



Ultrasonics.Steam.Ultraclean.

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

Printed 04.12.2018

Revision 04.12.2018 (GB) Version 2.2

**EC 55**

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

**1.1. Product identifier**

Name of product EC 55

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

**Identified uses**

**Sector of uses [SU]**

SU20 - Health services

SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

**Uses advised against**

**Remark**

Do not use for injecting or spraying.

**Recommended intended purpose(s)**

Alkaline concentrate for disinfection and cleaning of medical and dental/-technical instruments, including quickly rotating instruments (e.g. drills).

For commercial consumers only.

**1.3. Details of the supplier of the safety data sheet**

**Distributor**

Elma Schmidbauer GmbH  
Gottlieb-Daimler-Str. 17, D-78224 Singen (Htwl.)  
Phone +49 7731 882-0, Fax +49 7731 882-266  
E-Mail info@elma-ultrasonic.com  
Internet www.elma-ultrasonic.com

**Advice**

Chemie/Labor: Email: chemlab@elma-ultrasonic.com

**1.4. Emergency telephone number**

**Emergency advice**

Vergiftungs-Informations-Zentrale Freiburg  
(Sprache/Language: D, GB)  
Phone +49 761 19240

**! SECTION 2: Hazards identification**

**2.1. Classification of the substance or mixture**

**Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]**

Hazard classes and Hazard categories	Hazard Statements	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**

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.



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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.

## 2.2. Label elements

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



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/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.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308	IF exposed or concerned:
P310	Immediately call a POISON CENTER/doctor.

### ! Hazardous ingredients for labeling

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

### 2.3. Other hazards

#### Information pertaining to special dangers for human and environment

Possible risk of irreversible effects in contact with skin and eyes and if swallowed.

#### 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

#### Description

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



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**Hazardous ingredients**

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

**REACH**

CAS No	Name	REACH registration number
68515-73-1	alkylpolyglycoside	01-2119488530-36
94667-33-1	N,N-Didecyl-N-methyl-poly(oxyethyl)ammoniumpropionate	01-2119950327-36
2372-82-9	N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	01-2119980592-29
107-21-1	ethanediol	01-2119456816-28
141-43-5	2-aminoethanol	01-2119486455-28

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

**General information**

Remove contaminated soaked clothing immediately.

Symptoms of poisoning may not occur for many hours, therefore keep under medical supervision for at least 48 hours.

Adhere to personal protective measures when giving first aid.

**In case of inhalation**

Remove the casualty into fresh air and keep him immobile.

In case of inhalation remove the casualty into fresh air and seek medical advice.

In the event of symptoms refer for medical treatment.

**In case of skin contact**

In case of contact with skin wash off immediately with soap and water.

Consult a doctor if skin irritation persists.

**In case of eye contact**

In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice.

**In case of ingestion**

Do not induce vomiting.

Refer to medical treatment.

Seek medical advice immediately.

Rinse out mouth and give plenty of water to drink.

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

**Physician's information / possible dangers**

Risk of stomach perforation



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

##### **Treatment (Advice to doctor)**

Treat symptoms.

Decontamination

Keep under medical supervision for at least 48 hours.

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### **! SECTION 5: Firefighting measures**

#### **5.1. Extinguishing media**

##### **! Suitable extinguishing media**

Fire-extinguishing activities according to surrounding.

Foam

Dry powder

Carbon dioxide

Water spray jet

##### **! Unsuitable extinguishing media**

Full water jet

#### **5.2. Special hazards arising from the substance or mixture**

Risk of formation of toxic pyrolyse products.

In case of fire formation of dangerous gases possible.

In the event of fire the following can be released:

Nitrogen oxides (NO<sub>x</sub>)

Carbon monoxide (CO)

Phosphorus oxides (e.g. phosphoruspentoxide)

#### **5.3. Advice for firefighters**

##### **Special protective equipment for fire-fighters**

Use breathing apparatus with independent air supply ( isolated ).

Do not inhale explosion and/or combustion gases.

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### **SECTION 6: Accidental release measures**

#### **6.1. Personal precautions, protective equipment and emergency procedures**

##### **For non-emergency personnel**

Ensure adequate ventilation.

Use personal protection.

High risk of slipping due to leakage/spillage of product.

##### **For emergency responders**

Ensure adequate ventilation.

Use personal protective clothing.

Use personal protection.

Use breathing apparatus if exposed to vapours/dust/aerosol.

Forms slippery surfaces with water.

High risk of slipping due to leakage/spillage of product.

#### **6.2. Environmental precautions**

Do not discharge into the drains/surface waters/groundwater.

Do not discharge into the subsoil/soil.

#### **6.3. Methods and material for containment and cleaning up**

Take up with absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr).

After taking up the material dispose according to regulation.



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#### 6.4. Reference to other sections

Informations for safe handling see chapter 7.

Informations for personal protective equipment see chapter 8.

Informations for disposal see chapter 13.

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## ! SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Advice on safe handling

Use only in thoroughly ventilated areas.

Open and handle container with care!

Keep container tightly closed.

#### General protective measures

Avoid contact with eyes and skin

Do not inhale gases/vapours/aerosols.

#### Hygiene measures

Provide washing facilities at place of work.

At work do not eat, drink and smoke.

Remove soiled or soaked clothing immediately.

Work in rooms with good ventilation.

Keep away from food and drink.

Wash hands before breaks and after work.

Use barrier skin cream.

#### Advice on protection against fire and explosion

No special measures necessary.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels

Keep only in unopened original container.

#### Advice on storage compatibility

Do not store together with animal feedstuffs.

Do not store together with food.

Keep at distance to strong acids.

Do not store together with oxidizing agents.

#### ! Further information on storage conditions

Store closed container at cool and aired place.

Keep locked up, out of reach of children

Protect from heat and direct solar radiation.

Keep under lock and key or accessible only to specialists or people authorized by them.

Do not keep at temperatures below 0 °C.

Do not keep at temperatures above 35 °C.

#### Information on storage stability

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(s) for intended use

See section 1.2

#### ! Particular industry solution(s) for intended use

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".



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**! SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

**Indicative occupational exposure limit values (91/322/EEC, 2000/39/EC, 2004/37/EC, 2006/15/EC or 2009/161/EU)**

CAS No	Name	Code	[mg/m3]	[ppm]	Remark
107-21-1	ethanediol	8 hours	52	20	skin
		Short-term	104	40	
141-43-5	2-aminoethanol	8 hours	2,5	1	skin
		Short-term	7,6	3	

**DNEL-/PNEC-values**

**DNEL worker**

CAS No	Substance name	Value	Code	Remark
141-43-5	2-aminoethanol	3,3 mg/m3	DNEL long-term inhalative (local)	
		1 mg/kg bw/day	DNEL long-term dermal (systemic)	
2372-82-9	N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	8,96 mg/kg bw/day	DNEL long-term dermal (systemic)	
		0,789 mg/m3	DNEL long-term inhalative (systemic)	
94667-33-1	N,N-Didecyl-N-methyl-poly(oxyethyl) ammoniumpropionate	0,7 mg/kg bw/day	DNEL long-term dermal (systemic)	
		0,5 mg/m3	DNEL long-term inhalative (systemic)	

**PNEC**

CAS No	Substance name	Value	Code	Remark
141-43-5	2-aminoethanol	0,085 mg/l	PNEC aquatic, freshwater	
		100 mg/l	PNEC sewage treatment plant (STP)	
2372-82-9	N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	0,001 mg/l	PNEC aquatic, freshwater	
		0,18 mg/l	PNEC sewage treatment plant (STP)	
94667-33-1	N,N-Didecyl-N-methyl-poly(oxyethyl) ammoniumpropionate	0,118 mg/l	PNEC sewage treatment plant (STP)	
		0,001 mg/l	PNEC aquatic, freshwater	

**Additional advice**

**8.2. Exposure controls**

**Respiratory protection**

In case of insufficient ventilation or long-term effect use breathing apparatus.

Multi-purpose filter ABEK/P3

**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.

**Eye protection**

tightly fitting goggles



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**Other protection measures**

Light protective clothing.

**Limitation and surveillance of the environment**

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**

**Appearance**

liquid

**Colour**

green

**Odour**

mint- and amine-like

**Odour threshold**

2-aminoethanol: 5.3 - 11 mg/m<sup>3</sup> (2.1 - 4.3 ppm).

**Important health, safety and environmental information**

	Value	Temperature	at	Method	Remark
<b>pH value</b>	ca. 11,5	20 °C			
<b>boiling point</b>	not determined				
<b>solidifying point</b>	not determined				
<b>Flash point</b>	> 63 °C				
<b>Flammable (solid)</b>	not applicable				
<b>Flammability (gas)</b>	not applicable				
<b>Ignition temperature</b>	not determined				
<b>Self ignition temperature</b>					not spontaneously flammable
<b>Lower explosion limit</b>	2,5 Vol-%				Value of 2-aminoethanol.
<b>Upper explosion limit</b>	13,1 Vol-%				Value of 2-aminoethanol.
<b>Vapour pressure</b>	ca. 25 hPa	20 °C			
<b>Relative density</b>	1,01 - 1,02 g/cm <sup>3</sup>	20 °C			
<b>Vapour density</b>	2,1				Value of 2-aminoethanol.
<b>Solubility in water</b>					miscible
<b>Solubility/other</b>	not determined				



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	Value	Temperature	at	Method	Remark
<b>Partition coefficient n-octanol/water (log P O/W)</b>	0,34				Value of N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine.
<b>Decomposition temperature</b>	>= 100 °C				
<b>Viscosity</b>	not determined				
<b>Solvent content</b>	7,5 %				
<b>Vapourisation rate</b> Water: 0.36 (ASTM D3539).					
<b>Oxidising properties</b> no					
<b>Explosive properties</b> no					
<b>9.2. Other information</b> No further relevant informations available.					

## ! SECTION 10: Stability and reactivity

### 10.1. Reactivity

Evolution of heat under influence of acids.  
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

#### Substances to avoid

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

### 10.6. Hazardous decomposition products

No decomposition if used as directed.





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## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute toxicity/Irritation/Sensitization

	Value/Validation	Species	Method	Remark
<b>LD50 acute oral</b>	1000 - 1500 mg/kg		ATE (acute toxicity estimate)	
<b>LD50 acute dermal</b>	ca. 4000 mg/kg		ATE (acute toxicity estimate)	
<b>LC50 acute inhalation</b>	> 50 mg/l ()		ATE (acute toxicity estimate)	vapours
<b>Skin irritation</b>	strong corrosive			
<b>Eye irritation</b>	strong corrosive			
<b>Skin sensitization</b>	The mixture is not classified as skin sensitiser.			

#### Specific target organ toxicity (single exposure)

The mixture is not classified as specific target organ toxicant (single exposure).

#### Specific target organ toxicity (repeated exposure)

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

#### Aspiration hazard

The mixture is not classified as aspiration hazardous.

#### Toxicity test (Additional information)

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

#### Experiences made from practice

Causes strong corrosions.

## ! SECTION 12: Ecological information

### 12.1. Toxicity

#### Ecotoxicological effects

	Value	Species	Method	Validation
<b>Fish</b>	LC50 1,7 mg/l		calculated	EqNOEC(Fish): 0.019mg/l.
<b>Daphnia</b>	EC50 0,3 mg/l		calculated	EqNOEC(Daphnia): 0.013mg/l.
<b>Algae</b>	EC50 0,1 mg/l		calculated	EqNOEC(Algae): 0.023mg/l.

### 12.2. Persistence and degradability

#### Biological degradability

Biodegradable

### 12.3. Bioaccumulative potential

alkylpolyglycoside: Significant accumulation in organisms is not expected (log Pow: 1.7).



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N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine: low potential for bioaccumulation (log Pow: 0.34).  
N,N-Didecyl-N-methyl-poly(oxyethyl)ammoniumpropionate: Has the potential to bioaccumulate.  
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**

alkylpolyglycoside: Low adsorption on soil (Koc: ~50).  
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine: immobile, strong adsorption on soil.  
N,N-Didecyl-N-methyl-poly(oxyethyl)ammoniumpropionate: immobile, strong adsorption on soil.  
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. Other adverse effects**

No further relevant informations available.

**Additional ecological information**

	Value	Method	Remark
<b>COD</b>	ca. 1,1 gO2/g		
<b>AOX</b>	The product does not contain any organically bound halogens according to the recipe.		

**General regulation**

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.  
Chronic aquatic environmental hazards: Aquatic Chronic 2 H411: Toxic to aquatic life with long lasting effects.  
Acute aquatic environmental hazards: Aquatic Acute 1 H400: Very toxic to aquatic life.  
Do not allow uncontrolled leakage of product into the environment.  
Product is not allowed to be discharged into the ground water or aquatic environment.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

Waste code No.	Name of waste
07 06 01*	aqueous washing liquids and mother liquors
15 01 10*	packaging containing residues of or contaminated by hazardous substances
16 10 03*	aqueous concentrates containing hazardous substances

Wastes marked with an asterisk are considered to be hazardous waste pursuant to Directive 2008/98/EC on hazardous waste.

**Recommendations for the product**

Do not dispose with household waste.  
In accordance with regulations for special waste, must be taken to a special waste disposal.  
There are no harmonised regulations on the disposal of chemicals in the member states of the EU. In Germany the Recycling and Waste Management Act (KrWG) stipulates recycling as a requirement.

**! SECTION 14: Transport information**

	ADR/RID	IMDG	IATA-DGR
<b>14.1. UN number</b>	UN 1903	UN 1903	UN 1903



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	<b>ADR/RID</b>	<b>IMDG</b>	<b>IATA-DGR</b>
<b>14.2. UN proper shipping name</b>	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)
<b>14.3. Transport hazard class(es)</b>	8	8	8
<b>14.4. Packing group</b>	II	II	II
<b>14.5. Environmental hazards</b>	Yes	Yes	Yes

**14.6. Special precautions for user**  
no

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
not relevant

**Land and inland navigation transport ADR/RID**

Hazard label(s) 8

tunnel restriction code E

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

**Marine transport IMDG**

MARINE POLLUTANT

Marine pollutant (Environmentally Hazardous): not require labeling according to IMDG-Code 37-14, 2.10.2.7 for containers up to 5 litre.

**Air transport ICAO/IATA-DGR**

Environmentally Hazardous: not require labeling according to IATA 56th edition, A197 for containers up to 5 litre.

**Transport/further information**

Regulations concerning free quantities are to be observed.

**! SECTION 15: Regulatory information**

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

**Authorizations**

not relevant

**! Application restrictions**

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

**Other regulations (EU)**

Regulation (EC) No 648/2004 (Detergents regulation).

Directive 2012/18/EU, Annex I: E1.

**VOC standard**

**VOC content** 5,6 %

**15.2. Chemical Safety Assessment**

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



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**! SECTION 16: Other information**

**Recommended uses and restrictions**

National and local regulations concerning chemicals shall be observed.

**Further information**

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.

Indication of changes: "!" = Data changed compared with the previous version. Previous version: 2.1

**! Sources of key data used**

European Chemicals Agency, <http://echa.europa.eu/>.

Informations from our suppliers.

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 (or state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).
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.