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

* 1.1 Product identifier

Trade name/designation EC 55

Unique Formula Identifier UFI: 8R27-ER2H-710F-VAKE

Product category PC-MED-1 Medical devices for cleaning or disinfection

Hazard components
N,N-Didecyl-N-methyl-poly(oxyethyl)ammoniumpropionate, N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine, alkylpolyglycoside, ethanediol, 2-aminoethanol

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

Sector of uses [SU]
SU20 Health services
SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
SU3 Industrial uses

* **Use of the substance/mixture**
Concentrate for disinfecting cleaning of medical and dental, including quickly rotating and endoscopic instruments.
For commercial consumers only.

Uses advised against
Do not use for injecting or spraying.

1.3 Details of the supplier of the safety data sheet

Supplier
Elma Schmidbauer GmbH
Gottlieb-Daimler-Str. 17
D-78224 Singen (Htwl.)
Telephone +49 7731 882-0
Telefax +49 7731 882-266
E-mail info@elma-ultrasonic.com
Website www.elma-ultrasonic.com

Department responsible for information:
Chemie/Labor: Email: chemlab@elma-ultrasonic.com

* 1.4 Emergency telephone number

Vergiftungs-Informations-Zentrale Freiburg (Sprache/Language: DE, EN) +49 761 19240

* SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]	Classification procedure
Met. Corr. 1, H290	Expert judgement and weight of evidence determination.
Acute Tox. 4, H302	Calculation method.
Skin Corr. 1A, H314	Calculation method.
Eye Dam. 1, H318	Calculation method.
STOT RE 2, H373	Calculation method.
Aquatic Acute 1, H400	Calculation method.
Aquatic Chronic 2, H411	Calculation method.

Hazard statements for physical hazards
H290 May be corrosive to metals.

Hazard statements for health hazards
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H373 May cause damage to organs through prolonged or repeated exposure.

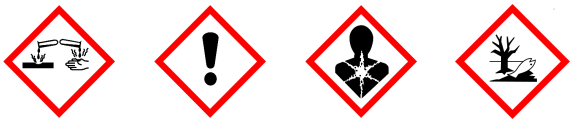
Hazard statements for environmental hazards
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.

* **2.2 Label elements**

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

Hazard components
N,N-Didecyl-N-methyl-poly(oxyethyl)ammoniumpropionate, N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine, alkylpolyglycoside, ethanediol, 2-aminoethanol

Hazard pictograms



GHS05 GHS07 GHS08 GHS09

Signal word
Danger

Hazard statements
H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements
P280 Wear protective gloves/protective clothing and eye/face protection.
P308 IF exposed or concerned:
P310 Immediately call a POISON CENTER/doctor.
P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

* **Other labelling**
Labelling for contents according to regulation (EC) No. 648/2004:
5 - 15% non-ionic surfactants
< 5% phosphonates
Disinfectants
perfumes

* **2.3 Other hazards**

* **Adverse human health effects and symptoms**
Possible risk of irreversible effects in contact with skin and eyes and if swallowed.
This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

* **Adverse environmental effects**
This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

Results of PBT and vPvB assessment
The product does not contain any PBT-/vPvB-substances according to the recipe.

* SECTION 3: Composition / information on ingredients

3.1 Substances

not applicable

* 3.2 Mixtures

Hazardous ingredients

CAS No.	EC No.	Substance name	Concentration	Classification according to Regulation (EC) No 1272/2008 [CLP]	SCL/ M/ ATE
94667-33-1	619-057-3	N,N-Didecyl-N-methyl-poly(oxyethyl)ammoniumpropionate	10 - 20 weight-%	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	M=10 (Aquatic Acute 1) M=10 (Aquatic Chronic 1)
2372-82-9	219-145-8	N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	10 - 20 weight-%	Acute Tox. 3; H301 Skin Corr. 1A; H314 Eye Dam. 1; H318 STOT RE 2; H373 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	M=10 (Aquatic Acute 1) M=1 (Aquatic Chronic 1)
68515-73-1	500-220-1	alkylpolyglycoside	< 5 weight-%	Eye Dam. 1; H318	
107-21-1	203-473-3	ethanediol	< 5 weight-%	Acute Tox. 4 ; H302 STOT RE 2; H373	
141-43-5	205-483-3	2-aminoethanol	< 5 weight-%	Met. Corr. 1 ; H290 Acute Tox. 4; H302 Acute Tox. 4 ; H312 Acute Tox. 4 ; H332 Skin Corr. 1B; H314 Eye Dam. 1; H318 STOT SE 3; H335 Aquatic Chronic 3; H412	STOT SE 3;H335: C>=5%

REACH No.	Substance name
01-2119950327-36	N,N-Didecyl-N-methyl-poly(oxyethyl)ammoniumpropionate
01-2119980592-29	N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine
01-2119456816-28	ethanediol
01-2119486455-28	2-aminoethanol
01-2119488530-36	alkylpolyglycoside

Additional information
Aqueous, alkaline mixture from disinfectants, non-ionic surfactant, complexing agents, corrosion inhibitors, amines, cosolvents, perfumes and dyestuff.

* SECTION 4: First aid measures

4.1 Description of first aid measures

General information
Remove contaminated, saturated clothing immediately.
Symptoms may develop several hours following exposure; medical observation therefore necessary for at least 48 hours.
First aider: Pay attention to self-protection!

Following inhalation
Remove casualty to fresh air and keep warm and at rest.
In case of inhalation remove the casualty into fresh air and seek medical advice.
In the event of symptoms refer for medical treatment.

Following skin contact
After contact with skin, wash immediately with plenty of water and soap.
In case of skin irritation, consult a physician.

After eye contact
After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

Following ingestion
Do NOT induce vomiting.
Seek medical advice immediately.
Rinse mouth immediately and drink plenty of water.
Medical treatment necessary.

*** 4.2 Most important symptoms and effects, both acute and delayed**

*** Effects**
Risk of stomach perforation.

*** 4.3 Indication of any immediate medical attention and special treatment needed**

*** Notes for the doctor**
Treat symptomatically.
First Aid, decontamination, treatment of symptoms.
Keep under medical supervision for at least 48 hours.

* SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Foam
Extinguishing powder
Carbon dioxide (CO2)
Water spray jet

Unsuitable extinguishing media
Full water jet

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products
Pyrolysis products, toxic
In case of fire formation of dangerous gases possible.
In the event of fire the following can be released:
Nitrogen oxides (NOx)
Carbon monoxide
Phosphorus oxides

*** 5.3 Advice for firefighters**

*** Special protective equipment for firefighters**
Do not inhale explosion and combustion gases.
In case of fire: Wear self-contained breathing apparatus.

*** Additional information**
Co-ordinate fire-fighting measures to the fire surroundings.

* SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel
Provide adequate ventilation.
Use personal protection equipment.
Special danger of slipping by leaking/spilling product.

For emergency responders
Ensure adequate ventilation.
Personal protection equipment
Use personal protection.
Use breathing apparatus if exposed to vapours/dust/aerosol.
Forms slippery surfaces with water.
Special danger of slipping by leaking/spilling product.

6.2 Environmental precautions

Do not allow to enter into surface water or drains.
Do not allow to enter into soil/subsoil.

6.3 Methods and material for containment and cleaning up

For containment
Suitable material for taking up:
Sand
Sawdust
Universal binder
Kieselguhr
After taking up the material dispose according to regulation.

* 6.4 Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

* SECTION 7: Handling and storage

* 7.1 Precautions for safe handling

* **Protective measures**
Use only in well-ventilated areas.
Handle and open container with care.
Do not inhale gases/vapours/aerosols.
Avoid contact with eyes and skin.
Keep container tightly closed.
No special fire protection measures are necessary.

Advices on general occupational hygiene
Make available sufficient washing facilities
When using do not eat, drink, smoke, sniff.
Remove contaminated, saturated clothing immediately.
Work in rooms with good ventilation.
Keep away from food and drink.
Wash hands before breaks and after work.
Use protective skin cream before handling the product.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels
Keep only in unopened original container.

Storage class
8B Non-combustible corrosive substances

Materials to avoid
Do not store together with:
Food and feedingstuffs
Keep away from:
Strong acid
Oxidising agent

Further information on storage conditions
Keep container tightly closed and in a well-ventilated place.
Keep locked up and out of reach of children.
Keep locked up.
Store in a place accessible by authorized persons only.
Protect from heat and direct solar radiation.
Do not keep at temperatures below 0°C.
Do not keep at temperatures above 35°C.
The green colour of the product may fade with long storage - this does not change the performance of the product.
Storage time: 3 years.

7.3 Specific end use(s)

Recommendation
Care for thoroughly room ventilation for higher bath temperatures.
See section 1.2
see section 8.

Industrial sector specific solutions
DE: TRGS 525 "Hazardous Substances in medical care facilities", section 7 working with disinfectants.
DE: DGUV Regel 107-002 (BGR 206) "Disinfection working in health service".

* SECTION 8: Exposure controls/personal protection

* 8.1 Control parameters

* **Occupational exposure limit values**

CAS No.	EC No.	Substance name	occupational exposure limit value
107-21-1	203-473-3	Ethylene glycol	20 [ml/m³(ppm)] 52 [mg/m³] Short-term(ml/m³) 40 Short-term(mg/m³) 104 skin resorptive 2000/39/EC
141-43-5	205-483-3	2-Aminoethanol	1 [ml/m³(ppm)] 2,5 [mg/m³] Short-term(ml/m³) 3 Short-term(mg/m³) 7,6 skin resorptive 2006/15/EC
141-43-5	205-483-3	2-Aminoethanol	1 [ml/m³(ppm)] 2,5 [mg/m³] Short-term(ml/m³) 3 (1) Short-term(mg/m³) 7,6 (1) (1) 15 minutes reference period (IE)
107-21-1	203-473-3	Ethane-1,2-diol, particulate	10 [mg/m³] (IE)
107-21-1	203-473-3	Ethane-1,2-diol, vapour	20 [ml/m³(ppm)] 52 [mg/m³] Short-term(ml/m³) 40 (1) Short-term(mg/m³) 104 (1) (1) 15 minutes reference period (IE)

CAS No.	EC No.	Substance name	occupational exposure limit value
141-43-5	205-483-3	2-Aminoethanol	1 [ml/m³(ppm)] 2,5 [mg/m³] Short-term(ml/m³) 3 (1) Short-term(mg/m³) 7,6 (1) (1) 15 minutes average value (UK)
107-21-1	203-473-3	Ethane-1,2-diol, particulate	10 [mg/m³] (UK)
107-21-1	203-473-3	Ethane-1,2-diol, vapour	20 [ml/m³(ppm)] 52 [mg/m³] Short-term(ml/m³) 40 Short-term(mg/m³) 104 (UK)

* **DNEL worker**

CAS No.	Substance name	DNEL value	DNEL type	Remark
94667-33-1	N,N-Didecyl-N-methyl-poly(oxyethyl)ammoniumpropionate	0.5 mg/m³	long-term inhalative (systemic)	Assessment factor 12.5
94667-33-1	N,N-Didecyl-N-methyl-poly(oxyethyl)ammoniumpropionate	0.7 mg/kg bw/day	long-term dermal (systemic)	Assessment factor 17.5
2372-82-9	N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	0.789 mg/m³	long-term inhalative (systemic)	Assessment factor 12.5
2372-82-9	N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	8.96 mg/kg bw/day	long-term dermal (systemic)	Assessment factor 50
141-43-5	2-aminoethanol	3 mg/kg bw/day	long-term dermal (systemic)	Assessment factor 100
141-43-5	2-aminoethanol	0.51 mg/m³	long-term inhalative (local)	
141-43-5	2-aminoethanol	1 mg/m³	long-term inhalative (systemic)	Assessment factor 75

* **PNEC**

CAS No.	Substance name	PNEC Value	PNEC type	Remark
68515-73-1	alkylpolyglycoside	0.176 mg/L	aquatic, freshwater	Assessment factor 10
68515-73-1	alkylpolyglycoside	560 mg/L	sewage treatment plant (STP)	Assessment factor 1
94667-33-1	N,N-Didecyl-N-methyl-poly(oxyethyl)ammoniumpropionate	0.001 mg/L	aquatic, freshwater	Assessment factor 10
94667-33-1	N,N-Didecyl-N-methyl-poly(oxyethyl)ammoniumpropionate	0.118 mg/L	sewage treatment plant (STP)	Assessment factor 100
2372-82-9	N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	0.001 mg/L	aquatic, freshwater	Assessment factor 10
2372-82-9	N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	0.18 mg/L	sewage treatment plant (STP)	Assessment factor 100
141-43-5	2-aminoethanol	0.07 mg/L	aquatic, freshwater	Assessment factor 10
141-43-5	2-aminoethanol	100 mg/L	sewage treatment plant (STP)	Assessment factor 10

8.2 Exposure controls

Appropriate engineering controls

Technical measures to prevent exposure
Technical exhaustion for long-term expositions or higher bath temperatures.

Personal protection equipment

Eye/face protection
tightly fitting goggles

Hand protection
chemical-resistant gloves
Glove material specification [make/type, thickness]: FKM, 0.4mm.
Glove material specification [make/type, thickness]: NBR, 0.35mm.
Glove material specification [make/type, thickness]: Butyl, 0.5mm.

Body protection:
Light protective clothing.

Respiratory protection
Respiratory protection necessary at:
insufficient exhaust
prolonged exposure
Suitable respiratory protection apparatus:
Multi-purpose filter ABEK/P3

Environmental exposure controls

Technical measures to prevent exposure
Avoid penetration into the subsoil/soil.
Do not discharge into surface waters.

* SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state
liquid

Colour
green

Odour
mint- and amine-like

Safety relevant basis data

	Value	Method	Source, Remark
Odour threshold:			2-aminoethanol: 5.3 - 11 mg/m3 (2.1 - 4.3 ppm).
Melting point/freezing point	Solidifying point		not determined
Boiling point or initial boiling point and boiling range			not determined
flammability	solid		not applicable
flammability	gaseous		not applicable
Lower and upper explosion limit	Upper explosion limit 13.1 Vol-%		Value of 2-aminoethanol.
Lower and upper explosion limit	Lower explosion limit 2.5 Vol-%		Value of 2-aminoethanol.
Flash point	> 63 °C		
Auto-ignition temperature	264 °C		Value of N,N-Didecyl-N-methyl-poly(oxyethyl)ammoniumpropionate.
Decomposition temperature	≥ 100 °C		

	Value	Method	Source, Remark
pH	in delivery state approx. 11.5 (20°C)		
Viscosity			not determined
Solubility(ies)	Water solubility		miscible
Partition coefficient n-octanol/water (log value)	0.34		Value of N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine.
Vapour pressure	approx. 25 hPa (20°C)		
Density and/or relative density	1.01- 1.02 g/cm³ (20°C)		
Relative vapour density	2.1		Value of 2-aminoethanol.
particle characteristics			not applicable (liquid).

* **9.2 Other information**

* **Information with regard to physical hazard classes**

* **Explosives**

* **Assessment/classification**
The mixture does not contain any explosive substances (CLP I 2.1.4.3 a).
CLP I 2.1.4.3 a: The classification procedure needs not to be applied because there are no chemical groups present in the molecule which are associated with explosive properties.

* **flammable gases**

* **Assessment/classification**
not applicable (liquid).

* **Aerosols**

* **Assessment/classification**
not relevant - no aerosol.
The classification criteria for this hazard class are not met by definition.

* **Oxidising gas**

* **Assessment/classification**
not applicable (liquid).

* **Gases under pressure**

* **Assessment/classification**
not applicable (liquid - no dissolved gas).

* **flammable liquids**

Safety characteristics

	Value	Method, Result	Source, Remark
Flash point (°C)	> 60 °C		

* **Assessment/classification**
The mixture is not classified as flammable liquids.
Based on available data, the classification criteria are not met.

* **flammable solids**

* **Assessment/classification**
not applicable (liquid).

* **Self-reactive substances and mixtures**

* **Assessment/classification**
The mixture does not contain any self-reactive substances (CLP I 2.8.4.2 a).
CLP I 2.8.4.2 a: There are no chemical groups present in the molecule associated with explosive or self reactive properties.

* **Pyrophoric liquids**

* **Assessment/classification**
The mixture does not contain any pyrophoric substances - not spontaneously flammable (CLP I 2.9.4.1).
CLP I 2.9.4.1: The classification procedure for pyrophoric liquids need not be applied when experience in manufacture or handling shows that the substance or mixture does not ignite spontaneously on coming into contact with air at normal temperatures (i.e. the substance is known to be stable at room temperature for prolonged periods of time (days)).

* **Pyrophoric solids**

* **Assessment/classification**
not applicable (liquid).

* **self-heating substances and mixtures**

* **Assessment/classification**
The mixture does not contain any self-heating substances.

* **Substances or mixtures which, in contact with water, emit flammable gases**

* **Assessment/classification**
not relevant - in contact with water releases no flammable gases (CLP I 2.12.4.1).
CLP I 2.12.4.1: The classification procedure for this class need not be applied if: (a) the chemical structure of the substance or mixture does not contain metals or metalloids; or (b) experience in production or handling shows that the substance or mixture does not react with water, e.g. the substance is manufactured with water or washed with water; or (c) the substance or mixture is known to be soluble in water to form a stable mixture.

* **Oxidising liquids**

* **Assessment/classification**
The mixture does not contain any oxidising substances.

* **Oxidising solids**

* **Assessment/classification**
not applicable (liquid).

* **Organic peroxides**

* **Assessment/classification**
The mixture does not contain any organic peroxides.

* **Corrosive to metals**

Safety characteristics

	Value	Method, Result	Source, Remark
Corrosion rate (mm aluminium/year)	> 6.25 mm/a	Expert judgement and weight of evidence determination.	
Corrosion rate (mm steel/year)			not available

* **Assessment/classification**
The mixture is classified as corrosive to metals (Met. Corr. 1 H290).

* **Desensitised explosives**

* **Assessment/classification**
The mixture does not contain any desensitised explosive substances.

Other safety characteristics

	Value	Method	Source, Remark
Evaporation rate			Water: 0.36 (ASTM D3539).
Solvent content	< 7.5 %		
Explosive properties			none
Oxidising properties			none

* **Other information**
No further relevant informations available.

* SECTION 10: Stability and reactivity

* 10.1 Reactivity

Exothermic reaction with:
Acid
No further hazardous reactions known if used as directed.

10.2 Chemical stability

Stable at ambient temperature.

10.3 Possibility of hazardous reactions

Reactions with oxidising agents.
Reactions with strong acids.
Reaction with nitric acid

10.4 Conditions to avoid

Heat and direct solar radiation.

10.5 Incompatible materials

Reactions with strong acids.
Oxidising agent
Nitric acid

10.6 Hazardous decomposition products

No decomposition if used as directed.

* SECTION 11: Toxicological information

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

* **Acute toxicity**

* **Animal data**

	Effective dose	Method,Evaluation	Source, Remark
Acute oral toxicity	1000- 1500 mg/kg	ATE: Acute Toxicity Estimate	
	CAS No.94667-33-1 N,N-Didecyl-N-methyl-poly(oxyethyl)ammoniumpropionate LD50: 1157 mg/kg Species Rat		
	CAS No.2372-82-9 N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine LD50: 261 mg/kg Species Rat		
	CAS No.107-21-1 ethanediol 750 mg/kg		LDLo
	CAS No.141-43-5 2-aminoethanol LD50: 1089 mg/kg Species Rat		

	Effective dose	Method,Evaluation	Source, Remark
Acute dermal toxicity	approx. 4000 mg/kg	ATE: Acute Toxicity Estimate	
	CAS No.141-43-5 2-aminoethanol LD50: 1025 mg/kg Species Rabbit		
Acute inhalation toxicity	Acute inhalation toxicity (vapour) > 50 mg/L	ATE: Acute Toxicity Estimate	
	CAS No.141-43-5 2-aminoethanol Acute inhalation toxicity (vapour) 11 mg/L	ATE: Acute Toxicity Estimate	

* **Assessment/classification**
Harmful if swallowed.
May be harmful in contact with skin.

* **Skin corrosion/irritation**

Animal data

Result / Evaluation	Method	Source, Remark
strongly corrosive.	Calculation method.	

* **Serious eye damage/irritation**

Animal data

Result / Evaluation	Method	Source, Remark
strongly corrosive.	Calculation method.	

* **Sensitisation to the respiratory tract**

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

* **Skin sensitisation**

Animal data

Result / Evaluation	Dose / Concentration	Method	Source, Remark
The mixture is not classified as skin sensitiser.		Calculation method.	

* **Germ cell mutagenicity**

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

* **Carcinogenicity**

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

* **Reproductive toxicity**

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

* **Overall Assessment on CMR properties**

The mixture is not classified as mutagen / not classified as carcinogen / not classified as reproductive toxicant.

* **STOT-single exposure**

* **STOT SE 1 and 2**

* **Assessment/classification**
The mixture is not classified as specific target organ toxicant (single exposure).
Based on available data, the classification criteria are not met.

* **STOT SE 3**

* **Irritation to respiratory tract**

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

* **Narcotic effects**

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

* **STOT-repeated exposure**

* **Assessment/classification**
STOT RE 2 H373: May cause damage to organs through prolonged or repeated exposure.

* **Aspiration hazard**

* **Assessment/classification**
The mixture is not classified as aspiration hazardous.
Based on available data, the classification criteria are not met.

11.2 Information on other hazards

Symptoms related to the physical, chemical and toxicological characteristics

	Effective dose	Method,Evaluation	Source, Remark
Endocrine disrupting properties			This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

* **Other information**

Causes severe burns.

* SECTION 12: Ecological information

* **12.1 Toxicity**

* **Aquatic toxicity**

	Effective dose	Method,Evaluation	Source, Remark
Acute (short-term) fish toxicity	LC50: 1.7 mg/L CAS No.94667-33-1 N,N-Didecyl-N-methyl- poly(oxyethyl)ammoniumpropionate LC50: 0.52 mg/L Species Lepomis macrochirus (Bluegill) Test duration 96 h	calculated.	
	CAS No.2372-82-9 N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine LC50: 0.431 mg/L Species Danio rerio (zebrafish) Test duration 96 h	OECD 203	

	Effective dose	Method,Evaluation	Source, Remark
	CAS No.141-43-5 2-aminoethanol LC50: 150 mg/L Species Oncorhynchus mykiss (Rainbow trout) Test duration 96 h		
Chronic (long-term) fish toxicity	EqNOEC 0.019 mg/L	calculated.	
	CAS No.94667-33-1 N,N-Didecyl-N-methyl- poly(oxyethyl)ammoniumpropionate NOEC 0.032 mg/L Test duration 34 d		
	CAS No.141-43-5 2-aminoethanol NOEC 1.24 mg/L Species Oryzias latipes (Ricefish) Test duration 41 d	OECD 210	
Acute (short-term) toxicity to crustacea	EC50 0.3 mg/L	calculated.	
	CAS No.94667-33-1 N,N-Didecyl-N-methyl- poly(oxyethyl)ammoniumpropionate EC50 0.07 mg/L Species Daphnia magna (Big water flea) Test duration 48 h	OECD 202	
	CAS No.2372-82-9 N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine EC50 0.073 mg/L Species Daphnia magna (Big water flea) Test duration 48 h		
	CAS No.141-43-5 2-aminoethanol EC50 65 mg/L Species Daphnia magna (Big water flea) Test duration 48 h		
Chronic (long-term) toxicity to aquatic invertebrate	EqNOEC 0.013 mg/L	calculated.	
	CAS No.94667-33-1 N,N-Didecyl-N-methyl- poly(oxyethyl)ammoniumpropionate NOEC 0.018 mg/L Test duration 21 d		
	CAS No.2372-82-9 N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine NOEC 0.024 mg/L Species Daphnia magna (Big water flea) Test duration 21 d	OECD 211	

	Effective dose	Method,Evaluation	Source, Remark
	CAS No.141-43-5 2-aminoethanol NOEC 0.85 mg/L Species Daphnia magna (Big water flea) Test duration 21 d		
Acute (short-term) toxicity to algae and cyanobacteria	EC50 0.1 mg/L	calculated.	
	CAS No.94667-33-1 N,N-Didecyl-N-methyl- poly(oxyethyl)ammoniumpropionate EC50 0.15 mg/L Species Desmodesmus subspicatus Test duration 72 h	OECD 201	
	CAS No.2372-82-9 N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine ErC50: 0.015 mg/L Species Selenastrum capricornutum Test duration 72 h	OECD 201	
	CAS No.141-43-5 2-aminoethanol EC50 2.8 mg/L Species Pseudokirchneriella subcapitata Test duration 72 h		
Chronic (long-term) toxicity to aquatic algae and cyanobacteria	EqNOEC 0.023 mg/L	calculated. calculated.	
	CAS No.94667-33-1 N,N-Didecyl-N-methyl- poly(oxyethyl)ammoniumpropionate NOEC: 0.044 mg/L Species Desmodesmus subspicatus Test duration 72 h	OECD 201	
	CAS No.2372-82-9 N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine EC10: 0.0095 mg/L Species Selenastrum capricornutum Test duration 72 h	OECD 201	
	CAS No.141-43-5 2-aminoethanol NOEC: 1 mg/L Species Selenastrum capricornutum Test duration 72 h		
	CAS No.141-43-5 2-aminoethanol EC5: 0.75 mg/L Species Scenedesmus quadricauda Test duration 8 d		
Toxicity to other aquatic plants/organisms	not determined		
Toxicity to microorganisms	not determined		

* **Assessment/classification**
Very toxic to aquatic life.
Toxic to aquatic life with long lasting effects.

*** 12.2 Persistence and degradability**

	Value	Method	Source, Remark
Biodegradation			Biodegradable.
Biodegradation	Degradation rate 100 % Test duration 28 d	OECD 301E/ EEC 92/69/V, C.4-B	CAS No.68515-73-1 alkylpolyglycoside
Biodegradation	Degradation rate 34 % Test duration 29 d	OECD 301B/ ISO 9439/ EEC 92/69/V, C.4-C	CAS No.94667-33-1 N,N-Didecyl-N-methyl- poly(oxyethyl)ammoniumpropionate
Biodegradation	Degradation rate 79 % Test duration 28 d	OECD 301D/ EEC 92/69/V, C.4-E	CAS No.2372-82-9 N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine
Biodegradation	Degradation rate 90- 100 % Test duration 10 d	OECD 301A/ ISO 7827/ EEC 92/69/V, C.4-A	CAS No.107-21-1 ethanediol
Biodegradation	Degradation rate > 90 % Test duration 21 d	OECD 301A/ ISO 7827/ EEC 92/69/V, C.4-A	CAS No.141-43-5 2-aminoethanol
Biodegradation	Degradation rate 90- 100 % Test duration 28 d	OECD 301F/ ISO 9408/ EEC 92/69/V, C.4-D	CAS No.141-43-5 2-aminoethanol

12.3 Bioaccumulative potential

Assessment/classification
N,N-Didecyl-N-methyl-poly(oxyethyl)ammoniumpropionate: Has the potential to bioaccumulate.
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine: low potential for bioaccumulation (log Pow: 0.34).
alkylpolyglycoside: Significant accumulation in organisms is not expected (log Pow: 1.7).
ethanediol: Accumulation in organisms is not expected (log Pow: -1.36).
2-aminoethanol: Accumulation in organisms is not expected (log Pow: -1.3).

12.4 Mobility in soil

Assessment/classification
N,N-Didecyl-N-methyl-poly(oxyethyl)ammoniumpropionate: immobile, strong adsorption on soil.
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine: immobile, strong adsorption on soil.
alkylpolyglycoside: Low adsorption on soil (Koc: ~50).
ethanediol: Adsorption on soil is not expected.
2-aminoethanol: Adsorption on soil is not expected.

12.5 Results of PBT and vPvB assessment

The product does not contain any PBT-/vPvB-substances according to the recipe.

*** 12.6 Endocrine disrupting properties**

	Effective dose	Method,Evaluation	Source, Remark
Endocrine disrupting properties			This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

*** 12.7 Other adverse effects**

	Value	Method	Source, Remark
Ozone depletion potential (ODP):			Based on available data, the classification criteria are not met.

Additional ecotoxicological information

	Value	Method	Source, Remark
Chemical oyxgen demand (COD)	approx. 1.1 gO2/g		
AOX			The product does not contain any organically bound halogens according to the recipe.

Additional information
The surfactants in our product meet the criteria for biodegradation as laid down in Annex III of the Regulation (EC) No 648/2004 on detergents.
Acute aquatic environmental hazards: Aquatic Acute 1 H400: Very toxic to aquatic life.
Chronic aquatic environmental hazards: Aquatic Chronic 2 H411: Toxic to aquatic life with long lasting effects.
Do not allow uncontrolled discharge of product into the environment.
Product is not allowed to be discharged into the ground water or aquatic environment.
No further relevant informations available.

* SECTION 13: Disposal considerations

*** 13.1 Waste treatment methods**

*** Waste codes/waste designations according to EWC/AVV**

Waste code product	Waste name
070601 *	aqueous washing liquids and mother liquors
150110 *	packaging containing residues of or contaminated by hazardous substances
161003 *	aqueous concentrates containing hazardous substances

Waste code packaging	Waste name
150110 *	packaging containing residues of or contaminated by hazardous substances

Appropriate disposal / Product
Do not dispose with household waste.
In accordance with regulations for special waste, must be taken to a special waste disposal.
Dispose of waste according to "Kreislaufwirtschaftsgesetz (KrWG)".

*** Appropriate disposal / Package**
Non-contaminated packages may be recycled.
Handle contaminated packages in the same way as the substance itself.

* SECTION 14: Transport information

	Land transport (ADR/RID)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1 UN number or ID number	UN 1903	UN 1903	UN 1903
14.2 UN proper shipping name	DISINFECTANT, LIQUID, CORROSIVE, N.O.S. (N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine)	DISINFECTANT, LIQUID, CORROSIVE, N.O.S. (N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine)	Disinfectant, liquid, corrosive, n.o.s. (N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine)
14.3 Transport hazard class(es)	8	8	8
14.4 Packing group	II	II	II
14.5 Environmental hazards	-	-	-

14.6 Special precautions for user

none

14.7 Maritime transport in bulk according to IMO instruments

not relevant

All transport carriers

Regulations concerning free quantities are to be observed.

Land transport (ADR/RID)

UN number or ID number	UN 1903
UN proper shipping name	DISINFECTANT, LIQUID, CORROSIVE, N.O.S. (N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine)
Transport hazard class(es)	8
Hazard label(s)	8
Classification code	C9
Packing group	II
Environmental hazards	-
Limited quantity (LQ)	1 L
Special provisions	274
Tunnel restriction code	E

Remark
Environmentally Hazardous: not require labeling according to ADR 3.3 SP 375 for containers up to 5 litre.

Sea transport (IMDG)

UN number or ID number	UN 1903
UN proper shipping name	DISINFECTANT, LIQUID, CORROSIVE, N.O.S. (N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine)
Transport hazard class(es)	8
Packing group	II
Environmental hazards	-
Limited quantity (LQ)	1 L
Marine pollutant	No
EmS	F-A, S-B

Remark
Marine pollutant (Environmentally Hazardous): not require labeling according to IMDG-Code, 2.10.2.7 for containers up to 5 litre.

Air transport (ICAO-TI / IATA-DGR)

UN number or ID number	UN 1903
UN proper shipping name	Disinfectant, liquid, corrosive, n.o.s. (N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine)
Transport hazard class(es)	8
Packing group	II
Environmental hazards	-

Remark
Environmentally Hazardous: not require labeling according to IATA, A197 for containers up to 5 litre.

* SECTION 15: Regulatory information

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

*** EU legislation**

Authorisations
not relevant

*** Restrictions on use**
Regulation (EC) No 1907/2006 (REACH), Annex XVII No 3 - not relevant if used as directed.
Regulation (EC) No 1907/2006 (REACH), Annex XVII No 75 - not relevant if used as directed.

*** Restrictions of occupation**
Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).
Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

*** Other regulations (EU)**

To follow:
Regulation (EC) No. 648/2004 (Detergents regulation)
Directive 2012/18/EU, Annex I: E1.

*** Directive 2010/75/EU on industrial emissions [Industrial Emissions Directive] VOC**
VOC content, delivery state 5.6 %

15.2 Chemical Safety Assessment

*** National regulations**

For this mixture a chemical safety assessment were not carried out.

* SECTION 16: Other information

*** Abbreviations and acronyms**
For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
ASTM: American Society for Testing and Materials
ATE: Acute Toxicity Estimate
AVV: Waste Shipment Ordinance (DE)
DGR: Dangerous Goods Regulations (IATA)
DNEL: derived no-effect level
EmS: emergency procedures
ErC50: Effective Concentration 50 % reduction in growth rate
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organization
JArbSchG: Youth Labor Protection Act (DE)
LDL0: Lowest Lethal (fatal) Dose
OECD: Organisation for Economic Cooperation and Development
PBT: persistent and bioaccumulative and toxic
PNEC: Predicted No Effect Concentration
RID: Dangerous goods regulations for transport by rail
SCL: Specific concentration limit
TI: Technical Instruction
TRGS: Technical Rules for Hazardous Substances
VOC: Volatile organic compounds
vPvB: very persistent, very bioaccumulative

Key literature references and sources for data
European Chemicals Agency, http://echa.europa.eu/.
Informations from our suppliers.

Additional information
National and local regulations concerning chemicals shall be observed.
These data are given according to our actual knowledge about this product.This data sheet does not correspond to an assurance by virtue of a contract for properties of the product.

Relevant H- and EUH-phrases (Number and full text)

H290	May be corrosive to metals.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
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.

Indication of changes
* Data changed compared with the previous version