

# Safety data sheet

according to Regulation (EC) No 1907/2006



Tradename: **BIB forte eco**  
Issue/Revision: 24.03.2026

Version: 4.0  
Replaces Version: 3.3

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

### 1.1. Product identifier

Trade name: **BIB forte eco**  
UFI: 8U1D-V8KM-K00W-74Q6

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

Relevant identified uses: Cleaning and disinfecting agent  
Intended purpose: Liquid concentrate for the disinfection and non protein-fixing cleaning of medical and dental instruments, rotating precision instruments and rigid endoscopes.  
Uses advised against: Do not use on flexible endoscopes.  
Note: The product is intended for professional users.

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

Manufacturer/Supplier: ALPRO MEDICAL GMBH  
Mooswiesenstraße 9  
D-78112 St. Georgen (Germany)  
Telephone: +49 7725 9392-0  
Telefax: +49 7725 9392-91  
E-mail: info@alpro-medical.de  
Internet: www.alpro-medical.de

E-mail address for the competent person responsible for the safety data sheet: doku@alpro-medical.de

### 1.4. Emergency telephone number

In-house emergency telephone number: +49 7725 9392-0  
Monday – Friday from 08:00 am to 04:30 pm (UTC+1);  
for chemical information and legal information on hazardous substances only  
Poison centre: +49 761 19240  
Poisoning information centre, Freiburg, Germany  
(24 h / 7 d), English is spoken  
National Poisons Information Service (UK): +44 344 892 0111  
National Poisons Information Service (NPIS)  
(24 h / 7 d), Medical Professionals Only

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classification in accordance with Regulation (EC) No 1272/2008 [CLP]

<i>Classification</i>	<i>Classification procedure</i>
Flam. Liq. 3; H226	On basis of test data (Flash point)
Acute Tox. 4; H302	Calculation method
Skin Corr. 1B; H314	Calculation method
STOT RE 2; H373	Calculation method
Aquatic Acute 1; H400	Calculation method
Aquatic Chronic 2; H411	Calculation method

Full text of hazard classes as well as H-phrases: see under SECTION 16.1.

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## 2.2. Label elements

### Label elements in accordance with Regulation (EC) No 1272/2008 [CLP]

Hazard pictograms:



Signal word:

Danger

Hazard components  
for labelling:

Amines, N-C12-14-alkyltrimethylenedi- (90640-43-0);  
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine (2372-82-9);  
2-Aminoethanol (141-43-5);  
Guanidine, N,N''-1,3-propanediylbis-, N-coco alkyl derivatives  
(98246-84-5)

H-phrases:	H226	Flammable liquid and vapour.
	H302	Harmful if swallowed.
	H314	Causes severe skin burns and eye damage.
	H373	May cause damage to organs through prolonged or repeated exposure if swallowed.
	H400	Very toxic to aquatic life.
	H411	Toxic to aquatic life with long lasting effects.
EUH-phrases:	EUH208	Contains piperazine, (R)-p-mentha-1,8-diene and N-dodecylpropane-1,3-diamine. May produce an allergic reaction.
P-phrases:	P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
	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.
	P310	Immediately call a POISON CENTER/ doctor.

## 2.3. Other hazards

The substances in the mixture do not meet the PBT/vPvB criteria according to Regulation (EC) No 1907/2006, Annex XIII (see SECTION 12.5.)

The substances in the mixture have no endocrine disrupting properties according to Regulation (EC) No 2018/605, Regulation (EC) 2017/2100 or Regulation (EC) No 1907/2006, Annex XIV (see SECTION 11 and SECTION 12.6.). They are not on the list of substances of very high concern for authorization according to Regulation (EC) No. 1907/2006, Article 59, Paragraph 10)

No further hazards known.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable.

### 3.2. Mixtures

Chemical characterisation: Mixture of substances listed below with non-hazardous additions in aqueous solution.

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## Hazardous ingredients

<i>Chemical name</i>	<i>Identification numbers</i>	<i>Classification in accordance with Regulation (EC) No 1272/2008</i>	<i>Weight %</i>
Propan-2-ol	CAS No: 67-63-0 EC No: 200-661-7 Index No: 603-117-00-0 REACH Registration No: 01-2119457558-25-XXXX	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336	≥ 5 - < 15
Amines, N-C12-14-alkyltrimethylene-di-	CAS No: 90640-43-0 EC No: 292-562-0 REACH Registration No: 01-2119957843-25-XXXX	Acute Tox. 3; H301 Skin Corr. 1B; H314 STOT RE 1; H372 Aquatic Acute 1; H400 Aquatic Chronic 1; H410  <i>M-Factor acute: 100</i> <i>M-Factor chronic: 1</i>  <i>ATE:</i> <i>LD<sub>50</sub> oral: 200 mg/kg bw</i>	≥ 5 - < 10
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	CAS No: 2372-82-9 EC No: 219-145-8 REACH Registration No: 01-2119980592-29-XXXX	Acute Tox. 3; H301 Skin Corr. 1B; H314 STOT RE 2; H373 (kidney) Aquatic Acute 1; H400 Aquatic Chronic 1; H410  <i>M-Factor acute: 10</i>  <i>ATE:</i> <i>LD<sub>50</sub> oral: 261 mg/kg bw</i>	≥ 1 - < 5
2-(2-Butoxyethoxy) ethanol	CAS No: 112-34-5 EC No: 203-961-6 Index No: 603-096-00-8 REACH Registration No: 01-2119475104-44-XXXX	Eye Irrit. 2; H319	≥ 1 - < 5
2-Aminoethanol	CAS No: 141-43-5 EC No: 205-483-3 Index No: 603-030-00-8 REACH Registration No: 01-2119486455-28-XXXX	Acute Tox. 4; H302 Acute Tox. 4; H312 Skin Corr. 1B; H314 Acute Tox. 4; H332 STOT SE 3; H335 Aquatic Chronic 3; H412  <i>Specific concentration limits:</i> <i>STOT SE 3; H335: C ≥ 5</i>  <i>ATE:</i> <i>LD<sub>50</sub> oral: 1089 mg/kg bw</i> <i>LD<sub>50</sub> dermal: 2504 mg/kg bw</i> <i>LC<sub>50</sub> inhalation: &gt; 1.3 mg/L air; vapour</i>	≥ 1 - < 5
Guanidine, N,N <sup>'''</sup> -1,3-propanediyl-bis-, N-coco alkyl derivatives	CAS No: 98246-84-5 EC No: 308-757-1 REACH Registration No: 01-2120761537-47-XXXX	Acute Tox. 4; H302 Skin Corr. 1B; H314 Aquatic Acute 1; H400  <i>M-Factor acute: 10</i>  <i>ATE:</i> <i>LD<sub>50</sub> oral: 500 mg/kg bw</i>	≥ 1 - < 5

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Edetic acid; (EDTA)	CAS No: 60-00-4 EC No: 200-449-4 Index No: 607-429-00-8 REACH Registration No: 01-2119486399-18-XXXX	Eye Irrit. 2; H319 Acute Tox. 4; H332 STOT RE 2; H373  ATE: <i>LOAEC inhalation: 30 mg/m<sup>3</sup> air</i>	≥ 1 - < 5
Piperazine	CAS No: 110-85-0 EC No: 203-803-3 Index No: 612-057-010-4 REACH Registration No: 01-2119480384-35-XXXX	Flam. Sol. 1; H228 Skin Corr. 1B; H314 Skin Sens. 1B; H317 Resp. Sens. 1B; H334 Repr. 2; H361fd	≥ 0.2 - < 1
N-dodecylpropane-1,3-diamine	CAS No: 5538-95-4 EC No: 226-902-6 REACH Registration No: 01-2120862678-37-XXXX	Acute Tox. 4; H302 Skin Corr. 1; H314 Skin Sens. 1; H317 Aquatic Acute 1; H400  ATE: <i>LD<sub>50</sub> oral: 300 – 2000 mg/kg bw</i>	≤ 0.5
(R)-p-mentha-1,8-diene	CAS No: 5989-27-5 EC No: 227-813-5 Index No: 601-096-00-2 REACH Registration No: 01-2119529223-47-XXXX	Flam. Liq. 3; H226 Asp- Tox. 1; H304 Skin Irrit. 2; H315 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 3; H412  <i>M-Factor acute: 1</i>	≤ 0.1

Full text of hazard classes and H-phrases: see SECTION 16.1.

Occupational exposure limits: see SECTION 8.1.

ATE values: see SECTION 11.1

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

General information:	First aider: Pay attention to self-protection! Remove contaminated, saturated clothing immediately.
Following inhalation:	Move affected person into fresh air and keep still and warm. Seek medical advice.
Following skin contact:	Wash skin immediately with plenty of water and soap. In case of skin reactions, consult a physician.
Following eye contact:	Flush eyes immediately with flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses, if present and easy to do. Consult an ophthalmologist.
Following ingestion:	Rinse mouth with water. Let drink only a few sips of water (foaming product). Do not induce vomiting (risk of aspiration and perforation). Consult a physician immediately.

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

Causes severe skin burns and eye damage. Harmful if swallowed. Harmful: May cause damage to organs through prolonged or repeated exposure if swallowed. May produce an allergic reaction.

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

No information available.

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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media: Water spray jet, alcohol resistant foam, extinguishing powder, carbon dioxide (CO<sub>2</sub>)

Unsuitable extinguishing media: Full water jet

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

Hazardous combustion products: Carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>)

### 5.3. Advice for firefighters

Special protective equipment: Wear self-contained breathing apparatus.

Further information: Cool endangered containers with water spray jet. Collect contaminated fire extinguishing water separately. Do not discharge into drains or rivers.

## SECTION 6: Accidental release measures

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

#### For non-emergency personnel

Use personal protective equipment.

Avoid skin and eye contact. Do not breathe vapours. Remove all sources of ignition. Provide adequate ventilation. Special danger of slipping by leaked/spilled product. Evacuate danger area. Observe emergency plans. Consult experts.

#### For emergency responders

Use personal protective equipment.

### 6.2. Environmental precautions

Do not discharge into drains or surface and ground water.

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

#### Containment

For large spills, dyke spilled material or otherwise contain material to ensure runoff does not reach a waterway. Cover or seal drains.

#### Cleaning up

Wipe up small amounts with absorbent material (e.g. cloth, fleece). Absorb large amounts with liquid-binding material (sand, diatomaceous earth, universal binder, sawdust). Collect in suitable, closed containers for disposal. Clean contaminated surfaces thoroughly.

#### Other information

Inappropriate containment and cleaning methods are not known.

### 6.4. Reference to other sections

Information on safe handling see SECTION 7.1.

Information on personal protective equipment see SECTION 8.2.

Information on disposal see SECTION 13.

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**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

**Precautions**

Avoid contact with skin and eyes. Avoid breathing aerosols and vapours. Keep away from sources of ignition. Keep container tightly closed. Fill refill packages only in labelled original bottles. Keep disinfection tray with ready-to-use solution covered.

Do not mix with acids, products containing aldehydes or other cleaners or disinfectants.

**Advice on general occupational hygiene**

When using do not eat, drink or smoke. Wash hands before breaks and at end of work.  
 Keep away from medicines, food, feed, cosmetics and stimulants.

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

Requirements for storage rooms and vessels: Keep only in the original container. Keep container tightly closed and kept upright to prevent any leakage.

Advice on common storage: Keep away from food, drink and animal feedingstuffs.

Further information on storage conditions: Storage temperature: 5 °C - 30 °C  
 Transport temperature: -20 °C - 50 °C

**7.3. Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific end uses are stipulated.

**Industry and sector specific guidance**

[DE] TRGS 525 – Hazardous substances in medical care facilities (Section 7 Activities with disinfectants); Issue: September 2014; source: GMBI 2014 page 1294-1307 of 13.10.2014 [No 63]; 10.07.2015 [No 27]; www.baua.de

[DE] DGUV rules 207-206 – Prevention of chemical risks when handling disinfectants in health service, Issue: 2016.12; source: <https://publikationen.dguv.de>

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

**8.1. Control parameters**

**Occupational exposure limits**

Country	Limit values				Legal basis	Remarks
	Long term (8 hours)		Short term (15 minutes)			
	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>		
Propan-2-ol (CAS no: 67-63-0)						
EU						no limit value specified
UK	400	999	500	1250	EU40/2005	
2-Aminoethanol (CAS no: 141-43-5)						
EU	1	2.5	3	7.6	2006/15/EC	Skin
UK	1	2.5	3	7.6	EU40/2005	Sk
2-(2-Butoxyethoxy) ethanol (CAS no: 112-34-5)						
EU	10	67.5	15	101.2	2006/15/EC	
UK	10	67.5	15	101.2	EU40/2005	
Piperazine (CAS No: 110-85-0)						
EU		0.1		0.3	2000/39/EC	
UK		0.1		0.3	EU40/2005	Sen

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N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine (CAS no.: 2372-82-9)						
EU						no limit value specified
UK						no limit value specified
(R)-p-mentha-1,8-diene (CAS no.: 5989-27-5)						
EU						no limit value specified
UK						no limit value specified

### Used abbreviations, symbols, numerals and explanations

Skin	A significant uptake of the substance through the skin is possible.
Sen	Capable of causing occupational asthma. See paragraphs 53–56.
Sk	Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.

### Biological limit values

Country	Parameter	Limit value	Test material	Sampling time	Legal basis
Propan-2-ol (CAS No: 67-63-0)					
Germany	Acetone	25 mg/l	Whole blood	End of exposition, resp. end of shift	TRGS 903
	Acetone	25 mg/l	Urine	End of exposition, resp. end of shift	TRGS 903

### Information on monitoring procedures

BS EN 482:2021-04; Title: Workplace exposure - Procedures for the determination of the concentration of chemical agents;  
British version of EN 482:2021

BS EN 689:2018; Title: Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy;  
British version of EN 689:2018

BS EN 14042:2003-04-24; Title: Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents;  
British version of EN 14042:2003)

CEN/TR 17055:2017; Title: Workplace exposure. Measurement of chemical agents complying with the requirements given in EN 482 and either one of EN 838, EN 1076, EN 13205, EN 13890 and EN 13936.  
Choice of procedures

ISO TR 14294:2011; Title: Workplace atmospheres. Measurement of dermal Exposure. Principles and methods

## 8.2. Exposure controls

### Appropriate engineering controls

#### Technical and organisational protective measures

The eyewash station (or eyewash bottle) and emergency shower must be located near the workplace.

### Personal protective equipment

Eye/face protection: Safety glasses with side protection according to BS EN 166 and EN ISO 16321

Skin protection:

Hand protection: Protective gloves according to BS EN 374-1 and BS EN 21420

#### Splash guard:

Protective gloves: type C; permeation-resistant at least 10 minutes

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Permanent contact (> 480 min):

Protective gloves: type A or B; code letters: A, H, I, G, O  
permeation-resistant at least 30 minutes

Other skin protection: Long-sleeved protective clothing (lab coat)  
Respiratory protection: Not necessary when used as intended.  
Thermal hazards: No special protective measures necessary.

### Environmental exposure controls

Do not discharge into drains, see SECTION 6.  
Information on disposal see SECTION 13.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Appearance/physical state:	clear, blue liquid	
Odour:	characteristic, like amine	
Odour threshold:	not relevant	
Melting point/freezing point:	< - 18 °C	(inhouse test)
Initial boiling point and boiling range:	> 82 °C	(lowest boiling point of the raw materials included)
Flammability:	flammable liquid and vapour	
Lower explosive limit:	Propan-2-ol: 2 vol%	
Upper explosive limit:	Propan-2-ol: 13 vol%	
Flash point:	32 °C	(EN ISO 2719:2002)
Auto-ignition temperature:	> 350 °C	(lowest auto-ignition temperature of the raw materials included)
pH (undiluted):	10.0 – 11.0	(20 °C)
Kinematic viscosity:	not applicable for aqueous solutions	
Solubility in water:	completely soluble	
Partition coefficient: n-octanol/water	not applicable for mixtures	
Vapour pressure:	43 hPa	(20 °C, vapor pressure of the most volatile raw material)
Density:	0.970 – 0.990 g/cm <sup>3</sup>	(20 °C)
Relative vapour density:	not relevant	
Particle characteristics:	no solid	

### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

Explosive substances/mixtures and products containing explosives:	The product is not explosive. However, formation of explosive vapour/ air mixtures is possible.
Flammable gases:	not applicable

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Aerosols:	not applicable
Oxidising gases:	not applicable
Gases under pressure:	not applicable
Flammable liquids:	not applicable
Flammable solids:	not applicable
Self-reactive substances and mixtures:	not applicable
Pyrophoric liquids:	not applicable
Pyrophoric solids:	not applicable
Self-heating substances and mixtures:	not applicable
Substances and mixtures, which emit flammable gases in contact with water:	not applicable
Oxidising liquids:	not applicable
Oxidising solids:	not applicable
Organic peroxides:	not applicable
Substances and mixtures corrosive to metals:	Limited material compatibility with aluminium
Desensitised explosives:	not applicable

## 9.2.2. Other safety characteristics

Electrical conductivity (undiluted): 3500-4000  $\mu\text{S}/\text{cm}$  (20 °C)

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reacts with acids and aldehydes.

### 10.2. Chemical stability

The product is stable when handled and stored as intended.

### 10.3. Possibility of hazardous reactions

Vapours may form explosive mixtures with air. Reacts with acids and aldehydes.

### 10.4. Conditions to avoid

Keep away from heat and sources of ignition.

### 10.5. Incompatible materials

Not suitable for PVC-P, polycarbonate and aluminium in immersion baths.

Not suitable for colour markings in ultrasonic baths.

Limited material compatibility with NBR (acrylonitrile butadiene rubber), silicone, PET (polyethylene terephthalate) and brass.

### 10.6. Hazardous decomposition products

Does not decompose when used as intended.

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## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute toxicity

##### Product

Acute toxicity - oral:	Acute Toxicity Estimate ATE <sub>mix</sub> = 1860 mg/kg => Harmful if swallowed.
Acute toxicity - dermal:	Acute Toxicity Estimate ATE <sub>mix</sub> > 2000 mg/kg => no classification
Acute toxicity - inhalation:	Acute Toxicity Estimate ATE <sub>mix</sub> > 20 mg/l => no classification

##### Ingredients

###### Amines, N-C12-14-alkyltrimethylenedi- (CAS no: 90640-43-0):

Acute toxicity - oral: LD<sub>50</sub>: 200 mg/kg bw; species: rat; strain: HsdRccHan: WIST (SPF);  
method: OECD 423

###### N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine (CAS no: 2372-82-9):

Acute toxicity - oral: LD<sub>50</sub>: 261 mg/kg bw; species: rat; strain: Sprague-Dawley;  
method: OECD 401

###### 2-Aminoethanol (CAS no: 141-43-5):

Acute toxicity - oral: LD<sub>50</sub>: 1089 mg/kg bw; species: rat; strain: Sprague-Dawley;  
method: OECD 401

Acute toxicity - dermal: LD<sub>50</sub>: 2504 mg/kg bw; species: rabbit; strain: New Zealand White;  
method: OECD 402

Acute toxicity - inhalation: LC<sub>50</sub>: > 1.3 mg/l air; species: rat; strain: Sprague-Dawley; 6 h; vapour

###### Guanidine, N,N''-1,3-propanediylbis-, N-coco alkyl derivatives (CAS no: 98246-84-5):

Acute toxicity - oral: LD<sub>50</sub>: 500 mg/kg bw; species: rat; strain: Wistar; method: OECD 401

###### Edetic acid (EDTA): (CAS no: 60-00-4):

Acute toxicity - inhalation: LOAEC: 30 mg/m<sup>3</sup> air; species: rat; strain: Wistar; 6 h; method:  
OECD 412

###### N-dodecylpropane-1,3-diamine (CAS no: 5538-95-4):

Acute toxicity - oral: LD<sub>50</sub> oral: 300 – 2000 mg/kg bw

#### Skin corrosion/irritation

##### Product

Causes severe skin burns. [calculation method]

#### Serious eye damage/irritation

##### Product

Causes serious eye damage. [calculation method]

#### Respiratory or skin sensitisation

##### Product

Contains piperazine, (R)-p-mentha-1,8-diene and N-dodecylpropane-1,3-diamine. May produce an allergic reaction. [calculation method]

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## Ingredients

Piperazine (CAS no: 110-85-0):

May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

(R)-p-mentha-1,8-diene (CAS no: 5989-27-5):

May cause an allergic skin reaction.

N-dodecylpropane-1,3-diamine (CAS no: 5538-95-4):

May cause an allergic skin reaction.

## Germ cell mutagenicity

Product

No data available.

## Carcinogenicity

Product

No data available.

## Reproductive toxicity

Product

No classification. [calculation method]

Ingredients

Piperazine (CAS no: 110-85-0):

Suspected of damaging fertility. Suspected of damaging the unborn child.

## STOT-single exposure

Product

No classification. [calculation method]

Ingredients

Propan-2-ol (CAS no: 67-63-0):

May cause drowsiness or dizziness.

2-Aminoethanol (CAS no: 141-43-5):

May cause respiratory irritation.

## STOT-repeated exposure

Product

May cause damage to organs through prolonged or repeated exposure if swallowed. [calculation method]

Ingredients

Amines, N-C12-14-alkyltrimethylenedi- (CAS No: 90640-43-0):

NOAEL: 0.4 mg/kg/day; Application Route: Gavage; species: rat (male/female)

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine (CAS No: 2372-82-9):

NOAEL: 4 mg/kg/day; Application Route: Food; Exposure period: 52 w; species: rat

NOAEL: 8 mg/kg/day; Application Route: Food; Exposure period: 90 d; species: dog

LOAEL: 5 mg/kg/day; Application Route: Skin; Exposure period: 90 d; species: rat

Edetic acid (EDTA): (CAS no: 60-00-4):

NOAEL: 500 mg/kg bw/day; Application Route: Food; species: mouse (male/female)

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## Aspiration hazard

### Product

No classification. [calculation method]

### Ingredients

(R)-p-mentha-1,8-diene (CAS no: 5989-27-5):  
May be fatal if swallowed and enters airways.

## Information on other hazards

### Endocrine disrupting properties:

No substances are contained that have endocrine disrupting properties for humans.

## SECTION 12: Ecological information

### 12.1. Toxicity

#### Product

Very toxic to aquatic life. [calculation method]  
Toxic to aquatic life with long lasting effects. [calculation method]

#### Ingredients

Amines, N-C12-14-alkyltrimethylenedi- (CAS no: 90640-43-0):

PNEC aqua (freshwater): PNEC value: 3.2 µg/L; assessment factor: 10; extrapolation method: assessment factor; PNEC freshwater (intermittent releases): 0.65 µg/L

PNEC aqua (marine water): PNEC value: 0.32 µg/L; assessment factor: 100; extrapolation method: assessment factor

PNEC STP: PNEC value: 0.205 mg/L; assessment factor: 100; extrapolation method: assessment factor

PNEC sediment (freshwater): PNEC value: 1.72 mg/kg sediment dw; assessment factor: 50; extrapolation method: assessment factor

PNEC sediment (marine water): PNEC value: 0.172 mg/kg sediment dw; assessment factor: 500; extrapolation method: assessment factor

PNEC soil: PNEC value: 10 mg/kg soil dw; assessment factor: 100; extrapolation method: assessment factor

PNEC predators: PNEC value: 89 µg/kg food dw; assessment factor: 90

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine (CAS no: 2372-82-9):

PNEC aqua (freshwater): PNEC value: 0.001 mg/L; assessment factor: 10; extrapolation method: assessment factor; PNEC freshwater (intermittent releases) 0 mg/L

PNEC aqua (marine water): PNEC value: 0 mg/L; assessment factor: 100;

PNEC STP: PNEC value: 0.18 mg/L; assessment factor: 100; extrapolation method: assessment factor

PNEC sediment (freshwater): PNEC value: 3.2 mg/kg sediment dw; assessment factor: 100; extrapolation method: assessment factor

PNEC sediment (marine water): PNEC value: 0.13 mg/kg sediment dw; assessment factor: 1000; extrapolation method: assessment factor

PNEC soil: PNEC value: 45.34 mg/kg soil dw; assessment factor: 50; extrapolation method: assessment factor

2-Aminoethanol (CAS no: 141-43-5):

PNEC aqua (freshwater): PNEC value: 0.07 mg/L; assessment factor 10; extrapolation method: assessment factor; PNEC freshwater (intermittent releases) 0.028 mg/L.

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PNEC aqua (marine water): PNEC value: 0.007 mg/L; assessment factor 100;  
extrapolation method: assessment factor  
PNEC STP: PNEC value: 100 mg/L; assessment factor 10;  
extrapolation method: assessment factor  
PNEC sediment (freshwater): PNEC value: 0.357 mg/kg sediment dw; extrapolation method:  
equilibrium partitioning method  
PNEC sediment (marine water): PNEC value 0.036 mg/kg sediment dw; extrapolation method:  
equilibrium partitioning method  
PNEC soil: PNEC value: 1.29 mg/kg soil dw; assessment factor 1000;  
extrapolation method: assessment factor

Guanidine, N,N''-1,3-propanediyl-bis-, N-coco alkyl derivatives (CAS no: 98246-84-5):

PNEC aqua (freshwater): PNEC value: 0.4 µg/L; assessment factor: 10; extrapolation method:  
assessment factor; freshwater (intermittent releases) 0.2 µg/L  
PNEC aqua (marine water): PNEC value: 0.04 µg/L; assessment factor: 100  
PNEC STP: PNEC value: 1 mg/L; assessment factor: 10  
PNEC sediment (freshwater): PNEC value: 10 mg/kg sediment dw; assessment factor: 100  
PNEC sediment (marine water): PNEC value: 1 mg/kg sediment dw; assessment factor: 1000  
PNEC soil: PNEC value: 3.7 mg/kg soil dw; assessment factor: 10

(R)-p-mentha-1,8-diene (CAS no: 5989-27-5):

PNEC aqua (freshwater): PNEC value: 14 µg/L; assessment factor: 10; extrapolation method:  
assessment factor  
PNEC aqua (marine water): PNEC value: 1.4 µg/L; assessment factor: 100; extrapolation  
method: assessment factor  
PNEC STP: PNEC value: 1.8 mg/L; assessment factor: 10; extrapolation  
method: assessment factor  
PNEC sediment (freshwater): PNEC value: 3.85 mg/kg sediment dw; extrapolation method:  
equilibrium partitioning method  
PNEC sediment (marine water): PNEC value: 0.385 mg/kg sediment dw; extrapolation method:  
equilibrium partitioning method  
PNEC soil: PNEC value: 0.763 mg/kg soil dw; extrapolation method:  
equilibrium partitioning method  
PNEC predators: PNEC value: 133 mg/kg food dw; assessment factor: 30;

N-dodecylpropane-1,3-diamine (CAS no: 5538-95-4):

No data available.

## 12.2. Persistence and degradability

Biodegradability:

Product

No data available.

Ingredients

Amines, N-C12-14-alkyltrimethylenedi- (CAS no: 90640-43-0):

Readily biodegradable according to OECD criteria (conclusion by analogy).

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine (CAS no: 2372-82-9):

Readily biodegradable according to OECD criteria.

2-Aminoethanol (CAS no: 141-43-5):

Readily biodegradable according to OECD criteria.

Guanidine, N,N''-1,3-propanediyl-bis-, N-coco alkyl derivatives (CAS no: 98246-84-5):

Readily biodegradable according to OECD criteria.

(R)-p-mentha-1,8-diene (CAS no: 5989-27-5):

Readily biodegradable according to OECD criteria.

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N-dodecylpropane-1,3-diamine (CAS no: 5538-95-4):  
No data available.

## 12.3. Bioaccumulative potential

Product

No data available.

Ingredients

Amines, N-C12-14-alkyltrimethylenedi- (CAS no: 90640-43-0):  
Low potential for bioaccumulation (conclusion by analogy).

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine (CAS no: 2372-82-9):  
No potential for bioaccumulation.  
Log Kow (Log Pow): 0.34 at 20 °C

2-Aminoethanol (CAS no: 141-43-5):  
No potential for bioaccumulation.

Guanidine, N,N'''-1,3-propanediyl-bis-, N-coco alkyl derivatives (CAS no: 98246-84-5):  
No potential for bioaccumulation.

(R)-p-mentha-1,8-diene (CAS no: 5989-27-5):  
BCF (water species): 690.1 l/kg ww  
The BCF is considered an endpoint that defines the bioaccumulation potential of the substance.

N-dodecylpropane-1,3-diamine (CAS no: 5538-95-4):  
No data available.

## 12.4. Mobility in soil

No data available.

## 12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to Regulation (EC) No 1907/2006, Annex XIII.

## 12.6. Endocrine disrupting properties

No substances are contained that have endocrine disrupting properties for non-target organisms

## 12.7. Other adverse effects

No data available.

# SECTION 13: Disposal considerations

## 13.1. Waste treatment methods

### Disposal of the product

Product residues must be disposed of as hazardous waste in compliance with the Directive 2008/98/EC on waste as well as national and regional regulations. Do not dispose of via the waste water. Leave product in the original container as possible. Do not mix with other waste materials.

Waste codes / waste designations according to EWC

Product residues: 07 06 01\* aqueous washing liquids and mother liquors

From dilution to 0.5 % the concentrate is no longer classified as a hazardous substance.

### Disposal of the packaging

Packaging contaminated with product is considered as hazardous waste and must be disposed of accordingly.

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Waste codes / waste designations according to EWC

Contaminated packaging: 15 01 10\* packaging containing residues of or contaminated by hazardous substances

Recommendation

Contaminated packaging must be emptied optimally and can be recycled after appropriate cleaning (rinse with water).

## SECTION 14: Transport information

### 14.0. Transport classification

Dangerous good in sense of the transport regulations in road traffic (ADR), railway traffic (RID), inland waterway traffic (ADN), maritime traffic (IMDG-Code) and air traffic (ICAO-TI/IATA-DGR).

### 14.1. UN number

UN 2920

### 14.2. UN proper shipping name

#### ADR/RID/ADN

CORROSIVE, FLAMMABLE LIQUID, N.O.S. (Laurylpropylenediamine, Isopropanol)

#### IMDG-Code/ICAO-TI/IATA-DGR

CORROSIVE, FLAMMABLE LIQUID, N.O.S. (Laurylpropylenediamine, Isopropanol)

### 14.3. Transport hazard class(es)

Class: 8  
Subsidiary risk(s): (3)

### 14.4. Packing group

II

### 14.5. Environmental hazards

#### ADR/RID/ADN

Environmentally Hazardous: Yes

#### IMDG-Code

Marine Pollutant: Yes

### 14.6. Special precautions for user

Not necessary.

### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

### 14.8. Further information

Transport category according to ADR section 1.1.3.6: 2  
Maximum total quantity per transport unit according to ADR section 1.1.3.6: 333 L  
Limited quantity (Maximum quantity per inner packaging) according to ADR/RID/ADN/IMDG-Code: 1 L  
Classification code according to ADR/RID/ADN: CF1

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Hazard identification number according to ADR/RID: 83  
Tunnel restriction code according to ADR/RID: D/E  
Segregation group according to IMDG-Code section 5.4.1.5.11.1: IMDG-Code- Segregation group 18 – alkalis  
EmS codes: F-E, S-C

## SECTION 15: Regulatory information

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

#### EU-Regulations

REGULATION (EC) No 1005/2009 on substances that deplete the ozone layer  
not applicable

REGULATION (EC) No 2019/1021 on persistent organic pollutants  
not applicable

REGULATION (EU) No 649/2012 concerning the export and import of hazardous chemicals  
not applicable

REGULATION (EU) No 648/2004 on detergents

Cationic surfactants: < 5 %  
Nonionic surfactants: < 5 %  
EDTA: < 5 %  
Disinfectants  
Perfumes (d-Limonene)

DIRECTIVE 2012/18/EU (Seveso III Directive) on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC

<i>Hazard category</i>	<i>Qualifying quantity (tonnes) (lower-tier establishment)</i>	<i>Qualifying quantity (tonnes) (upper-tier establishment)</i>
P5c FLAMMABLE LIQUIDS	5,000	50,000
E1 ENVIRONMENTAL HAZARDS	100	200

DIRECTIVE 2010/75/EU on industrial emissions (integrated pollution prevention and control)

VOC content: < 16 %

REACH – List of substances subject to authorisation (Annex XIV)

not applicable

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

not applicable

COUNCIL DIRECTIVE 94/33/EC on the protection of young people at work

Observe employment restrictions for juveniles.

COUNCIL DIRECTIVE 92/85/EEC on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding

Observe employment restrictions for pregnant and nursing mothers.

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## National regulations (United Kingdom)

EU40/2005

See SECTION 8.1

## 15.2. Chemical safety assessment

For this mixture no chemical safety assessment has been carried out.

## SECTION 16: Other information

### 16.1. Full text of hazard classes and H-phrases

#### Hazard classes

Acute Tox.	Acute toxicity
Aquatic Acute	Acute aquatic hazard
Aquatic Chronic	Long-term aquatic hazard
Asp. Tox.	Aspiration hazard
Eye Irrit.	Eye irritation
Flam. Liq.	Flammable liquid
Repr.	Reproductive toxicity
Resp. Sens.	Respiratory sensitization
Skin Corr.	Skin corrosion
Skin Irrit.	Skin irritation
Skin Sens.	Skin sensitization
STOT RE	Specific target organ toxicity (repeated exposure)
STOT SE	Specific target organ toxicity (single exposure)

#### H-phrases (Hazard statements)

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.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H372	Causes 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>.
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.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

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### 16.2. Abbreviations and acronyms

ADN	<u>A</u> ccord <u>e</u> uropéen relatif au transport international des marchandises <u>d</u> angereuses par voie de <u>n</u> avigation intérieure (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	<u>A</u> ccord européen relatif au transport international des marchandises <u>d</u> angereuses par <u>r</u> oute (European Agreement concerning the International Carriage of Dangerous Goods by Road)
ATE	<u>A</u> cute <u>T</u> oxicity <u>E</u> stimate
BS	<u>B</u> ritish <u>S</u> tandards
bw	<u>b</u> ody <u>w</u> eight
CAS	<u>C</u> hemical <u>A</u> bstracts <u>S</u> ervice
CLP	Regulation on <u>C</u> lassification, <u>L</u> abelling and <u>P</u> ackaging of Substances and Mixtures
[DE]	National German regulations
DGUV	<u>D</u> eutsche <u>G</u> esetzliche <u>U</u> nfall <u>v</u> ersicherung (English: German statutory accident insurance)
dw	<u>d</u> ry <u>w</u> eight
EC	<u>E</u> uropean <u>C</u> ommunity
EEC	<u>E</u> uropean <u>E</u> conomic <u>C</u> ommunity
EmS-Codes	<u>E</u> mergency <u>S</u> chedules (Emergency response procedures for ships)
EN	European Standard
EU	<u>E</u> uropean <u>U</u> nion
EWC	<u>E</u> uropean <u>W</u> aste <u>C</u> atalogue
GMBI	<u>G</u> emeinsames <u>M</u> inisterial <u>b</u> latt (English: Joint Ministerial Gazette)
IATA-DGR	<u>I</u> nternational <u>A</u> ir <u>T</u> ransport <u>A</u> ssociation - <u>D</u> angerous <u>G</u> oods <u>R</u> egulations
ICAO-TI	Technical Instructions For The Safe Transport of Dangerous Goods by Air
IMDG-Code	<u>I</u> nternational <u>M</u> aritime Code for <u>D</u> angerous <u>G</u> oods
LC <sub>50</sub>	Median lethal concentration
LD <sub>50</sub>	Median lethal dose
LOAEC	<u>L</u> owest <u>O</u> bserved <u>A</u> dverse <u>E</u> ffect <u>C</u> oncentration
LOAEL	<u>L</u> owest <u>O</u> bserved <u>A</u> dverse <u>E</u> ffect <u>L</u> evel
NOAEL	<u>N</u> o <u>O</u> bserved <u>A</u> dverse <u>E</u> ffect <u>L</u> evel
N.O.S	<u>N</u> ot <u>o</u> therwise <u>s</u> pecified
OECD	<u>O</u> rganization for <u>E</u> conomic <u>C</u> o-operation and <u>D</u> evelopment
PBT	<u>P</u> ersistent, <u>b</u> ioaccumulative and <u>t</u> oxic
PNEC	<u>P</u> redicted <u>N</u> o <u>E</u> ffect <u>C</u> oncentration
ppm	<u>P</u> arts <u>p</u> er <u>m</u> illion
REACH	<u>R</u> egistration, <u>E</u> valuation, <u>A</u> uthorisation and Restriction of <u>C</u> hemicals
RID	<u>R</u> èglement concernant le transport <u>I</u> nternational ferroviaire de marchandises <u>D</u> angereuses (Regulations Concerning the International Carriage of Dangerous Goods by Rail)
STP	<u>s</u> ewage <u>t</u> reatment <u>p</u> lant
TRGS	<u>T</u> echnische <u>R</u> egeln für <u>G</u> efahr <u>s</u> toffe (English: Technical Rules for Hazardous Substances)
UFI	<u>U</u> nique <u>F</u> ormula <u>I</u> dentifier
UN	<u>U</u> nited <u>N</u> ations
UTC	Coordinated Universal Time (French: Temps Universel Coordonné)
VOC	Volatile Organic Compounds
vPvB	<u>V</u> ery <u>p</u> ersistent and <u>v</u> ery <u>b</u> ioaccumulative

### 16.3. Key literature references and sources for data

- Regulation (EC) No 1907/2006 (REACH), Annex II
- European Chemicals Agency (ECHA) – Guidance on the compilation of safety data sheets; Version 4.0 (December 2022); <https://echa.europa.eu/documents>
- Regulation (EC) No 1272/2008 (CLP regulation)
- European Chemicals Agency (ECHA) – Guidance on Labelling and Packaging in accordance with Regulation (EC) No 1272/2008; Version 4.2 (03/2021); <https://echa.europa.eu/documents>
- European Chemicals Agency (ECHA), Registered substances; <https://echa.europa.eu/information-on-chemicals/registered-substances>

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- European Chemicals Agency (ECHA), C&L Classification and Labelling Inventory;  
<https://echa.europa.eu/information-on-chemicals/cl-inventory-database>
- Institute for Occupational Safety and Health of the German Social Accident Insurance (IFA):  
GESTIS database on hazardous substances and GESTIS - International limit values for chemical agents;  
<https://www.dguv.de/ifa/index.jsp>
- German Environmental Agency (Umweltbundesamt), Section IV 2.4: Office of Documentation and Information on Substances Hazardous to Waters RIGOLETTO (catalogue of Substances Hazardous to Waters); <https://webrigoletto.uba.de/rigoletto>

### 16.4. Methods according to Article 9 of Regulation (EC) No 1272/2008 for the evaluation of information for classification purposes

Calculation method according to the criteria in Annex I 1272/2008.  
Flash point according to EN ISO 2719:2002.  
pH value measurement.  
Material compatibility and corrosiveness in practical tests

### 16.5. Training advice

Provide adequate information, instructions and training for users.

### 16.6. Indication of changes

A dash in the left hand margin indicates an amendment from the previous version.  
Valid from LOT No. 25620K.

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The information given in the safety data sheet only apply to the described product in connection with its intended use. This information is based on the latest state of our knowledge at the time of revision. In particular, it describes our product under the aspect of its hazards and safety measures to be taken. It does not constitute any guarantee of product properties and quality features.

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