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

1.1 Product identifier

Trade name: BIB forte eco

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 free of aldehydes, phenols and QAC for the non protein fixing cleaning and disinfection of medical and dental instruments, rotating precision instruments and endoscopes.

Uses advised against: None at intended use.

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: alpro@alpro-medical.de
Internet: www.alpro-medical.com

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

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

Full text of hazard classes as well as H-phrases: see under SECTION 16.3.

Classification in accordance with Directive 1999/45/EC

see SECTION 16.1.
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-alkytrimethylenedi- (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. 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/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.

Label elements in accordance with Directive 1999/45/EC

see SECTION 16.2.

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.

No further hazards known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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

Hazardous ingredients
<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Identification numbers</th>
<th>Classification in accordance with Directive 67/548/EEC</th>
<th>Classification in accordance with Regulation (EC) No 1272/2008</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propan-2-ol</td>
<td>CAS No: 67-63-0 EC No: 200-661-7 Index No: 603-117-00-0 REACH Registration No: 01-2119457558-25-XXXX</td>
<td>F; R11 Xi; R36 R67</td>
<td>Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336</td>
<td>≥ 5 - &lt; 15</td>
</tr>
<tr>
<td>Amines, N-C12-14-alkyltrimethylene-di-</td>
<td>CAS No: 90640-43-0 EC No: 292-562-0 REACH Registration No: 01-2119957843-25-XXXX</td>
<td>T; R48/25 Xn; R22 C; R34 N; R50</td>
<td>Acute Tox. 3; H301 Skin Corr. 1B; H314 STOT RE 1; H372 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor acute: 100 M-Factor chronic: 1</td>
<td>≥ 5 - &lt; 15</td>
</tr>
<tr>
<td>N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine</td>
<td>CAS No: 2372-82-9 EC No: 219-145-8 REACH Registration No: 01-2119980592-29-XXXX</td>
<td>Xn; R22-48/22 C; R35 N; R50/53</td>
<td>Acute Tox. 3; H301 Skin Corr. 1B; H314 STOT RE 2; H373 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor acute: 10</td>
<td>≥ 1 - &lt; 5</td>
</tr>
<tr>
<td>2-(2-Butoxyethoxy)ethanol</td>
<td>CAS No: 112-34-5 EC No: 203-961-6 Index No: 603-096-00-8 REACH Registration No: 01-2119475104-44-XXXX</td>
<td>Xi; R36</td>
<td>Eye Irrit. 2; H319</td>
<td>≥ 1 - &lt; 5</td>
</tr>
<tr>
<td>2-Aminoethanol</td>
<td>CAS No: 141-43-5 EC No: 205-483-3 Index No: 603-030-00-8 REACH Registration No: 01-2119486455-28-XXXX</td>
<td>Xn; R20/21/22 C; R34</td>
<td>Acute Tox. 4; H332 Acute Tox. 4; H312 Acute Tox. 4; H302 Skin Corr. 1B; H314 STOT SE 3; H335: C ≥ 5 %</td>
<td>≥ 1 - &lt; 5</td>
</tr>
<tr>
<td>Guanidine, N,N'''-1,3-propanediybis-, N-coco alkyl derivatives</td>
<td>CAS No: 98246-84-5 EC No: 308-757-1</td>
<td>Xn; R22 C; R34 N; R50</td>
<td>Acute Tox. 4; H302 Skin Corr. 1B; H314 Aquatic Acute 1; H400</td>
<td>≥ 1 - &lt; 5</td>
</tr>
<tr>
<td>Edetic acid; (EDTA)</td>
<td>CAS No: 60-00-4 EC No: 200-449-4 Index No: 607-429-00-8</td>
<td>Xn; R20 Xi; R36</td>
<td>Acute Tox. 4; H332 Eye Irrit. 2; H319</td>
<td>≥ 1 - &lt; 5</td>
</tr>
<tr>
<td>Piperazine</td>
<td>CAS No: 110-85-0 EC No: 203-803-3 Index No: 612-057-010-4 REACH Registration No: 01-2119480384-35-XXXX</td>
<td>Repr. Cat. 3; R62/63 C; R34 R42/43</td>
<td>Repr. 2; H361fd Skin Corr. 1B; H314 Resp. Sens. 1; H334 Skin Sens. 1; H317</td>
<td>≥ 0.2 - &lt; 1</td>
</tr>
</tbody>
</table>

Full text of code letters, hazard classes, R- and H-phrases: see SECTION 16.3.

**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.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media: Water spray jet, alcohol resistant foam, extinguishing powder, carbon dioxide (CO₂)

Unsuitable extinguishing media: Full water jet

5.2. Special hazards arising from the substance or mixture
Hazardous combustion products: Carbon monoxide (CO), carbon dioxide (CO₂), nitrogen oxides (NOₓ)

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. See SECTION 8.2.


For emergency responders
Use personal protective equipment. See SECTION 8.2.

6.2. Environmental precautions
Do not discharge into drains or rivers.

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.

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.

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 food and drink.

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: Not necessary

Storage class ([DE] TRGS 510): LGK 8A Combustible corrosive hazardous substances

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]; www.baua.de

[DE] DGUV rules 107-002 (former BGR 206) - Disinfection works in health service Issue: July 1999; Source: www.dguv.de/publikationen

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
Occupational exposure limits
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 EN 166

Skin protection:
Hand protection: Protective gloves according to EN 374
Splash guard:
Disposable gloves made of nitrile rubber (thickness 0.11 mm)
Permanent contact (> 480 min):
Protective gloves made of nitrile rubber (thickness 0.40 mm)

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.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>clear, blue liquid</td>
</tr>
<tr>
<td>Odour</td>
<td>characteristic</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>no data available</td>
</tr>
<tr>
<td>pH (undiluted)</td>
<td>10.0 – 11.0 (20 °C)</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>no data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>no data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>32 °C (EN ISO 2719:2002)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>no data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>not applicable</td>
</tr>
<tr>
<td>Lower explosive limit</td>
<td>Propan-2-ol: 2 vol%</td>
</tr>
<tr>
<td>Upper explosive limit</td>
<td>Propan-2-ol: 13 vol%</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>no data available (... °C)</td>
</tr>
<tr>
<td>Vapour density</td>
<td>no data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.970 – 0.990 (20 °C)</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>completely soluble</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>n-octanol/water not applicable</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>no data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>no data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>The product is not explosive. However, formation of explosive vapour/air mixtures is possible.</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>none</td>
</tr>
</tbody>
</table>

9.2. Other information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refractive index nD</td>
<td>1.3740-1.3811 (20 °C)</td>
</tr>
<tr>
<td>Electrical conductivity (undiluted)</td>
<td>3500-4000 µS/cm (20 °C)</td>
</tr>
</tbody>
</table>
SECTION 10: Stability and reactivity

10.1. Reactivity
No hazardous reactions when handled and stored as intended.

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.

10.4. Conditions to avoid
Keep away from heat and sources of ignition.

10.5. Incompatible materials
None known

10.6. Hazardous decomposition products
Does not decompose when used as intended.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity
Product

<table>
<thead>
<tr>
<th>Acute toxicity - oral:</th>
<th>Acute Toxicity Estimate $A_{TE_{\text{mix}}} = 1962 \text{ mg/kg}$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\Rightarrow$ Harmful if swallowed.</td>
</tr>
<tr>
<td>Acute toxicity - dermal:</td>
<td>Acute Toxicity Estimate $A_{TE_{\text{mix}}} &gt; 2000 \text{ mg/kg}$</td>
</tr>
<tr>
<td></td>
<td>$\Rightarrow$ no classification</td>
</tr>
<tr>
<td>Acute toxicity - inhalation:</td>
<td>Acute Toxicity Estimate $A_{TE_{\text{mix}}} &gt; 20 \text{ mg/l}$</td>
</tr>
<tr>
<td></td>
<td>$\Rightarrow$ no classification</td>
</tr>
</tbody>
</table>

Ingredients

- **Amines, N-C12-14-alkyltrimethylene(1)**: (CAS No: 90640-43-0):
  - Acute toxicity - oral: $LD_{50}$: 200 mg/kg; species: rat; method: OECD 423

- **N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine (CAS No: 2372-82-9)**:
  - Acute toxicity - oral: $LD_{50}$: 261 mg/kg; species: rat; method: OECD 401
  - Acute toxicity - dermal: $LD_{50}$: > 600 mg/kg; species: rat; method: OECD 402

- **2-Aminoethanol (CAS No: 141-43-5)**:
  - Acute toxicity - oral: $LD_{50}$: 1515 mg/kg; species: rat; method: OECD 401
  - Acute toxicity - inhalation: $LC_{50}$: > 1.3 mg/l; species: rat; 6 h; vapour

- **Guanidine, N,N''-1,3-propanediylbis, N-coco alkyl derivatives (CAS No: 98246-84-5)**:
  - Acute toxicity - oral: $LD_{50}$: 500 - 2000 mg/kg; species: rat

- **Edetic acid; (EDTA) (CAS No: 60-00-4)**:
  - Acute toxicity - inhalation: $LC_{50}$: 1000-5000 mg/m³; species: rat; 6 h

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
The mixture is not classified as sensitising but it contains piperazine at a concentration between 0.2 and 1.0%. Label elements in accordance with Regulation (EC) No 1272/2008 Annex II, 2.8.: „Contains piperazine. May produce an allergic 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-alkytrimethylenedi- (CAS No: 90640-43-0):
NOAEL: 0.4 mg/kg; Application Route: Gavage; species: rat (male/female)

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine (CAS No: 2372-82-9):
NOAEL: 9 mg/kg; Application Route: Oral; Exposure period: 90 d; species: rat
NOAEL: 20 mg/kg; Application Route: Food; Exposure period: 90 d; species: dog
NOAEL: 15 mg/kg; Application Route: Skin; Exposure period: 90 d; species: rat
Aspiration hazard

Product

No data available.

SECTION 12: Ecological information

12.1. Toxicity

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

12.2. Persistence and degradability

Biodegradability:
The product is biodegradable according to OECD criteria. The statement has been derived from the properties of the ingredients.

12.3. Bioaccumulative potential

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. 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

Disposal of the packaging

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

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 2924

14.2. UN proper shipping name

ADR/RID/ADN

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

IMDG-Code/ICAO-TI/IATA-DGR

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

14.3. Transport hazard class(es)

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

14.4. Packing group

III

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. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

14.8. Further information

Transport category according to ADR section 1.1.3.6: 3
Maximum total quantity per transport unit according to ADR section 1.1.3.6: 1000 L
Limited quantity (Maximum quantity per inner packaging) according to ADR/RID/ADN/IMDG-Code: 5 L
Classification code according to ADR/RID/ADN: FC
Hazard identification number according to ADR/RID: 38
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

not applicable

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


<table>
<thead>
<tr>
<th>Hazard category</th>
<th>Qualifying quantity (tonnes) (lower-tier establishment)</th>
<th>Qualifying quantity (tonnes) (upper-tier establishment)</th>
</tr>
</thead>
<tbody>
<tr>
<td>P5c FLAMMABLE LIQUIDS</td>
<td>5.000</td>
<td>50.000</td>
</tr>
<tr>
<td>E1 ENVIRONMENTAL HAZARDS</td>
<td>100</td>
<td>200</td>
</tr>
</tbody>
</table>

DIRECTIVE 2010/75/EU on industrial emissions (integrated pollution prevention and control)
not applicable

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.

15.2. Chemical safety assessment

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

SECTION 16: Other information


Note: This is the previous classification; products with this classification can still be in the supply chain or on the market and are allowed to be sold until 01.06.2017.

Corrosive; C; R34
Harmful; Xn; R22-48/22

Full text of R-phrases: see under SECTION 16.3.
16.2. Label elements in accordance with Directive 1999/45/EC

Note: This is the previous labelling; products with this labelling can still be in the supply chain or on the market and are allowed to be sold until 01.06.2017.

Danger symbols:

Indications of danger: Corrosive

Hazard components for labelling: Laurylpropylenediamine, Dodecyldipropylentriamine

R-phrases:
- R22 Harmful if swallowed.
- R34 Causes burns.
- R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.

S-phrases:
- S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S28 After contact with skin, wash immediately with water and soap.
- S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
- S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Special labelling of certain preparations (Directive 1999/45/EC Annex V):
Contains piperazine. May produce an allergic reaction.

16.3. Full text of code letters, hazard classes, R- and H-phrases

Code letters and categories of danger
- C Corrosive
- F Highly flammable
- N Dangerous for the environment
- Repr. Cat. 3 Toxic for reproduction category 3
- T Toxic
- Xi Irritant
- Xn Harmful

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

R-phrases (Indications concerning special risks)
- R11 Highly flammable.
- R20 Harmful by inhalation.
- R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
- R22 Harmful if swallowed.
- R34 Causes burns.
R35  Causes severe burns.
R36  Irritating to eyes.
R42/43  May cause sensitization by inhalation and skin contact.
R48/22  Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R48/25  Toxic: danger of serious damage to health by prolonged exposure if swallowed.
R50  Very toxic to aquatic organisms.
R50/53  Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R62  Possible risk of impaired fertility.
R63  Possible risk of harm to the unborn child.
R67  Vapours may cause drowsiness and dizziness.

H-phrases (Hazard statements)

H225  Highly flammable liquid and vapour.
H226  Flammable liquid and vapour.
H301  Toxic if swallowed.
H302  Harmful if swallowed.
H312  Harmful in contact with skin.
H314  Causes severe skin burns and eye damage.
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.

16.4. Abbreviations and acronyms

ADN  Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR  Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
BGR  Berufsgenossenschaftliche Regeln (English: Employers’ liability insurance association rules)
BS  British Standards
CAS  Chemical Abstracts Service
CLP  Regulation on Classification, Labelling and Packaging of Substances and Mixtures
[DE]  National German regulations
DGUV  Deutsche Gesetzliche Unfallversicherung (English: German statutory accident insurance)
EC  European Community
EEC  European Economic Community
EmS  Emergency Schedules (Emergency response procedures for ships carrying dangerous goods)
EN  European Standard
EU  European Union
EWC  European Waste Catalogue
GHS  Globally Harmonized System of Classification, Labelling and Packaging of Chemicals
GMBI  Gemeinsames Ministerialblatt (English: Joint Ministerial Gazette)
IATA-DGR  International Air Transport Association - Dangerous Goods Regulations
IBC-Code  International Code for the Construction and Equipment of Ships carrying Dangerous
           Chemicals in Bulk
ICAO-TI  Technical Instructions For The Safe Transport of Dangerous Goods by Air
IMDG-Code  International Maritime Code for Dangerous Goods
LC₅₀  Median lethal concentration
LD₅₀  Median lethal dose
LGK  Lagerklasse (English: Storage class)
MARPOL  International Convention for the Prevention of Marine Pollution from Ships
N.O.S.  Not otherwise specified
NOAEL  No Observed Adverse Effect Level (dose at which no adverse effect is found)
OECD  Organization for Economic Co-operation and Development
PBT  Persistent, bioaccumulative and toxic
ppm  Parts per million
QAC  Quaternary ammonium compounds
REACH  Registration, Evaluation, Authorisation and Restriction of Chemicals
RID  Règlement concernant le transport International ferroviaire de marchandises Dangereuses
      (Regulations Concerning the International Carriage of Dangerous Goods by Rail)
TRGS  Technische Regeln für Gefahrstoffe (English: Technical Rules for Hazardous Substances)
UN  United Nations
UTC  Coordinated Universal Time (French: Temps Universel Coordonné)
vPvB  Very persistent and very bioaccumulative

16.5. 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 2.1
- GISBAU (Hazardous substances information system of the BG BAU) – course „safety data sheet“;
  http://www.bgbau.de/gisbau/SDB/lehrgang/lehrgang.htm
- Regulation (EC) No 1272/2008 (CLP regulation)
- European Chemicals Agency (ECHA) – Guidance on Labelling and Packaging in accordance with
- European Chemicals Agency (ECHA), Registered substances;
  http://echa.europa.eu/information-on-chemicals/registered-substances
- European Chemicals Agency (ECHA), C&L Classification and Labelling Inventory;
- 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;
  http://www.dguv.de/dguv/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); http://webriogletto.uba.de/rigoletto

16.6. Training advice
Provide adequate information, instructions and training for users.

16.7. Indication of changes
A backslash in the left hand margin indicates an amendment from the previous version.
The information given in the safety data sheet only apply to the described product in connection with its intended use. These information are based on the latest state of our knowledge at the time of revision. In particular, they describe our product under the aspect of its hazards and safety measures to be taken. They do not constitute any guarantee of product properties and quality features.