >= 3.160 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

Ethylbenzene:

Acute oral toxicity : LD50 (Rat): 3.500 mg/kg

Acute inhalation toxicity : LC50 (Rat): 17,8 mg/l
Exposure time: 4 h
Test atmosphere: vapour

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Acute dermal toxicity : LD50 (Rabbit): > 5.000 mg/kg

Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates:

Acute oral toxicity : LD50 (Rat): 570 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : Assessment: Corrosive to the respiratory tract.

Acute dermal toxicity : LD50 (Rabbit, male): > 200 - 1.000 mg/kg
Method: OECD Test Guideline 402
Remarks: Based on data from similar materials

Skin corrosion/irritation

Repeated exposure may cause skin dryness or cracking.

Components:

n-Butyl acetate:

Species : Rabbit
Result : No skin irritation

Assessment : Repeated exposure may cause skin dryness or cracking.

Ethyl acetate:

Species : Rabbit
Result : No skin irritation

Assessment : Repeated exposure may cause skin dryness or cracking.

Xylene:

Species : Rabbit
Result : Skin irritation

Acetone:

Assessment : Repeated exposure may cause skin dryness or cracking.

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Species : Rabbit
Result : Mild skin irritation

Assessment : Repeated exposure may cause skin dryness or cracking.

Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Corrosive after 1 to 4 hours of exposure

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Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

Zinc:

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

n-Butyl acetate:

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

Ethyl acetate:

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

Xylene:

Species	: Rabbit
Result	: Irritation to eyes, reversing within 21 days

Acetone:

Species	: Rabbit
Method	: OECD Test Guideline 405
Result	: Irritation to eyes, reversing within 21 days

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Species	: Rabbit
Method	: OECD Test Guideline 405
Result	: No eye irritation
Remarks	: Based on data from similar materials

Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates:

Result	: Irreversible effects on the eye
Remarks	: Based on skin corrosivity.

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

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Components:

n-Butyl acetate:

Test Type	: Maximisation Test
Exposure routes	: Skin contact
Species	: Guinea pig
Result	: negative

Ethyl acetate:

Test Type	: Maximisation Test
Exposure routes	: Skin contact
Species	: Guinea pig
Method	: OECD Test Guideline 406
Result	: negative

Xylene:

Test Type	: Local lymph node assay (LLNA)
Exposure routes	: Skin contact
Species	: Mouse
Result	: negative

Acetone:

Test Type	: Maximisation Test
Exposure routes	: Skin contact
Species	: Guinea pig
Result	: negative

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Test Type	: Maximisation Test
Exposure routes	: Skin contact
Species	: Guinea pig
Result	: negative
Remarks	: Based on data from similar materials

Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates:

Test Type	: Buehler Test
Exposure routes	: Skin contact
Species	: Guinea pig
Result	: negative
Remarks	: Based on data from similar materials

Germ cell mutagenicity

Not classified based on available information.

Components:

Dimethyl ether:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471
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Result: negative

Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative

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

Genotoxicity in vivo : Test Type: Sex-linked recessive lethal test in *Drosophila melanogaster* (in vivo)
Application Route: inhalation (gas)
Result: negative

Zinc:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: positive
Remarks: Based on data from similar materials

Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Germ cell mutagenicity- Assessment : Weight of evidence does not support classification as a germ cell mutagen.

n-Butyl acetate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Ethyl acetate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: negative
Remarks: Based on data from similar materials

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Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Hamster
Application Route: Ingestion
Result: negative

Xylene:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: negative

Test Type: In vitro sister chromatid exchange assay in mammalian cells
Result: negative

Genotoxicity in vivo : Test Type: Rodent dominant lethal test (germ cell) (in vivo)
Species: Mouse
Application Route: Skin contact
Result: negative

Acetone:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Result: negative

Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Result: negative

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Result: negative

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Germ cell mutagenicity- Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

Ethylbenzene:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

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

Test Type: Chromosome aberration test in vitro
Result: negative

Genotoxicity in vivo : Test Type: Unscheduled DNA synthesis (UDS) test with
mammalian liver cells in vivo
Species: Mouse
Application Route: Inhalation
Method: OECD Test Guideline 486
Result: negative

Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative
Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative
Remarks: Based on data from similar materials

Carcinogenicity

Not classified based on available information.

Components:

Dimethyl ether:

Species	: Rat
Application Route	: inhalation (vapour)
Exposure time	: 2 Years
Result	: negative

Xylene:

Species	: Rat
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Application Route : Ingestion
Exposure time : 103 weeks
Result : negative

Acetone:

Species : Mouse
Application Route : Skin contact
Exposure time : 424 days
Result : negative

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Species : Rat
Application Route : inhalation (vapour)
Exposure time : 105 weeks
Result : negative
Remarks : Based on data from similar materials

Carcinogenicity - Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

Ethylbenzene:

Species : Rat
Application Route : inhalation (vapour)
Exposure time : 104 weeks
Result : positive
Remarks : The mechanism or mode of action may not be relevant in humans.

Reproductive toxicity

Not classified based on available information.

Components:

Dimethyl ether:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (vapour)
Result: negative

n-Butyl acetate:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapour)
Method: OECD Test Guideline 416

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Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Ethyl acetate:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Mouse
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Species: Rat
Application Route: inhalation (vapour)
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Inhalation
Result: negative
Remarks: Based on data from similar materials

Test Type: Embryo-foetal development
Species: Mouse
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Xylene:

Effects on fertility : Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Acetone:

Effects on fertility : Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (vapour)
Result: negative

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Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Effects on fertility : Test Type: Reproduction/Developmental toxicity screening test
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Ethylbenzene:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapour)
Method: OECD Test Guideline 416
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Inhalation
Method: OECD Test Guideline 414
Result: negative

Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 416
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rabbit
Application Route: Skin contact
Result: negative
Remarks: Based on data from similar materials

STOT - single exposure

May cause drowsiness or dizziness.

Components:

Dimethyl ether:

Assessment : May cause drowsiness or dizziness.

n-Butyl acetate:

Assessment : May cause drowsiness or dizziness.

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Ethyl acetate:

Assessment : May cause drowsiness or dizziness.

Xylene:

Assessment : May cause respiratory irritation.

Acetone:

Assessment : May cause drowsiness or dizziness.

STOT - repeated exposure

Not classified based on available information.

Components:

Xylene:

Exposure routes : inhalation (vapour)
Target Organs : Auditory system
Assessment : Shown to produce significant health effects in animals at concentrations of >0.2 to 1 mg/l/6h/d.

Ethylbenzene:

Exposure routes : inhalation (vapour)
Target Organs : Auditory system
Assessment : Shown to produce significant health effects in animals at concentrations of >0.2 to 1 mg/l/6h/d.

Repeated dose toxicity

Components:

Dimethyl ether:

Species : Rat
NOAEL : 47,11 mg/l
Application Route : inhalation (vapour)
Exposure time : 2 yr

Zinc:

Species : Rat
NOAEL : 31 mg/kg
Application Route : Ingestion
Exposure time : 90 Days

n-Butyl acetate:

Species : Rat
NOAEL : 2,4 mg/l
Application Route : inhalation (vapour)
Exposure time : 90 Days

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Ethyl acetate:

Species	: Rat
NOAEL	: 900 mg/kg
LOAEL	: 3.600 mg/kg
Application Route	: Ingestion
Exposure time	: 90 Days

Species	: Rat
NOAEL	: 1,28 mg/l
LOAEL	: 2,75 mg/kg
Application Route	: inhalation (vapour)
Exposure time	: 94 Days

Xylene:

Species	: Rat
LOAEL	: > 0,2 - 1 mg/l
Application Route	: inhalation (vapour)
Exposure time	: 13 Weeks
Remarks	: Based on data from similar materials

Species	: Rat
LOAEL	: 150 mg/kg
Application Route	: Ingestion
Exposure time	: 90 Days

Acetone:

Species	: Rat
NOAEL	: 900 mg/kg
LOAEL	: 1.700 mg/kg
Application Route	: Ingestion
Exposure time	: 90 Days

Species	: Rat
NOAEL	: 45 mg/l
Application Route	: inhalation (vapour)
Exposure time	: 8 Weeks

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Species	: Rat
NOAEL	: >= 1.000 mg/kg
Application Route	: Ingestion
Exposure time	: 54 Days
Remarks	: Based on data from similar materials

Ethylbenzene:

Species	: Rat
LOAEL	: 0,868 mg/l
Application Route	: inhalation (vapour)

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Exposure time	:	13 Weeks
Species	:	Rat
NOAEL	:	75 mg/kg
LOAEL	:	250 mg/kg
Application Route	:	Ingestion
Method	:	OECD Test Guideline 408

Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates:

Species	:	Rat
NOAEL	:	> 100 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 Days
Method	:	OECD Test Guideline 408
Remarks	:	Based on data from similar materials

Aspiration toxicity

Not classified based on available information.

Components:

Xylene:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Acetone:

The substance or mixture causes concern owing to the assumption that it causes a human aspiration toxicity hazard.

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Ethylbenzene:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment	:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
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Experience with human exposure

Components:

Ethyl acetate:

Eye contact : Target Organs: Eye
Symptoms: Irritation

SECTION 12: Ecological information

12.1 Toxicity

Components:

Dimethyl ether:

Toxicity to fish : LC50 (Poecilia reticulata (guppy)): > 4.100 mg/l
Exposure time: 96 h

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

Toxicity to microorganisms : EC10 (Pseudomonas putida): > 1.600 mg/l

Zinc:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 0,78 mg/l
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 1,83 mg/l
aquatic invertebrates Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic : IC50 (Pseudokirchneriella subcapitata (green algae)): 0,15
plants mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

M-Factor (Acute aquatic tox- : 1
icity)

Toxicity to microorganisms : EC50 : 5,2 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

Toxicity to fish (Chronic tox- : NOEC: 0,199 mg/l
icity) Exposure time: 30 d
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other : NOEC: 0,1 mg/l
aquatic invertebrates (Chron- Exposure time: 21 d
ic toxicity) Species: Daphnia magna (Water flea)

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M-Factor (Chronic aquatic toxicity) : 1

n-Butyl acetate:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 18 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia sp. (water flea)): 44 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 397 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

NOEC (Pseudokirchneriella subcapitata (green algae)): 196 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Toxicity to microorganisms : IC50 (Tetrahymena pyriformis): 356 mg/l
Exposure time: 40 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 23,2 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

Ethyl acetate:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 220 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 3.090 mg/l
Exposure time: 24 h
Method: DIN 38412

Toxicity to algae/aquatic plants : NOEC (Desmodesmus subspicatus (green algae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC10 (Photobacterium phosphoreum): 1.650 mg/l
Exposure time: 0,25 h

Toxicity to fish (Chronic toxicity) : NOEC: > 1 - 9,65 mg/l
Exposure time: 32 d
Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 2,4 mg/l
Exposure time: 24 d

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ic toxicity) Species: Daphnia magna (Water flea)

Xylene:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 13,5 mg/l
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 1 - 10 mg/l
aquatic invertebrates Exposure time: 24 h
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae/aquatic : EC50 (Skeletonema costatum (marine diatom)): 10 mg/l
plants Exposure time: 72 h

Toxicity to microorganisms : NOEC : > 100 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
Remarks: Based on data from similar materials

Toxicity to fish (Chronic tox- : NOEC: > 0,1 - < 1 mg/l
icity) Exposure time: 35 d
Species: Danio rerio (zebra fish)
Method: OECD Test Guideline 210
Remarks: Based on data from similar materials

Toxicity to daphnia and other : EL10: > 1 - 10 mg/l
aquatic invertebrates (Chron- Exposure time: 21 d
ic toxicity) Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

Acetone:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 5.540 mg/l
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia pulex (Water flea)): 8.800 mg/l
aquatic invertebrates Exposure time: 48 h

Toxicity to algae/aquatic : NOEC (Pseudokirchneriella subcapitata (green algae)): 7.000
plants mg/l
Exposure time: 96 h

Toxicity to microorganisms : EC50 : 61.150 mg/l
Exposure time: 30 min
Method: ISO 8192

Toxicity to daphnia and other : NOEC: >= 79 mg/l
aquatic invertebrates (Chron- Exposure time: 21 d
ic toxicity) Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211

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Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics:

- Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): > 1.000 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 1.000 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 202
- Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (green algae)): > 1.000 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials
- NOELR (Pseudokirchneriella subcapitata (green algae)): 1.000 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOELR: > 1 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

Ethylbenzene:

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 4,2 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1,8 - 2,4 mg/l
Exposure time: 48 h
- Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 3,6 mg/l
Exposure time: 96 h
- NOEC (Pseudokirchneriella subcapitata (green algae)): 3,4 mg/l
Exposure time: 96 h
- Toxicity to microorganisms : EC50 (Nitrosomonas sp.): 96 mg/l
Exposure time: 24 h
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,96 mg/l
Exposure time: 7 d

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ic toxicity) Species: Ceriodaphnia dubia (water flea)

Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 13,8 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0,036 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): 0,14 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 EC10 (Pseudokirchneriella subcapitata (green algae)): 0,01 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity)	:	10
Toxicity to microorganisms	:	EC10 : 9 mg/l Exposure time: 3 h Method: OECD Test Guideline 209
Toxicity to fish (Chronic toxicity)	:	NOEC: > 0,01 - 0,1 mg/l Exposure time: 28 d Species: Pimephales promelas (fathead minnow) Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: > 0,001 - 0,01 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Remarks: Based on data from similar materials
M-Factor (Chronic aquatic toxicity)	:	1

12.2 Persistence and degradability

Components:

Dimethyl ether:

Biodegradability	:	Result: Not readily biodegradable. Biodegradation: 5 % Exposure time: 28 d Method: OECD Test Guideline 301D
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n-Butyl acetate:

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Biodegradability : Result: Readily biodegradable.
Biodegradation: 83 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

Ethyl acetate:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 69 %
Exposure time: 20 d

Xylene:

Biodegradability : Result: Readily biodegradable.
Biodegradation: > 70 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

Acetone:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 91 %
Exposure time: 28 d

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 80 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

Ethylbenzene:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 70 - 80 %
Exposure time: 28 d

Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 67,77 %
Exposure time: 28 d
Method: OECD Test Guideline 310

12.3 Bioaccumulative potential

Components:

Dimethyl ether:

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

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Zinc:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 177

n-Butyl acetate:

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

Ethyl acetate:

Bioaccumulation : Species: Leuciscus idus (Golden orfe)
Bioconcentration factor (BCF): 30

Partition coefficient: n-octanol/water : log Pow: 0,68

Xylene:

Partition coefficient: n-octanol/water : log Pow: 3,16
Remarks: Calculation

Acetone:

Partition coefficient: n-octanol/water : log Pow: -0,27 - -0,23

Ethylbenzene:

Partition coefficient: n-octanol/water : log Pow: 3,6

Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Bioconcentration factor (BCF): < 500
Remarks: Based on data from similar materials

Partition coefficient: n-octanol/water : log Pow: 3,26
Remarks: Calculation

12.4 Mobility in soil

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.

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12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Waste, residues, etc. must be collected, stored and disposed of in tightly closed container labeled: "Contains a substance that is covered by the Danish health and safety regulation in terms of cancer risk."

Dispose of in accordance with local regulations.
According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.
Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.
Do not dispose of waste into sewer.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
Empty containers retain residue and can be dangerous.
Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death.
If not otherwise specified: Dispose of as unused product.
Please ensure aerosol cans are sprayed completely empty (including propellant)

Waste Code : The following Waste Codes are only suggestions:

used product
08 01 11*, waste paint and varnish containing organic solvents or other hazardous substances
16 05 04, gases in pressure containers (including halons) containing hazardous substances

unused product
08 01 11*, waste paint and varnish containing organic solvents or other hazardous substances
16 05 04, gases in pressure containers (including halons) containing hazardous substances

uncleaned packagings

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15 01 10*, packaging containing residues of or contaminated
by hazardous substances

SECTION 14: Transport information

14.1 UN number or ID number

ADN	:	UN 1950
ADR	:	UN 1950
RID	:	UN 1950
IMDG	:	UN 1950
IATA	:	UN 1950

14.2 UN proper shipping name

ADN	:	AEROSOLS
ADR	:	AEROSOLS
RID	:	AEROSOLS
IMDG	:	AEROSOLS (Zinc, Quaternary ammonium compounds, coco alkylethyl- dimethyl, Et sulfates)
IATA	:	Aerosols, flammable

14.3 Transport hazard class(es)

	Class	Subsidiary risks
ADN	: 2	2.1
ADR	: 2	2.1
RID	: 2	2.1
IMDG	: 2.1	
IATA	: 2.1	

14.4 Packing group

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

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Hazard Identification Number : 23
Labels : 2.1

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

ADN

Environmentally hazardous : yes

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

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 - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) :

Substance(s) or mixture(s) are listed here according to their appearance

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in the regulation, irrespective of their use/purpose or the conditions of the restriction. Please refer to the conditions in corresponding Regulation to determine whether an entry is applicable to the placing on the market or not.

Conditions of restriction for the following entries should be considered: Number on list 75: If you intend to use this product as tattoo ink, please contact your vendor.

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EC) on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

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

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Regulation (EU) 2019/1148 on the marketing and use of explosives precursors

This product is regulated by Regulation (EU) 2019/1148: all suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point. Acetone (ANNEX II)

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
E2	ENVIRONMENTAL HAZARDS	200 t	500 t

MAL-Code-Number : 4-1 (1993)
Product contains low-boiling liquids. Respiratory protective equipment must be air supplied respirators.

Volatile organic compounds : Directive 2004/42/EC
VOC content in g/l: < 840 g/l
Product sub-category: Special finishes

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Coatings: All types
VOC limit level 1 (2007): 840 g/l

Directive 2010/75/EU of 24 November 2010 on industrial
emissions (integrated pollution prevention and control)
Volatile organic compounds (VOC) content: 82,2 %

Other regulations:

When evaluating a workplace, measures must be taken to ensure that employees are not exposed to conditions that may pose a risk during pregnancy or breastfeeding (cf. The Danish Working Environment Authority's Executive Order on The Performance of Work)

Young people under the age of 18 are not allowed to use or be exposed to the product professionally. Young people above the age of 15 are, however, except from this rule if the product is a necessary part of their education.

The substance/mixture is subject to the provisions of : Ethylbenzene
BEK no 822 of 16/06/2023 (as amended) "Executive
order on Measures to Protect Workers from the Risks
related to Exposure to Carcinogenic Substances and
Materials at Work". The work with this substance/mixture
may pose a cancer risk.

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Other information : Items where changes have been made to the previous version
are highlighted in the body of this document by two vertical
lines.

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.
H302	: Harmful if swallowed.
H304	: May be fatal if swallowed and enters airways.
H311	: Toxic in contact with skin.
H312	: Harmful in contact with skin.
H314	: Causes severe skin burns and eye damage.
H315	: Causes skin irritation.
H318	: Causes serious eye damage.
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.
H400	: Very toxic to aquatic life.

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H410	: Very toxic to aquatic life with long lasting effects.
H412	: Harmful to aquatic life with long lasting effects.
EUH066	: Repeated exposure may cause skin dryness or cracking.
EUH071	: Corrosive to the respiratory tract.

Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Acute	: Short-term (acute) aquatic hazard
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Asp. Tox.	: Aspiration hazard
Eye Dam.	: Serious eye damage
Eye Irrit.	: Eye irritation
Flam. Gas	: Flammable gases
Flam. Liq.	: Flammable liquids
Press. Gas	: Gases under pressure
Skin Corr.	: Skin corrosion
Skin Irrit.	: Skin irritation
STOT RE	: Specific target organ toxicity - repeated exposure
STOT SE	: Specific target organ toxicity - single exposure
2000/39/EC	: Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
2017/164/EU	: Europe. Commission Directive 2017/164/EU establishing a fourth list of indicative occupational exposure limit values
2019/1831/EU	: Europe. Commission Directive 2019/1831/EU establishing a fifth list of indicative occupational exposure limit values
DK OEL	: Denmark. Occupational Exposure Limits
2000/39/EC / TWA	: Limit Value - eight hours
2000/39/EC / STEL	: Short term exposure limit
2017/164/EU / STEL	: Short term exposure limit
2017/164/EU / TWA	: Limit Value - eight hours
2019/1831/EU / TWA	: Limit Value - eight hours
2019/1831/EU / STEL	: Short term exposure limit
DK OEL / S	: Exposure period of 15 minutes
DK OEL / GV	: Long term exposure limit

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; 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 - Interna-

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tional 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; TECL - Thailand Existing Chemicals 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

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Classification of the mixture:

Aerosol 1	H222, H229
Eye Irrit. 2	H319
STOT SE 3	H336
Aquatic Chronic 2	H411

Classification procedure:

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

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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