

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



Light Zinc Spray Perfect 400ml

Version 7.3 Revision Date: 28.02.2019 SDS Number: 547111-00002 Date of last issue: 15.11.2018
Date of first issue: 21.12.2009

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

1.1 Product identifier

Trade name : Light Zinc Spray Perfect 400ml
Product code : 0893 114 114

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

Use of the Sub-stance/Mixture : Solvent-borne coatings, Compressed Gas (Aerosol cans)
Professional use product

1.3 Details of the supplier of the safety data sheet

Company : Würth UK Ltd
1 Centurion Way
Erith, Kent

Telephone : +44 (0)3300 555 444

Telefax : +44 (0)3300 555 666

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

1.4 Emergency telephone number

+44 (0)870 190 6777

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Aerosols, Category 1	H222: Extremely flammable aerosol. H229: Pressurised container: May burst if heated.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Specific target organ toxicity - single exposure, Category 3	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)


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- 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.
- Precautionary statements : **Prevention:**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Do not pierce or burn, even after use.
P261 Avoid breathing spray.
P271 Use only outdoors or in a well-ventilated area.
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:

Dimethyl ether
Acetone
n-Butyl acetate
Ethyl acetate

2.3 Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Zinc	7440-66-6 231-175-3	Aquatic Acute 1; H400	>= 2.5 - < 10

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	030-001-01-9 01-2119467174-37	Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	
Ethyl acetate	141-78-6 205-500-4 607-022-00-5 01-2119475103-46	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336	>= 1 - < 10
Acetone	67-64-1 200-662-2 606-001-00-8 01-2119471330-49	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336	>= 1 - < 10
Ethylbenzene	100-41-4 202-849-4 601-023-00-4 01-2119489370-35	Flam. Liq. 2; H225 Acute Tox. 4; H332 STOT RE 2; H373 Asp. Tox. 1; H304 Aquatic Chronic 3; H412	>= 2.5 - < 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 Asp. Tox. 1; H304 Aquatic Chronic 3; H412	>= 2.5 - < 10
Butan-1-ol	71-36-3 200-751-6 603-004-00-6 01-2119484630-38	Flam. Liq. 3; H226 Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H336 STOT SE 3; H335	>= 1 - < 3
Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates	68308-64-5 269-662-8	Acute Tox. 4; H302 Acute Tox. 3; H311 Skin Corr. 1; H314 Eye Dam. 1; H318 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 1	>= 0.1 - < 0.25
Substances with a workplace exposure limit :			
Dimethyl ether	115-10-6 204-065-8 603-019-00-8	Flam. Gas 1; H220 Press. Gas Liquefied gas; H280	>= 90 - <= 100

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STOT SE 3; H336

For explanation of abbreviations see section 16.

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.
- If inhaled : If inhaled, remove to fresh air.
Get medical attention.
- 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.
Rinse mouth thoroughly with water.

4.2 Most important symptoms and effects, both acute and delayed

- Risks : Causes serious eye irritation.
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 : Water spray
Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical

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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

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 and personal protective equipment recommendations.

6.2 Environmental precautions

Environmental precautions : Discharge into the environment must be avoided.
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.

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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 | : | Use with local exhaust ventilation.
Use only in an area equipped with explosion-proof exhaust ventilation if advised by assessment of the local exposure potential |
| Advice on safe handling | : | Do not get on skin or clothing.
Do not breathe vapours or spray mist.
Do not swallow.
Do not get in eyes.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Keep away from heat and sources of ignition.
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 | : | Ensure that eye flushing systems and safety showers are located 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 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 |

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Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Substances and mixtures, which in contact with water, emit flammable gases
Explosives

Recommended storage temperature : < 50 °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			
		TWA	400 ppm 766 mg/m ³	GB EH40
		STEL	500 ppm 958 mg/m ³	GB EH40
Ethyl acetate	141-78-6	TWA	200 ppm	GB EH40
		STEL	400 ppm	GB EH40
		STEL	400 ppm 1,468 mg/m ³	2017/164/EU
Further information	Indicative			
		TWA	200 ppm 734 mg/m ³	2017/164/EU
Further information	Indicative			
n-Butyl acetate	123-86-4	TWA	150 ppm 724 mg/m ³	GB EH40
		STEL	200 ppm 966 mg/m ³	GB EH40
Acetone	67-64-1	TWA	500 ppm 1,210 mg/m ³	2000/39/EC
Further information	Indicative			
		TWA	500 ppm 1,210 mg/m ³	GB EH40
		STEL	1,500 ppm 3,620 mg/m ³	GB EH40
Aluminium	7429-90-5	TWA (inhalable dust)	10 mg/m ³	GB EH40
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for			

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	<p>sampling and gravimetric analysis of respirable and inhalable dust, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m⁻³ 8-hour TWA of inhalable dust or 4 mg.m⁻³ 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used</p>			
		TWA (Respirable dust)	4 mg/m ³	GB EH40
Further information	<p>For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m⁻³ 8-hour TWA of inhalable dust or 4 mg.m⁻³ 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used</p>			
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			
		TWA	100 ppm 441 mg/m ³	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	125 ppm	GB EH40

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			552 mg/m ³	
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
Xylene	1330-20-7	TWA	50 ppm 220 mg/m ³	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	100 ppm 441 mg/m ³	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		TWA	50 ppm 221 mg/m ³	2000/39/EC
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	100 ppm 442 mg/m ³	2000/39/EC
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
Butan-1-ol	71-36-3	STEL	50 ppm 154 mg/m ³	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			

Occupational exposure limits of decomposition products

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Formaldehyde	50-00-0	TWA	2 ppm 2.5 mg/m ³	GB EH40
		STEL	2 ppm 2.5 mg/m ³	GB EH40
Methanol	67-56-1	TWA	200 ppm 260 mg/m ³	2006/15/EC
Further information	Indicative, Identifies the possibility of significant uptake through the skin			
		TWA	200 ppm 266 mg/m ³	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	250 ppm 333 mg/m ³	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			

Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
Xylene	1330-20-7	methyl hippuric acid: 650 Millimoles per mole Creatinine (Urine)	After shift	GB EH40 BAT

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

Substance name	End Use	Exposure routes	Potential health effects	Value
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Xylene	Workers	Inhalation	Long-term systemic effects	221 mg/m ³
	Workers	Inhalation	Acute systemic effects	442 mg/m ³
	Workers	Inhalation	Long-term local effects	221 mg/m ³
	Workers	Inhalation	Acute local effects	442 mg/m ³
	Workers	Skin contact	Long-term systemic effects	212 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	65.3 mg/m ³
	Consumers	Inhalation	Acute systemic effects	260 mg/m ³
	Consumers	Inhalation	Long-term local effects	65.3 mg/m ³
	Consumers	Inhalation	Acute local effects	260 mg/m ³
	Consumers	Skin contact	Long-term systemic effects	125 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	12.5 mg/kg bw/day
Zinc	Workers	Inhalation	Long-term systemic effects	5 mg/m ³
	Workers	Skin contact	Long-term systemic effects	83 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	2.5 mg/m ³
	Consumers	Skin contact	Long-term systemic effects	83 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	0.83 mg/kg bw/day
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
	Consumers	Inhalation	Long-term local effects	367 mg/m ³
	Consumers	Inhalation	Acute local effects	734 mg/m ³
	Consumers	Skin contact	Long-term systemic effects	37 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	4.5 mg/kg bw/day
n-Butyl acetate	Workers	Inhalation	Acute systemic effects	600 mg/m ³
	Workers	Inhalation	Acute local effects	600 mg/m ³

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	Workers	Inhalation	Long-term systemic effects	300 mg/m ³
	Workers	Inhalation	Long-term local effects	300 mg/m ³
	Consumers	Inhalation	Acute systemic effects	300 mg/m ³
	Consumers	Inhalation	Acute local effects	300 mg/m ³
	Consumers	Inhalation	Long-term systemic effects	35.7 mg/m ³
	Consumers	Inhalation	Long-term local effects	35.7 mg/m ³
	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 bw/day
Acetone	Workers	Inhalation	Long-term systemic effects	1210 mg/m ³
	Workers	Inhalation	Acute local effects	2420 mg/m ³
	Workers	Skin contact	Long-term systemic effects	186 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	200 mg/m ³
	Consumers	Skin contact	Long-term systemic effects	62 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	62 mg/kg bw/day
Aluminium	Workers	Inhalation	Long-term local effects	3.72 mg/m ³
	Consumers	Ingestion	Long-term systemic effects	3.95 mg/kg bw/day
Ethylbenzene	Workers	Inhalation	Long-term systemic effects	77 mg/m ³
	Workers	Inhalation	Acute local effects	293 mg/m ³
	Workers	Skin contact	Long-term systemic effects	180 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	15 mg/m ³
	Consumers	Ingestion	Long-term systemic effects	1.6 mg/kg bw/day
Butan-1-ol	Workers	Inhalation	Long-term local effects	310 mg/m ³
	Consumers	Ingestion	Long-term systemic effects	3.125 mg/kg bw/day
	Consumers	Inhalation	Long-term local effects	55 mg/m ³

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Dimethyl ether	Workers	Inhalation	Long-term systemic effects	1894 mg/m ³
	Consumers	Inhalation	Long-term systemic effects	471 mg/m ³

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

Substance name	Environmental Compartment	Value
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.)
Zinc	Soil	2.31 mg/kg dry weight (d.w.)
	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
Ethyl acetate	Marine sediment	56.5 mg/kg
	Soil	35.6 mg/kg
	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
n-Butyl acetate	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
	Fresh water	0.18 mg/l
Acetone	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 weight (d.w.)
	Fresh water	10.6 mg/l
Acetone	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.)

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Aluminium	Sewage treatment plant	20 mg/l
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
Butan-1-ol	Fresh water	0.082 mg/l
	Marine water	0.008 mg/l
	Intermittent use/release	2.25 mg/l
	Sewage treatment plant	2476 mg/l
	Fresh water sediment	0.178 mg/kg
	Marine sediment	0.018 mg/kg
	Soil	0.015 mg/kg
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.)

8.2 Exposure controls

Engineering measures

Processing may form hazardous compounds (see section 10).

Minimize workplace exposure concentrations.

Use only in an area equipped with explosion-proof exhaust ventilation if advised by assessment of the local exposure potential

Use with local exhaust ventilation.

Personal protective equipment

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

Hand protection

Material : butyl-rubber
Break through time : > 480 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

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Vapour pressure	:	Not applicable
Relative vapour density	:	Not applicable
Density	:	0.81 g/cm ³ (20 °C)
Solubility(ies)	:	
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity	:	
Viscosity, kinematic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

9.2 Other information

Particle size	:	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. Hazardous decomposition products will be formed at elevated temperatures.
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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

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Thermal decomposition : Formaldehyde
Methanol

SECTION 11: Toxicological information

11.1 Information on toxicological effects

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

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

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:

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

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
Assessment: The substance or mixture has no acute inhalation toxicity

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

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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

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

Acute dermal toxicity : LD50 (Rabbit): > 5,000 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 harmonised classification in EU regulation 1272/2008, Annex VI

Acute dermal toxicity : Acute toxicity estimate: 1,100 mg/kg
Method: Expert judgement
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

Butan-1-ol:

Acute oral toxicity : LD50 (Rat): 790 mg/kg

Acute inhalation toxicity : LC0 (Rat): > 17.76 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): 3,430 mg/kg

Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates:

Acute oral toxicity : LD50 (Rat): > 600 mg/kg
Method: OECD Test Guideline 401

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

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Acute dermal toxicity : LD50 (Rabbit): 528 mg/kg
Method: OECD Test Guideline 402
Remarks: Based on data from similar materials

Dimethyl ether:

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

Skin corrosion/irritation

Repeated exposure may cause skin dryness or cracking.

Components:

Ethyl acetate:

Species : Rabbit
Result : No skin irritation

Assessment : Repeated exposure may cause skin dryness or cracking.

Acetone:

Assessment : Repeated exposure may cause skin dryness or cracking.

Xylene:

Species : Rabbit
Result : Skin irritation

Butan-1-ol:

Species : Rabbit
Result : Skin irritation

Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Corrosive after 4 hours or less of exposure

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

Zinc:

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

Ethyl acetate:

Species : Rabbit
Method : OECD Test Guideline 405

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Result : No eye irritation

Acetone:

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

Xylene:

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

Butan-1-ol:

Species : Rabbit
Method : OECD Test Guideline 405
Result : Irreversible effects on the eye

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.

Components:

Ethyl acetate:

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

Acetone:

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

Xylene:

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

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Butan-1-ol:

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 : Maximisation 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:

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.

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

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo

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cytogenetic assay)
Species: Hamster
Application Route: Ingestion
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

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

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 mam-
malian cells
Result: negative

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

Butan-1-ol:

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

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 474
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

Dimethyl ether:

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

Carcinogenicity

Not classified based on available information.

Components:

Acetone:

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

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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.

Xylene:

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

Dimethyl ether:

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

Reproductive toxicity

Not classified based on available information.

Components:

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

Acetone:

Effects on fertility : Test Type: One-generation reproduction toxicity study

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Species: Rat
Application Route: Ingestion
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

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

Butan-1-ol:

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

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
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

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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

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

STOT - single exposure

May cause drowsiness or dizziness.

Components:

Ethyl acetate:

Assessment : May cause drowsiness or dizziness.

Acetone:

Assessment : May cause drowsiness or dizziness.

Xylene:

Assessment : May cause respiratory irritation.

Butan-1-ol:

Assessment : May cause respiratory irritation., May cause drowsiness or dizziness.

Dimethyl ether:

Assessment : May cause drowsiness or dizziness.

STOT - repeated exposure

Not classified based on available information.

Components:

Ethylbenzene:

Exposure routes : inhalation (vapour)
Target Organs : Auditory system

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Assessment : Shown to produce significant health effects in animals at concentrations of >0.2 to 1 mg/l/6h/d.

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.

Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates:

Exposure routes : Skin contact
Assessment : No significant health effects observed in animals at concentrations of 200 mg/kg bw or less.

Repeated dose toxicity

Components:

Zinc:

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

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

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

Ethylbenzene:

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Species : Rat
LOAEL : 0.868 mg/l
Application Route : inhalation (vapour)
Exposure time : 13 Weeks

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

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

Butan-1-ol:

Species : Rat
NOAEL : 125 mg/kg
Application Route : Ingestion
Exposure time : 13 Weeks

Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates:

Species : Rat
NOAEL : > 300 mg/kg
Application Route : Ingestion
Exposure time : 28 Days
Remarks : Based on data from similar materials

Species : Rabbit
NOAEL : 10 mg/kg
Application Route : Skin contact
Exposure time : 4 Weeks
Remarks : Based on data from similar materials

Dimethyl ether:

Species : Rat
NOAEL : 47.11 mg/l
Application Route : inhalation (vapour)
Exposure time : 2 yr

Aspiration toxicity

Not classified based on available information.

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Method: OECD Test Guideline 209

Toxicity to fish (Chronic toxicity) : NOEC: 0.199 mg/l
Exposure time: 30 d
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.1 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic toxicity) : 1

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
Species: Daphnia magna (Water flea)

Acetone:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 5,540 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia pulex (Water flea)): 8,800 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : NOEC (Pseudokirchneriella subcapitata (green algae)): 7,000 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 aquatic invertebrates (Chronic toxicity) : NOEC: >= 79 mg/l
Exposure time: 21 d

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ic toxicity) Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211

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 : EC50 (Daphnia magna (Water flea)): 1.8 - 2.4 mg/l
aquatic invertebrates Exposure time: 48 h

Toxicity to algae/aquatic : EC50 (Pseudokirchneriella subcapitata (green algae)): 3.6
plants 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 : NOEC: 0.96 mg/l
aquatic invertebrates (Chron- Exposure time: 7 d
ic toxicity) Species: Ceriodaphnia dubia (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

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Remarks: Based on data from similar materials

Butan-1-ol:

- Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 1,376 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1,328 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
- Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 225 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201
- Toxicity to microorganisms : EC50 (Pseudomonas putida): 4,390 mg/l
Exposure time: 17 h
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 4.1 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211

Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates:

- Toxicity to fish : LC50 (Danio rerio (zebra fish)): 13.8 mg/l
Exposure time: 96 h
- 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 fish (Chronic toxicity) : NOEC: 0.0322 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: 99.1 µg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

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Remarks: Based on data from similar materials

M-Factor (Chronic aquatic toxicity) : 1

Dimethyl ether:

Toxicity to fish : LC50 (Poecilia reticulata (guppy)): > 4,100 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 4,400 mg/l
Exposure time: 48 h

Toxicity to microorganisms : EC10 (Pseudomonas putida): > 1,600 mg/l

12.2 Persistence and degradability

Components:

Ethyl acetate:

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

Acetone:

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

Ethylbenzene:

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

Xylene:

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

Butan-1-ol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 92 %
Exposure time: 20 d

Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates:

Biodegradability : Result: Inherently biodegradable.
Biodegradation: 67.77 %
Exposure time: 28 d

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Method: OECD Test Guideline 310

Dimethyl ether:

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

12.3 Bioaccumulative potential

Components:

Zinc:

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

Ethyl acetate:

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

Partition coefficient: n-octanol/water : log Pow: 0.68

Acetone:

Partition coefficient: n-octanol/water : log Pow: -0.27 - -0.23

Ethylbenzene:

Partition coefficient: n-octanol/water : log Pow: 3.6

Xylene:

Partition coefficient: n-octanol/water : log Pow: 3.16
Remarks: Calculation

Butan-1-ol:

Partition coefficient: n-octanol/water : log Pow: 1

Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Bioconcentration factor (BCF): 79
Remarks: Based on data from similar materials

Dimethyl ether:

Partition coefficient: n-octanol/water : log Pow: 0.2

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12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Not relevant

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- | | | |
|------------------------|---|--|
| Product | : | 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. |
| 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
16 05 04, gases in pressure containers (including halons) containing hazardous substances

unused product
16 05 04, gases in pressure containers (including halons) containing hazardous substances

uncleaned packagings
15 01 10, packaging containing residues of or contaminated by hazardous substances |

SECTION 14: Transport information

14.1 UN number

- | | | |
|------|---|---------|
| ADN | : | UN 1950 |
| ADR | : | UN 1950 |
| RID | : | UN 1950 |
| IMDG | : | UN 1950 |

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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)

ADN : 2
ADR : 2
RID : 2
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
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

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

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.

P3a	FLAMMABLE AEROSOLS	Quantity 1 150 t	Quantity 2 500 t
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E2	ENVIRONMENTAL HAZARDS	200 t	500 t
34	Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams),(d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar properties as regards flammability and environmental hazards as the products referred to in points (a) to (d)	2,500 t	25,000 t

Volatile organic compounds : Directive 2004/42/EC
VOC content in g/l: 679 g/l
Product sub-category: Special finishes
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: 82.8 %, 679 g/l
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

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.

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- 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.
- H410 : Very toxic to aquatic life with long lasting effects.
- H412 : Harmful to aquatic life with long lasting effects.

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
- 2006/15/EC : Europe. Indicative occupational exposure limit values
- 2017/164/EU : Commission Directive (EU) 2017/164 establishing a fourth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC, and amending Commission Directives 91/322/EEC, 2000/39/EC and 2009/161/EU

- GB EH40 : UK. EH40 WEL - Workplace Exposure Limits
- GB EH40 BAT : UK. Biological monitoring guidance values
- 2000/39/EC / TWA : Limit Value - eight hours
- 2000/39/EC / STEL : Short term exposure limit
- 2006/15/EC / TWA : Limit Value - eight hours
- 2017/164/EU / STEL : Short term exposure limit
- 2017/164/EU / TWA : Limit Value - eight hours
- GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)
- GB EH40 / STEL : Short-term exposure limit (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx -

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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

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

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.

GB / EN