



Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Lozopren plus AF

Version number: 2.0
Replaces version of: 2020-10-05 (1)

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First version: 2020-10-05

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

1.1 Product identifier

Trade name	<u>Lozopren plus AF</u>
Registration number (REACH)	Not relevant (mixture).
CAS number	not relevant (mixture)

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

Relevant identified uses	Disinfectant concentrate for instruments
Uses advised against	Do not use for squirting or spraying

1.3 Details of the supplier of the safety data sheet

PLIWA Hygiene GmbH	Telephone: +495661 / 7317 0
Pliwa-Straße 2	Telefax: +495661 / 7317 10
34323 Malsfeld-Ostheim	e-mail: info@pliwa.de
Germany	Website: www.pliwa.de

e-mail (competent person) sdb@csb-online.de

Please do not use this e-mail address to ask for the latest safety data sheet. For this purpose contact PLIWA Hygiene GmbH.

1.4 Emergency telephone number

Emergency information service	PLIWA Hygiene GmbH +49 5661 / 7317 0 This number is only available during the following office hours: Monday-Friday 07:00 - 16:00.
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As above or nearest toxicological information centre.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

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Classification				
Section	Hazard class	Category	Hazard class and category	Hazard statement
3.10	acute toxicity (oral)	4	Acute Tox. 4	H302
3.2	skin corrosion/irritation	1	Skin Corr. 1	H314
3.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318
3.4S	skin sensitisation	1	Skin Sens. 1	H317
3.9	specific target organ toxicity - repeated exposure	2	STOT RE 2	H373
4.1A	hazardous to the aquatic environment - acute hazard	1	Aquatic Acute 1	H400
4.1C	hazardous to the aquatic environment - chronic hazard	1	Aquatic Chronic 1	H410

For full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis.

Delayed or immediate effects can be expected after short or long-term exposure.

Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Signal word danger

Pictograms

GHS05, GHS07,
GHS08, GHS09



Hazard statements

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H373 May cause damage to organs (kidney) through prolonged or repeated exposure.

H410 Very toxic to aquatic life with long lasting effects.

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Precautionary statements

P260	Do not breathe mist/vapours/spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazardous ingredients for labelling

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine
Orangeterpenes
N,N-Didecyl-N-methyl-poly(oxyethyl) ammonium propionate
Didecyldimethylammonium chloride

2.3 Other hazards

This material is combustible, but will not ignite readily.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

SECTION 3: Composition/information on ingredients


3.1 Substances

Not relevant (mixture).







3.2 Mixtures

Description of the mixture


Aqueous solution, containing surfactants.
Concentrate.

Hazardous ingredients					
Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	CAS No 2372-82-9 EC No 219-145-8	10 – < 25	Acute Tox. 3 / H301 Skin Corr. 1B / H314 Eye Dam. 1 / H318 STOT RE 2 / H373 Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410		-

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Hazardous ingredients					
Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
2-(2-butoxyethoxy)ethanol	CAS No 112-34-5 EC No 203-961-6 Index No 603-096-00-8 REACH Reg. No 01-2119475104-44-xxxx	10 – < 25	Eye Irrit. 2 / H319		GHS-HC IOELV
propan-2-ol	CAS No 67-63-0 EC No 200-661-7 Index No 603-117-00-0	10 – < 25	Flam. Liq. 2 / H225 Eye Irrit. 2 / H319 STOT SE 3 / H336		GHS-HC
N,N-Didecyl-N-methyl-poly(oxyethyl) ammonium propionate	CAS No 94667-33-1 REACH Reg. No 01-2119950327-36-xxxx	5 – < 10	Acute Tox. 4 / H302 Skin Corr. 1B / H314 Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410		-
ethylene glycol	CAS No 107-21-1 EC No 203-473-3 Index No 603-027-00-1	1 – < 5	Acute Tox. 4 / H302 STOT RE 2 / H373		GHS-HC IOELV
Didecyldimethylammonium chloride	CAS No 7173-51-5 EC No 230-525-2	1 – < 5	Acute Tox. 3 / H301 Skin Corr. 1B / H314 Eye Dam. 1 / H318 Aquatic Acute 1 / H400 Aquatic Chronic 2 / H411		GHS-HC
Orangeterpenes	CAS No 8028-48-6 EC No 232-433-8	1 – < 5	Flam. Liq. 3 / H226 Skin Irrit. 2 / H315 Skin Sens. 1 / H317 Asp. Tox. 1 / H304 Aquatic Chronic 2 / H411		-

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Hazardous ingredients					
Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
alcohols, C12-14, ethoxylated, sulfates, sodium salts	CAS No 68891-38-3 EC No 500-234-8 REACH Reg. No 01-2119488639- 16-xxxx	1 – <5	Skin Irrit. 2 / H315 Eye Dam. 1 / H318 Aquatic Chronic 3 / H412		-

Notes

GHS- Harmonised classification (the classification of the substance corresponds to the entry in the list according to

HC: 1272/2008/EC, Annex VI)

IOELV: Substance with a community indicative occupational exposure limit value

Name of substance	Specific Conc. Limits	M-Factors	ATE	Exposure route
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	-	M-factor (acute) = 100.0	243.6 mg/kg	oral
N,N-Didecyl-N-methylpoly(oxyethyl) ammonium propionate	-	M-factor (acute) = 10.0 M-factor (chronic) = 10.0	500 mg/kg	oral
ethylene glycol	-	-	500 mg/kg	oral
Didecyl dimethylammonium chloride	-	M-factor (acute) = 10.0	238 mg/kg	oral
alcohols, C12-14, ethoxylated, sulfates, sodium salts	Eye Dam. 1; H318: C ≥ 10 % Eye Irrit. 2; H319: 5 % ≤ C < 10 %	-	-	-

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

Provide fresh air.

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

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Following skin contact

After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water.

Call a physician immediately. Causes poorly healing wounds.

Following eye contact

Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a doctor.

Following ingestion

Rinse mouth. Do not induce vomiting.

Get medical advice/attention if you feel unwell.

Notes for the doctor

None.

4.2 Most important symptoms and effects, both acute and delayed

These information are not available.

4.3 Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

water spray, alcohol resistant foam, fire extinguishing powder, carbon dioxide (CO₂)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.

Hazardous combustion products

nitrogen oxides (NO_x), carbon monoxide (CO), carbon dioxide (CO₂)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes.

Co-ordinate firefighting measures to the fire surroundings.

Do not allow firefighting water to enter drains or water courses.

Collect contaminated firefighting water separately.

Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

self-contained breathing apparatus (EN 133)

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

Ventilate affected area.

Do not get in eyes, on skin, or on clothing.

Special danger of slipping by leaking/spilling product.

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water.

Retain contaminated washing water and dispose of it.

If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to clean up a spill

Collect spillage.

Absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.).

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal.

Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5.

Personal protective equipment: see section 8.

Incompatible materials: see section 10.

Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.

Keep away from sources of ignition - No smoking.

Measures to protect the environment

Avoid release to the environment.

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Advice on general occupational hygiene

Do not eat, drink and smoke in work areas.

Wash hands after use.

Preventive skin protection (barrier creams/ointments) is recommended.

Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities

Flammability hazards

None.

Incompatible substances or mixtures

Incompatible materials: see section 10.

Protect against external exposure, such as

high temperatures, frost, UV-radiation/sunlight

Consideration of other advice

Keep away from food, drink and animal feeding stuffs.

Ventilation requirements

Provision of sufficient ventilation.

Specific designs for storage rooms or vessels

Storage temperature recommended storage temperature: 5 - 25 °C

Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)									
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Notation	Source
EU	ethylene glycol	107-21-1	IOELV	20	52	40	104	-	2000/39/EC
EU	2-(2-butoxyethoxy)ethanol	112-34-5	IOELV	10	67.5	15	101.2	-	2006/15/EC
GB	ethane-1,2-diol	107-21-1	WEL	-	10	-	-	particle	EH40/2005
GB	ethane-1,2-diol	107-21-1	WEL	20	52	40	104	vap	EH40/2005
GB	2-(2-butoxyethoxy)ethanol	112-34-5	WEL	10	67.5	15	101.2	-	EH40/2005
GB	propan-2-ol	67-63-0	WEL	400	999	500	1,250	-	EH40/2005

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Notation

particle as airborne particles

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

vap as vapours

Relevant DNELs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	DNEL	0.789 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	DNEL	8.96 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
2-(2-butoxyethoxy)ethanol	112-34-5	DNEL	67.5 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
propan-2-ol	67-63-0	DNEL	500 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
propan-2-ol	67-63-0	DNEL	888 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
ethylene glycol	107-21-1	DNEL	35 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
ethylene glycol	107-21-1	DNEL	106 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Didecyltrimethylammonium chloride	7173-51-5	DNEL	8.6 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Didecyltrimethylammonium chloride	7173-51-5	DNEL	18.2 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
Orangeterpenes	8028-48-6	DNEL	8.89 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
Orangeterpenes	8028-48-6	DNEL	31.1 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3	DNEL	175 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects

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Relevant DNELs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3	DNEL	2,750 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Relevant PNECs of components of the mixture				
Name of substance	CAS No	Endpoint	Threshold level	Environmental compartment
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	PNEC	0.001 mg/l	freshwater
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	PNEC	0 mg/l	marine water
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	PNEC	0.18 mg/l	sewage treatment plant (STP)
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	PNEC	3.2 mg/kg	freshwater sediment
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	PNEC	0.13 mg/kg	marine sediment
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	PNEC	45.34 mg/kg	soil
2-(2-butoxyethoxy)ethanol	112-34-5	PNEC	1.1 mg/l	freshwater
2-(2-butoxyethoxy)ethanol	112-34-5	PNEC	0.11 mg/l	marine water
2-(2-butoxyethoxy)ethanol	112-34-5	PNEC	4.4 mg/kg	freshwater sediment
2-(2-butoxyethoxy)ethanol	112-34-5	PNEC	0.44 mg/kg	marine sediment
2-(2-butoxyethoxy)ethanol	112-34-5	PNEC	0.32 mg/kg	soil
propan-2-ol	67-63-0	PNEC	140.9 mg/l	water
propan-2-ol	67-63-0	PNEC	140.9 mg/l	marine water
propan-2-ol	67-63-0	PNEC	2,251 mg/l	sewage treatment plant (STP)
propan-2-ol	67-63-0	PNEC	552 mg/kg	freshwater sediment
propan-2-ol	67-63-0	PNEC	552 mg/kg	marine sediment
propan-2-ol	67-63-0	PNEC	140.9 mg/l	freshwater
propan-2-ol	67-63-0	PNEC	28 mg/kg	soil

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Relevant PNECs of components of the mixture				
Name of substance	CAS No	Endpoint	Threshold level	Environmental compartment
ethylene glycol	107-21-1	PNEC	10 mg/l	freshwater
ethylene glycol	107-21-1	PNEC	1 mg/l	marine water
ethylene glycol	107-21-1	PNEC	199.5 mg/l	sewage treatment plant (STP)
ethylene glycol	107-21-1	PNEC	37 mg/kg	freshwater sediment
ethylene glycol	107-21-1	PNEC	3.7 mg/kg	marine sediment
ethylene glycol	107-21-1	PNEC	1.53 mg/kg	soil
Didecyldimethylammonium chloride	7173-51-5	PNEC	1.1 µg/l	freshwater
Didecyldimethylammonium chloride	7173-51-5	PNEC	0.11 µg/l	marine water
Didecyldimethylammonium chloride	7173-51-5	PNEC	0.14 mg/l	sewage treatment plant (STP)
Didecyldimethylammonium chloride	7173-51-5	PNEC	61.86 mg/kg	freshwater sediment
Didecyldimethylammonium chloride	7173-51-5	PNEC	6.186 mg/kg	marine sediment
Didecyldimethylammonium chloride	7173-51-5	PNEC	1.4 mg/kg	soil
Orangeterpenes	8028-48-6	PNEC	5.4 µg/l	freshwater
Orangeterpenes	8028-48-6	PNEC	0.54 µg/l	marine water
Orangeterpenes	8028-48-6	PNEC	2.1 mg/l	sewage treatment plant (STP)
Orangeterpenes	8028-48-6	PNEC	1.3 mg/kg	freshwater sediment
Orangeterpenes	8028-48-6	PNEC	0.13 mg/kg	marine sediment
Orangeterpenes	8028-48-6	PNEC	0.261 mg/kg	soil
Orangeterpenes	8028-48-6	PNEC	5.77 µg/l	water
alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3	PNEC	0.24 mg/l	freshwater
alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3	PNEC	0.024 mg/l	marine water
alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3	PNEC	10 g/l	sewage treatment plant (STP)

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Relevant PNECs of components of the mixture				
Name of substance	CAS No	Endpoint	Threshold level	Environmental compartment
alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3	PNEC	0.917 mg/kg	freshwater sediment
alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3	PNEC	0.092 mg/kg	marine sediment
alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3	PNEC	7.5 mg/kg	soil
2-(2-butoxyethoxy)ethanol: PNEC Oral - Predators - Secondary poisoning - 56 mg/kg				
propan-2-ol: PNEC Oral - Predators - Secondary poisoning - 160 mg/kg				

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Hand protection

Protective gloves		
Material	Material thickness	Breakthrough times of the glove material
FKM: fluoro-elastomer	≥ 0,4 mm	>60 minutes (permeation: level 3)
IIR: isobutene-isoprene (butyl) rubber	≥ 0,5 mm	>60 minutes (permeation: level 3)

Wear suitable gloves.

Chemical protection gloves are suitable, which are tested according to EN 374.

Check leak-tightness/impermeability prior to use.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Type: A (against organic gases and vapours with a boiling point of > 65 °C , colour code: Brown).

Environmental exposure controls

Use appropriate container to avoid environmental contamination.

Keep away from drains, surface and ground water.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	clear
Odour	characteristic
Melting point/freezing point	not determined
Boiling point or initial boiling point and boiling range	>82 °C
Flammability	this material is combustible, but will not ignite readily
Lower and upper explosion limit	0.77 vol% - 13.4 vol%
Flash point	>60 °C
Auto-ignition temperature	210 °C
Decomposition temperature	not relevant
pH (value)	11 – 12 (20 °C)
Kinematic viscosity	not determined
Dynamic viscosity	not determined
Solubility(ies)	
Water solubility	miscible in any proportion
Partition coefficient n-octanol/water (log value)	not determined
Vapour pressure	186.4 Pa at 25 °C
Density and/or relative density	
Density	0.94 – 0.99 g/cm ³ at 20 °C
Relative vapour density	information on this property is not available
Particle characteristics	not relevant (liquid)

9.2 Other information

Information with regard to physical hazard classes	hazard classes acc. to GHS (physical hazards): not relevant
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Other safety characteristics

Temperature class (EU, acc. to ATEX)

T3

(maximum permissible surface temperature on the equipment: 200°C)

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture.

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5 Incompatible materials

oxidisers, copper, bronze, brass, plastics (Acrylic polymers, polycarbonates)

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known.

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

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

Classification procedure

If not otherwise specified the classification is based on:
Ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Test data are not available for the complete mixture.
Harmful if swallowed.

Name of substance	CAS No	Exposure route	End-point	Value	Species	Method	Source
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	oral	LD50	243.6 mg/kg	rat, female	OECD Guideline 401	ECHA

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Name of substance	CAS No	Exposure route	End-point	Value	Species	Method	Source
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	dermal	LD0	600 mg/kg	rat	-	-
2-(2-butoxyethoxy)ethanol	112-34-5	oral	LD50	2,410 mg/kg	mouse, male	OECD Guideline 401	ECHA
2-(2-butoxyethoxy)ethanol	112-34-5	dermal	LD50	2,764 mg/kg	rabbit, male	OECD Guideline 402	ECHA
propan-2-ol	67-63-0	oral	LD50	5,840 mg/kg	rat	OECD Guideline 401	ECHA
propan-2-ol	67-63-0	dermal	LD50	13,100 mg/kg	rabbit	OECD Guideline 402	ECHA
ethylene glycol	107-21-1	dermal	LD50	>3,500 mg/kg	mouse	-	ECHA
Didecyldimethylammonium chloride	7173-51-5	oral	LD50	238 mg/kg	rat	OECD Guideline 401	L-SDB Lonza Bardac 22 version 11 datum 08.02.2018
Didecyldimethylammonium chloride	7173-51-5	dermal	LD50	3,342 mg/kg	rabbit	-	L-SDB Lonza Bardac 22 version 11 datum 08.02.2018
Orangeterpenes	8028-48-6	oral	LD50	>5,000 mg/kg	rat	OECD Guideline 401	ECHA
Orangeterpenes	8028-48-6	dermal	LD50	>5,000 mg/kg	rabbit	OECD Guideline 402	ECHA
alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3	oral	LD50	2,870 mg/kg	rat	OECD Guideline 401	ECHA
alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3	dermal	LD0	>2,000 mg/kg	rat	OECD Guideline 402	ECHA

Skin corrosion/irritation

Causes severe skin burns and eye damage.

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Classification procedure

The classification is based on an extreme pH value.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

Based on available data, the classification criteria are not met.

Reproductive toxicity

Based on available data, the classification criteria are not met.

Specific target organ toxicity - single exposure

Based on available data, the classification criteria are not met.

Specific target organ toxicity - repeated exposure

Hazard category	Target organ	Exposure route
2	kidney	if exposed

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards

There is no additional information.

Endocrine disrupting properties

None of the ingredients are listed.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity (acute)

Very toxic to aquatic organisms.

Test data are not available for the complete mixture.

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Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Exposure time	Value	Species	Method	Source
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	LC50	96 h	0.431 mg/l	zebra fish (Danio rerio)	OECD Guideline 203	ECHA
2-(2-butoxyethoxy)ethanol	112-34-5	LC50	96 h	1,300 mg/l	bluegill (Lepomis macrochirus)	OECD Guideline 203	ECHA
2-(2-butoxyethoxy)ethanol	112-34-5	EC50	48 h	>100 mg/l	daphnia magna	EU method C.2	ECHA
2-(2-butoxyethoxy)ethanol	112-34-5	ErC50	72 h	1,101 mg/l	algae (pseudokirchneriella subcapitata)	OECD Guideline 201	ECHA
2-(2-butoxyethoxy)ethanol	112-34-5	EbC50	96 h	>100 mg/l	algae (Desmodesmus subspicatus)	OECD Guideline 201	ECHA
propan-2-ol	67-63-0	LC50	96 h	9,640 mg/l	fathead minnow (Pimephales promelas)	OECD Guideline 203	ECHA
propan-2-ol	67-63-0	LC50	24 h	>10,000 mg/l	daphnia magna	OECD Guideline 202	ECHA
N,N-Didecyl-N-methylpoly(oxyethyl) ammonium propionate	94667-33-1	LC50	96 h	0.52 mg/l	bluegill (Lepomis macrochirus)	EPA OPPTS 850.1075	ECHA
N,N-Didecyl-N-methylpoly(oxyethyl) ammonium propionate	94667-33-1	LC50	96 h	0.62 mg/l	carp (cyprinus carpio)	OECD Guideline 203	ECHA
N,N-Didecyl-N-methylpoly(oxyethyl) ammonium propionate	94667-33-1	EC50	48 h	0.1 mg/l	daphnia magna	OECD Guideline 202	ECHA
N,N-Didecyl-N-methylpoly(oxyethyl) ammonium propionate	94667-33-1	ErC50	72 h	0.34 mg/l	algae (Scenedesmus subspicatus)	OECD Guideline 201	ECHA

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Name of substance	CAS No	Endpoint	Exposure time	Value	Species	Method	Source
ethylene glycol	107-21-1	LC50	96 h	>72,860 mg/l	fathead minnow (Pimephales promelas)	-	ECHA
ethylene glycol	107-21-1	EC50	48 h	>100 mg/l	daphnia magna	OECD Guideline 202	ECHA
ethylene glycol	107-21-1	ErC50	96 h	6,500 – 13,000 mg/l	algae (pseudokirchneriella subcapitata)	-	ECHA
ethylene glycol	107-21-1	IC 50	96 h	10,940 mg/l	algae (pseudokirchneriella subcapitata)	-	ECHA
Didecyl-dimethylammonium chloride	7173-51-5	EC50	48 h	0.029 mg/l	daphnia magna	OECD Guideline 202	ECHA
Didecyl-dimethylammonium chloride	7173-51-5	LC50	96 h	0.49 mg/l	zebra fish (Danio rerio)	OECD Guideline 203	ECHA
Didecyl-dimethylammonium chloride	7173-51-5	ErC50	72 h	0.062 mg/l	algae (pseudokirchneriella subcapitata)	OECD Guideline 201	ECHA
Orangeterpenes	8028-48-6	EL50	48 h	1.1 mg/l	daphnia magna	OECD Guideline 202	ECHA
Orangeterpenes	8028-48-6	EL50	72 h	150 mg/l	algae (Desmodium subspicatus)	OECD Guideline 201	ECHA
Orangeterpenes	8028-48-6	EL50	48 h	5.65 mg/l	zebra fish (Danio rerio)	OECD Guideline 203	ECHA
alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3	EC50	48 h	7.4 mg/l	daphnia magna	OECD Guideline 202	ECHA

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Name of substance	CAS No	Endpoint	Exposure time	Value	Species	Method	Source
alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3	LC50	96 h	1.17 mg/l	daphnia magna	OECD Guideline 211	ECHA
alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3	LC50	96 h	7.1 mg/l	zebra fish (Danio rerio)	OECD Guideline 203	ECHA
alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3	ErC50	72 h	27.7 mg/l	algae (Desmodesmus subspicatus)	OECD Guideline 201	ECHA

Aquatic toxicity (chronic)

Very toxic to aquatic life with long lasting effects.

Test data are not available for the complete mixture.

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Exposure time	Value	Species	Method	Source
2-(2-butoxyethoxy)ethanol	112-34-5	NOEC	96 h	≥100 mg/l	algae (Desmodesmus subspicatus)	OECD Guideline 201	ECHA
2-(2-butoxyethoxy)ethanol	112-34-5	growth (Eb-Cx) 10%	30 min	>1,995 mg/l	Bacteria (activated sludge)	OECD Guideline 209	ECHA
ethylene glycol	107-21-1	LC50	28 d	>1,500 mg/l	fish	-	ECHA
ethylene glycol	107-21-1	EC50	21 d	>15,000 mg/l	aquatic invertebrates	-	ECHA
ethylene glycol	107-21-1	NOEC	72 h	>100 mg/l	algae	-	ECHA
ethylene glycol	107-21-1	NOEC	23 d	≥1,000 mg/l	aquatic invertebrates	-	ECHA
ethylene glycol	107-21-1	growth (Eb-Cx) 20%	30 min	>1,995 mg/l	activated sludge, domestic	DIN EN ISO 8192	ECHA
Didecyl-dimethylammonium chloride	7173-51-5	EC50	21 d	0.031 mg/l	daphnia magna	OECD Guideline 211	ECHA

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Name of substance	CAS No	Endpoint	Exposure time	Value	Species	Method	Source
Didecyl-dimethylammonium chloride	7173-51-5	NOEC	72 h	0.013 mg/l	algae (pseudokirchneriella subcapitata)	OECD Guideline 201	ECHA
Didecyl-dimethylammonium chloride	7173-51-5	NOEC	21 d	0.021 mg/l	daphnia magna	OECD Guideline 211	ECHA
Didecyl-dimethylammonium chloride	7173-51-5	LOEC	21 d	0.047 mg/l	daphnia magna	OECD Guideline 211	ECHA
Orangeterpenes	8028-48-6	NOELR	96 h	4 mg/l	zebra fish (Danio rerio)	OECD Guideline 203	ECHA
Orangeterpenes	8028-48-6	NOELR	48 h	0.48 mg/l	daphnia magna	OECD Guideline 202	ECHA
Orangeterpenes	8028-48-6	NOELR	72 h	50 mg/l	algae (Desmodium subspicatus)	OECD Guideline 201	ECHA
alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3	LC50	21 d	0.74 mg/l	daphnia magna	OECD Guideline 211	ECHA
alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3	EC50	21 d	0.37 mg/l	daphnia magna	OECD Guideline 211	ECHA
alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3	EC50	16 h	>10 ⁹ /l	activated sludge (Pseudomonas putida)	DIN 38412-8	ECHA
alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3	NOEC	28 d	0.14 – 0.2 mg/l	rainbow trout (Oncorhynchus mykiss)	OECD Guideline 204	ECHA
alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3	NOEC	21 d	0.27 mg/l	daphnia magna	OECD Guideline 211	ECHA

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Name of substance	CAS No	Endpoint	Exposure time	Value	Species	Method	Source
alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3	NOEC	72 h	0.95 mg/l	algae (Desmodesmus subspicatus)	OECD Guideline 201	ECHA
alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3	growth (Eb-Cx) 10%	16 h	>10 ⁹ /l	activated sludge (Pseudomonas putida)	DIN 38412-8	ECHA
alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3	growth rate (ErCx) 10%	72 h	4.4 mg/l	algae (Desmodesmus subspicatus)	OECD Guideline 201	ECHA

12.2 Persistence and degradability

Degradability of components of the mixture

Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	oxygen depletion	68 %	28 d	OECD Guideline 306	ECHA
2-(2-butoxyethoxy)ethanol	112-34-5	oxygen depletion	85 %	28 d	OECD Guideline 301 C	ECHA
propan-2-ol	67-63-0	oxygen depletion	53 %	5 d	EU method C.5	ECHA
ethylene glycol	107-21-1	DOC removal	90 – 100 %	10 d	OECD Guideline 301 A	ECHA
Didecyl-dimethylammonium chloride	7173-51-5	oxygen depletion	69 %	28 d	OECD 301D	ECHA
Didecyl-dimethylammonium chloride	7173-51-5	carbon dioxide generation	71 %	28 d	-	ECHA

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Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3	DOC removal	100 %	28 d	EU method C.4-A	ECHA
alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3	oxygen depletion	≥77 %	28 d	OECD Guideline 301 D	ECHA

Biodegradation

The relevant substances of the mixture are readily biodegradable.

Persistence

No data available.

12.3 Bioaccumulative potential

Test data are not available for the complete mixture.

Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF	Log KOW
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	3.16	4.46 (20 °C)
2-(2-butoxyethoxy)ethanol	112-34-5	-	1 (pH value: 7, 20 °C)
ethylene glycol	107-21-1	-	-1.36
Didecyldimethylammonium chloride	7173-51-5	-	2.59 (pH value: 7, 20 °C)
Orangeterpenes	8028-48-6	32 – 156 261 – 395	≥4 – 4.88
alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3	-	0.3 (pH value: 6.1, 23 °C)

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Endocrine disrupting properties

None of the ingredients are listed.

12.7 Other adverse effects

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Data are not available.

Remarks

Wassergefährdungsklasse, WGK (water hazard class): 3

SECTION 13: Disposal considerations

13.1 Waste treatment methods

This material and its container must be disposed of as hazardous waste.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

Completely emptied packages can be recycled.

Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID/ADN UN1903

IMDG-Code UN1903

ICAO-TI UN1903

14.2 UN proper shipping name

ADR/RID/ADN DISINFECTANT, LIQUID, CORROSIVE, N.O.S.

IMDG-Code DISINFECTANT, LIQUID, CORROSIVE, N.O.S.

ICAO-TI Disinfectant, liquid, corrosive, n.o.s.

Technical name (hazardous ingredients) dialkylmethyloxyethyl ammonium propionate

14.3 Transport hazard class(es)

ADR/RID/ADN 8

IMDG-Code 8

ICAO-TI 8

14.4 Packing group

ADR/RID/ADN II

IMDG-Code II

ICAO-TI II

14.5 Environmental hazards

hazardous to the aquatic environment

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Environmentally hazardous substance (aquatic environment) N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine

14.6 Special precautions for user -



14.7 Maritime transport in bulk according to IMO instruments -

14.8 Information for each of the UN Model Regulations

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) Additional information

Particulars in the transport document	UN1903, DISINFECTANT, LIQUID, CORROSIVE, N.O.S., (contains: dialkylmethoxyethyl ammonium propionate), 8, II, (E), environmentally hazardous
Classification code	C9
Danger label(s)	8, fish and tree
 	
Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	274
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
Transport category (TC)	2
Tunnel restriction code (TRC)	E
Hazard identification No	80
Emergency Action Code	2X

International Maritime Dangerous Goods Code (IMDG) Additional information

Marine pollutant	yes (hazardous to the aquatic environment) (N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine)
Danger label(s)	8, fish and tree
 	
Special provisions (SP)	274
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L

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EmS F-A, S-B

Stowage category B

International Civil Aviation Organization (ICAO-IATA/DGR) Additional information

Environmental hazards yes
(hazardous to the aquatic environment)

Danger label(s) 8



Special provisions (SP) A3

Excepted quantities (EQ) E2

Limited quantities (LQ) 0,5 L

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

Name	Name acc. to inventory	CAS No	Restriction
Lozopren plus AF	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC	-	R3
Orangeterpenes	flammable / pyrophoric	-	R40
2-(2-butoxyethoxy)ethanol	2-(2-butoxyethoxy)ethanol (DEGBE)	112-34-5	R55
propan-2-ol	flammable / pyrophoric	-	R40

Legend

- R3 1. Shall not be used in:
- ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
 - tricks and jokes,
 - games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
2. Articles not complying with paragraph 1 shall not be placed on the market.
3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:
- can be used as fuel in decorative oil lamps for supply to the general public, and
 - present an aspiration hazard and are labelled with H304.
4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).
5. Without prejudice to the implementation of other Union provisions relating to the classification, labelling and packaging of substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
- (a) lamp oils, labelled with H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: "Keep lamps filled with this liquid out of the reach of children"; and, by 1 December 2010, "Just

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Legend

- a sip of lamp oil – or even sucking the wick of lamps – may lead to life-threatening lung damage”;
- (b) grill lighter fluids, labelled with H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: ‘Just a sip of grill lighter fluid may lead to life threatening lung damage’;
- (c) lamps oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.;
- R40
1. Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following:
 - metallic glitter intended mainly for decoration,
 - artificial snow and frost,
 - ‘whoopee’ cushions,
 - silly string aerosols,
 - imitation excrement,
 - horns for parties,
 - decorative flakes and foams,
 - artificial cobwebs,
 - stink bombs.
 2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances, suppliers shall ensure before the placing on the market that the packaging of aerosol dispensers referred to above is marked visibly, legibly and indelibly with: ‘For professional users only’.
 3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol dispensers referred to Article 8 (1a) of Council Directive 75/324/EEC (2).
 4. The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated.
- R55
1. Shall not be placed on the market for the first time after 27 June 2010, for supply to the general public, as a constituent of spray paints or spray cleaners in aerosol dispensers in concentrations equal to or greater than 3 % by weight.
 2. Spray paints and spray cleaners in aerosol dispensers containing DEGBE and not conforming to paragraph 1 shall not be placed on the market for supply to the general public after 27 December 2010.
 3. Without prejudice to other Community legislation concerning the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that paints other than spray paints containing DEGBE in concentrations equal to or greater than 3 % by weight of that are placed on the market for supply to the general public are visibly, legibly and indelibly marked by 27 December 2010 as follows: ‘Do not use in paint spraying equipment’.

List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list

None of the ingredients are listed.

Seveso Directive

2012/18/EU (Seveso III)				
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements		Notes
E1	environmental hazards (hazardous to the aquatic environment, cat. 1)	100	200	56)

Notation

56) hazardous to the Aquatic Environment in category Acute 1 or Chronic 1

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Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

None of the ingredients are listed.

Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors, amending Regulation (EC) No 1907/2006 and repealing Regulation (EU) No 98/2013

None of the ingredients are listed.

Regulation on substances that deplete the ozone layer (ODS)

None of the ingredients are listed.

Regulation concerning the export and import of hazardous chemicals (PIC)

Chemicals subject to the international prior informed consent (PIC) procedure (the 'PIC procedure').
Not all ingredients are listed.

Name of substance	CAS No	Category / subcategory	Use limitation
Didecyldimethylammonium chloride	7173-51-5	p(1)	b

Legend

- b Use limitation: ban (for the sub-category or sub-categories concerned) according to Union legislation
p(1) Sub-category: p(1) - pesticide in the group of plant protection products

Regulation on persistent organic pollutants (POP)

None of the ingredients are listed.

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.
Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)
3.2	-	Hazardous ingredients: change in the listing (table)
8.1	-	Relevant DNELs of components of the mixture: change in the listing (table)
8.1	-	Relevant PNECs of components of the mixture: change in the listing (table)
14.8	Marine pollutant: yes (hazardous to the aquatic environment)	Marine pollutant: yes (hazardous to the aquatic environment) (N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine)

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Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2000/39/EC	Commission Directive establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC
2006/15/EC	Commission Directive establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC
Acute Tox.	Acute toxicity
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
ADR/RID/ADN	European Agreements concerning the International Carriage of Dangerous Goods by Road/Rail/Inland Waterways (ADR/RID/ADN)
Aquatic Acute	Hazardous to the aquatic environment - acute hazard
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
Asp. Tox.	Aspiration hazard
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
Ebc50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (Ebc50) or growth rate (ErC50) relative to the control
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
EL50	Effective Loading 50 %: the EL50 corresponds to the loading rate required to produce a response in 50% of the test organisms
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule

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Abbr.	Descriptions of used abbreviations
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
Flam. Liq.	Flammable liquid
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
IOELV	Indicative occupational exposure limit value
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
LOEC	Lowest Observed Effect Concentration
log KOW	n-Octanol/water
M-factor	Means a multiplying factor. It is applied to the concentration of a substance classified as hazardous to the aquatic environment acute category 1 or chronic category 1, and is used to derive by the summation method the classification of a mixture in which the substance is present
NLP	No-Longer Polymer
NOEC	No Observed Effect Concentration
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin

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Abbr.	Descriptions of used abbreviations
Skin Sens.	Skin sensitisation
STEL	Short-term exposure limit
STOT RE	Specific target organ toxicity - repeated exposure
STOT SE	Specific target organ toxicity - single exposure
SVHC	Substance of Very High Concern
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.
Regulation (EC) No. 1907/2006 (REACH).

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN).

International Maritime Dangerous Goods Code (IMDG).

Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties.

Health hazards.

Environmental hazards.

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs (kidney) through prolonged or repeated exposure.

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Code	Text
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Responsible for the safety data sheet

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Disclaimer

This information is based upon the present state of our knowledge.
This SDS has been compiled and is solely intended for this product.