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

1.1 Product identifier

X-IN-1 MULTI FOAM CLEANER 500 ml
Art.: 369938

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

Relevant identified uses of the substance or mixture:
Cleaner

Uses advised against:
No information available at present.

1.3 Details of the supplier of the safety data sheet

Berner Produkten b.v., Vogelzankweg 175, 6374 AC Landgraaf, Netherlands
Phone:+31 45 53 39 133, Fax:+31 45 53 14 588
info@berner.nl, www.berner.nl

Details of the supplier of the safety data sheet see section 16 of this safety data sheet.

Qualified person's e-mail address: Productsafty.Chemicals@berner-group.com Please DO NOT use for requesting Safety Data Sheets.

1.4 Emergency telephone number

Emergency information services / official advisory body:
---

Telephone number of the company in case of emergencies:
+49 (0) 221 80260 889 (09:00 – 17:00)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) 1272/2008 (CLP)
Hazard class | Hazard category | Hazard statement
--- | --- | ---
Eye Irrit. | 2 | H319-Causes serious eye irritation.
Aerosol | 1 | H222-Extremely flammable aerosol.
Aerosol | 1 | H229-Pressurised container: May burst if heated.

2.2 Label elements
Labeling according to Regulation (EC) 1272/2008 (CLP)

- H319-Causes serious eye irritation.
- H222-Extremely flammable aerosol.
- H229-Pressurised container: May burst if heated.

Without adequate ventilation, formation of explosive mixtures may be possible.

2.3 Other hazards
The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).
The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

SECTION 3: Composition/information on ingredients

Aerosol
3.1 Substance
n.a.
3.2 Mixture

<table>
<thead>
<tr>
<th>Propan-2-ol</th>
<th>01-2119457558-25-XXXX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration number (REACH)</td>
<td>01-2119457558-25-XXXX</td>
</tr>
<tr>
<td>Index</td>
<td>603-117-00-0</td>
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</table>
### Classification according to Regulation (EC) 1272/2008 (CLP)

<table>
<thead>
<tr>
<th>Substance</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-butoxyethanol</td>
<td>Flam. Liq. 2, H225, Eye Irrit. 2, H319, STOT SE 3, H336</td>
</tr>
<tr>
<td>Morpholine</td>
<td>Acute Tox. 4, H302, Eye Irrit. 2, H319, Skin Irrit. 2, H315, Acute Tox. 4, H312, Acute Tox. 4, H332</td>
</tr>
</tbody>
</table>

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16. The substances named in this section are given with their actual, appropriate classification! For substances that are listed in appendix VI, table 3.1 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

First-aiders should ensure they are protected! Never pour anything into the mouth of an unconscious person!

**Inhalation**

Remove person from danger area. Supply person with fresh air and consult doctor according to symptoms.

**Skin contact**

Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.
Eye contact
Remove contact lenses.
Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

Ingestion
Typically no exposure pathway.
Rinse the mouth thoroughly with water.
Give copious water to drink - consult doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed
If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.
In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.

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

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media
Water jet spray / alcohol resistant foam / CO2 / dry extinguisher.

Unsuitable extinguishing media
High volume water jet

5.2 Special hazards arising from the substance or mixture
In case of fire the following can develop:
Oxides of carbon
Toxic gases
Danger of bursting (explosion) when heated
Explosive vapour/air or gas/air mixtures.

5.3 Advice for firefighters
In case of fire and/or explosion do not breathe fumes.
Protective respirator with independent air supply.
According to size of fire
Full protection, if necessary.
Cool container at risk with water.
Dispose of contaminated extinction water according to official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Remove possible causes of ignition - do not smoke.
Ensure sufficient supply of air.
Avoid contact with eyes or skin.
If applicable, caution - risk of slipping.

6.2 Environmental precautions
Prevent penetration into drains, cellars, working pits or other places in which accumulation could be hazardous.
Prevent surface and ground-water infiltration, as well as ground penetration.
If accidental entry into drainage system occurs, inform responsible authorities.
6.3 Methods and material for containment and cleaning up
If spray or gas escapes, ensure ample fresh air is available.
Without adequate ventilation, formation of explosive mixtures may be possible.
Active substance:
Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth) and dispose of according to Section 13.

6.4 Reference to other sections
For personal protective equipment see Section 8 and for disposal instructions see Section 13.

SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

7.1 Precautions for safe handling

7.1.1 General recommendations
Ensure good ventilation.
Avoid contact with eyes or skin.
Keep away from sources of ignition - Do not smoke.
Take measures against electrostatic charging, if appropriate.
Do not use on hot surfaces.
Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.
Observe directions on label and instructions for use.
Use working methods according to operating instructions.

7.1.2 Notes on general hygiene measures at the workplace
General hygiene measures for the handling of chemicals are applicable.
Wash hands before breaks and at end of work.
Keep away from food, drink and animal feedingstuffs.
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

7.2 Conditions for safe storage, including any incompatibilities
Keep out of access to unauthorised individuals.
Not to be stored in gangways or stair wells.
Store product closed and only in original packing.
Observe special regulations for aerosols!
Observe special storage conditions.
Do not store with flammable or self-igniting materials.
Keep protected from direct sunlight and temperatures over 50°C.
Store in a well-ventilated place.
Store cool.

7.3 Specific end use(s)
No information available at present.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Propan-2-ol</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEL-TWA:</td>
<td>400 ppm (999 mg/m3)</td>
<td>---</td>
</tr>
<tr>
<td>WEL-STEL:</td>
<td>500 ppm (1250 mg/m3)</td>
<td>---</td>
</tr>
<tr>
<td>Monitoring procedures:</td>
<td>- Compur - KITA-122 SA(C) (549 277)</td>
<td>---</td>
</tr>
</tbody>
</table>
Chemical Name | 2-butoxyethanol | Content %: 1-<5
--- | --- | ---
WEL-TWA: 25 ppm (123 mg/m^3) (WEL, EU) | WEL-STEL: 50 ppm (246 mg/m^3) (WEL, EU) | ---

Monitoring procedures: - Compur - KITA-190 U(C) (548 873)
                      - DFG (D) (Loesungsmittelgemische 3), DFG (E) (Solvent mixtures 3) - 1998, 2002 - EU project BC/CEN/ENTR/000/2002-16 card
                      - DFG (D) (Loesungsmittelgemische 6) - 1998, 2002 - EU project BC/CEN/ENTR/000/2002-16 card

BMGV: 240 mmol butoxyacetic acid/mol creatinine in urine, post shift (BMGV)

Chemical Name | Morpholine | Content %: 0,1-<1
--- | --- | ---
WEL-TWA: 10 ppm (36 mg/m^3) (WEL, EU) | WEL-STEL: 20 ppm (72 mg/m^3) (WEL, EU) | ---

Monitoring procedures: ---

BMGV: ---

Chemical Name | Butane | Content %:
--- | --- | ---
WEL-TWA: 600 ppm (1450 mg/m^3) | WEL-STEL: 750 ppm (1810 mg/m^3) | ---

Monitoring procedures: - Compur - KITA-221 SA (549 459)

BMGV: ---

**Propan-2-ol**

<table>
<thead>
<tr>
<th>Area of application</th>
<th>Exposure route / Environmental compartment</th>
<th>Effect on health</th>
<th>Descrip tor</th>
<th>Value</th>
<th>Unit</th>
<th>Note</th>
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<tbody>
<tr>
<td>Environment</td>
<td>dermal Long term</td>
<td>DNEL</td>
<td>319</td>
<td>mg/kg</td>
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<td>(1 d)</td>
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<td>Consumer</td>
<td>inhalation Long term</td>
<td>DNEL</td>
<td>89</td>
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<tr>
<td>Area of application</td>
<td>Exposure route / Environmental compartment</td>
<td>Effect on health</td>
<td>Descriptor</td>
<td>Value</td>
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<td>Note</td>
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</tr>
<tr>
<td>Environment - freshwater</td>
<td>PNEC</td>
<td>8,8</td>
<td>mg/l</td>
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<td>mg/kg dw</td>
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<td>Environment - sewage treatment plant</td>
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<td>Environment - oral (animal feed)</td>
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<td>20</td>
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</tr>
</tbody>
</table>

| Consumer | Human - dermal | Short term, systemic effects | DNEL | 44,5 | mg/kg bw/d | |
| Consumer | Human - inhalation | Short term, systemic effects | DNEL | 426 | mg/m³ | |
| Consumer | Human - oral | Short term, systemic effects | DNEL | 13,4 | mg/kg bw/d | |
| Consumer | Human - inhalation | Short term, local effects | DNEL | 123 | mg/m³ | |
| Consumer | Human - dermal | Long term, systemic effects | DNEL | 38 | mg/kg bw/d | |
| Consumer | Human - inhalation | Long term, systemic effects | DNEL | 49 | mg/m³ | |
| Consumer | Human - oral | Long term, systemic effects | DNEL | 3,2 | mg/kg bw/d | |
| Workers / employees | Human - dermal | Short term, systemic effects | DNEL | 89 | mg/kg bw/d | |
| Workers / employees | Human - inhalation | Short term, systemic effects | DNEL | 663 | mg/m³ | |
| Workers / employees | Human - inhalation | Short term, local effects | DNEL | 246 | mg/m³ | |
| Workers / employees | Human - dermal | Long term, systemic effects | DNEL | 75 | mg/kg bw/d | |
| Workers / employees | Human - inhalation | Long term, systemic effects | DNEL | 98 | mg/m³ | |

2-butoxyethanol

Consumer Human - oral Long term DNEL 26 mg/kg (1 d)
Workers / employees Human - dermal Long term DNEL 888 mg/kg (1 d)
Workers / employees Human - inhalation Long term DNEL 500 mg/m³
8.2 Exposure controls

8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction. If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.

Applies only if maximum permissible exposure values are listed here.
Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques. These are specified by e.g. BS EN 14042.

BS EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.
Wash hands before breaks and at end of work.
Keep away from food, drink and animal feedingstuffs.
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:
Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:
Chemical resistant protective gloves (EN 374).
Recommended
Protective gloves in butyl rubber (EN 374).
Minimum layer thickness in mm:
0,5
Safety gloves made of fluorocarbon rubber (EN 374).
Protective nitrile gloves (EN 374).
Minimum layer thickness in mm:
0,4
Permeation time (penetration time) in minutes:
480
The breakthrough times determined in accordance with EN 16523-1 were not obtained under practical conditions.
The recommended maximum wearing time is 50% of breakthrough time.
Protective hand cream recommended.

Skin protection - Other:
Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

Respiratory protection:
If OES or MEL is exceeded.
Filter A2 P2 (EN 14387), code colour brown, white
Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:
Not applicable

Additional information on hand protection - No tests have been performed.
In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.
Selection of materials derived from glove manufacturer's indications.
Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.
Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.
In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.
The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

**8.2.3 Environmental exposure controls**
No information available at present.

### SECTION 9: Physical and chemical properties

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

Colour: Colourless
Odour: Characteristic
Odour threshold: Not determined
pH-value: 10 (100 %)
Melting point/freezing point: Not determined
Initial boiling point and boiling range: Not determined
Flash point: Not determined
Evaporation rate: Not determined
Flammability (solid, gas): Not determined
Lower explosive limit: Not determined
Upper explosive limit: Not determined
Vapour pressure: Not determined
Vapour density (air = 1): Not determined
Density: 0,913 g/cm³
Bulk density: n.a.
Solubility(ies): Not determined
Water solubility: Soluble
Partition coefficient (n-octanol/water): Not determined
Auto-ignition temperature: Not determined
Decomposition temperature: Not determined
Viscosity: Not determined
Explosive properties: When using: development of explosive vapour/air mixture possible.

**Oxidising properties:**

**Miscibility:** Not determined
Fat solubility / solvent: Not determined
Conductivity: Not determined
Surface tension: Not determined
Solvents content: Not determined

### SECTION 10: Stability and reactivity

**10.1 Reactivity**
The product has not been tested.

**10.2 Chemical stability**
Stable with proper storage and handling.

**10.3 Possibility of hazardous reactions**
No dangerous reactions are known.

**10.4 Conditions to avoid**
Heating, open flame, ignition sources  
Pressure increase will result in danger of bursting.

### 10.5 Incompatible materials
Avoid contact with strong oxidizing agents.

### 10.6 Hazardous decomposition products
No decomposition when used as directed.

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects
Possibly more information on health effects, see Section 2.1 (classification).

**X-IN-1 MULTI FOAM CLEANER 500 ml**
Art.: 369938

<table>
<thead>
<tr>
<th>Toxicity / effect</th>
<th>Endpoint</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
<th>Test method</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Acute toxicity, by oral route:</td>
<td>ATE</td>
<td>&gt;2000</td>
<td>mg/kg</td>
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<td>calculated value</td>
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<tr>
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<td>ATE</td>
<td>&gt;2000</td>
<td>mg/kg</td>
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<td>calculated value</td>
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<tr>
<td>Acute toxicity, by inhalation:</td>
<td>ATE</td>
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<td>calculated value, Vapours</td>
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<td>Acute toxicity, by inhalation:</td>
<td>ATE</td>
<td>&gt;5</td>
<td>mg/l/4</td>
<td></td>
<td>calculated value, Aerosol, Mist</td>
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<tr>
<td>Skin corrosion/irritation:</td>
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<td>n.d.a.</td>
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<tr>
<td>Serious eye damage/irritation:</td>
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<td></td>
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<td>n.d.a.</td>
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<tr>
<td>Respiratory or skin sensitisation:</td>
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<td></td>
<td></td>
<td>n.d.a.</td>
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<tr>
<td>Germ cell mutagenicity:</td>
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<td></td>
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<td>n.d.a.</td>
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<tr>
<td>Carcinogenicity:</td>
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<td></td>
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<td>n.d.a.</td>
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<td>Reproductive toxicity:</td>
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<td>Aspiration hazard:</td>
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<td>Symptoms:</td>
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<td></td>
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<td>n.d.a.</td>
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</table>

**Propan-2-ol**

<table>
<thead>
<tr>
<th>Toxicity / effect</th>
<th>Endpoint</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
<th>Test method</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity, by oral route:</td>
<td>LD50</td>
<td>4570-5840</td>
<td>mg/kg</td>
<td>Rat</td>
<td>OECD 401 (Acute Oral Toxicity)</td>
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<tr>
<td>Acute toxicity, by dermal route:</td>
<td>LD50</td>
<td>13900</td>
<td>mg/kg</td>
<td>Rabbit</td>
<td>OECD 402 (Acute Dermal Toxicity)</td>
<td></td>
</tr>
</tbody>
</table>
## 2-butoxyethanol

<table>
<thead>
<tr>
<th>Toxicity / effect</th>
<th>Endpoint</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
<th>Test method</th>
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<td>1746</td>
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<td>Route</td>
<td>Animal</td>
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<td>Acute toxicity, by oral route:</td>
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<td>1300 mg/kg</td>
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<td>1060 mg/kg</td>
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<td>2275 mg/kg</td>
<td>Rabbit</td>
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<td>Does not conform with EU classification</td>
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<td>Acute toxicity, by inhalation:</td>
<td>LC50</td>
<td>2-20 mg/l</td>
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<td>Skin corrosion/irritation:</td>
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<td>Rabbit</td>
<td>Regulation (EC) 440/2008 B.4 (DERMAL IRRITATION/CORROSION)</td>
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<td>Skin Irrit. 2, Product removes fat.</td>
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<td>Serious eye damage/irritation:</td>
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<td>OECD 405 (Acute Eye Irritation/Corrosion)</td>
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<td>Eye Irrit. 2</td>
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<td></td>
<td>Rat</td>
<td>OECD 451 (Carcinogenicity Studies)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Negative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carcinogenicity:</td>
<td>NOAEC</td>
<td>125 ppm</td>
<td>Mouse</td>
<td>OECD 451 (Carcinogenicity Studies)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Negative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aspiration hazard:</td>
<td></td>
<td></td>
<td></td>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Symptoms:
<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Specific target organ toxicity - repeated exposure (STOT-RE), oral:
<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>&lt;69</td>
<td>mg/kg bw/d</td>
<td>Rat</td>
<td>OECD 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)</td>
</tr>
</tbody>
</table>

### Specific target organ toxicity - repeated exposure (STOT-RE), dermal:
<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>&gt;150</td>
<td>mg/kg bw/d</td>
<td>Rabbit</td>
<td>OECD 411 (Subchronic Dermal Toxicity - 90-day Study)</td>
</tr>
</tbody>
</table>

### Butane

<table>
<thead>
<tr>
<th>Toxicity / effect</th>
<th>Endpoint</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
<th>Test method</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity, by inhalation:</td>
<td>LCS0</td>
<td>658</td>
<td>mg/l/4 h</td>
<td>Rat</td>
<td>OECD 471 (Bacterial Reverse Mutation Test)</td>
<td>Negative</td>
</tr>
<tr>
<td>Germ cell mutagenicity:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aspiration hazard:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No</td>
</tr>
</tbody>
</table>
Symptoms: ataxia, breathing difficulties, drowsiness, unconsciousness, frostbite, disturbed heart rhythm, headaches, cramps, intoxication, dizziness, nausea and vomiting.

SECTION 12: Ecological information

Possibly more information on environmental effects, see Section 2.1 (classification).

<table>
<thead>
<tr>
<th>Toxicity / effect</th>
<th>Endpoint</th>
<th>Time</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
<th>Test method</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2. Persistence and degradability:</td>
<td>The surfactant(s) contained in this mixture complies with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.5. Results of PBT and vPvB assessment</td>
<td>n.d.a.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.6. Other adverse effects:</td>
<td>n.d.a.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other information:</td>
<td>AOX</td>
<td>0</td>
<td>%</td>
<td>Does not contain any organically bound halogens which can contribute to the AOX value in waste water.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Other information: | DOC-elimination degree(comp lexing organic substance)\(^{>}=\) 80%/28d: No |

### Propan-2-ol

<table>
<thead>
<tr>
<th>Toxicity / effect</th>
<th>Endpoint</th>
<th>Time</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
<th>Test method</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.1. Toxicity to fish:</td>
<td>LC50</td>
<td>96h</td>
<td>(&gt;100) mg/l</td>
<td>Leuciscus idus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.1. Toxicity to daphnia:</td>
<td>EC50</td>
<td>48h</td>
<td>2285 mg/l</td>
<td>Daphnia magna</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.1. Toxicity to fish:</td>
<td>LC50</td>
<td>96h</td>
<td>1400 mg/l</td>
<td>Lepomis macrochirus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.1. Toxicity to algae:</td>
<td>EC50</td>
<td>72h</td>
<td>(&gt;100) mg/l</td>
<td>Desmodesmus subspicatus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.2. Persistence and degradability:</td>
<td>21d</td>
<td>95</td>
<td>%</td>
<td>OECD 301 E (Ready Biodegradability - Modified OECD Screening Test)</td>
<td>Readily biodegradable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.2. Persistence and degradability:</td>
<td></td>
<td></td>
<td>99,9</td>
<td>%</td>
<td>OECD 303 A (Simulation Test - Aerobic Sewage Treatment - Activated Sludge Units)</td>
<td>Readily biodegradable</td>
<td></td>
</tr>
<tr>
<td>12.3. Bioaccumulative potential:</td>
<td>Log Pow</td>
<td>0,05</td>
<td></td>
<td>OECD 107 (Partition Coefficient (n-octanol/water) - Shake Flask Method)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
12.5. Results of PBT and vPvB assessment

<table>
<thead>
<tr>
<th>12.4. Mobility in soil:</th>
<th>Koc</th>
<th>1.1</th>
<th>No PBT substance, No vPvB substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to bacteria:</td>
<td>EC50</td>
<td>&gt;100 mg/l</td>
<td>activated sludge</td>
</tr>
<tr>
<td>Other information:</td>
<td>ThOD</td>
<td>2,4 g/g</td>
<td></td>
</tr>
<tr>
<td>Other information:</td>
<td>BOD5</td>
<td>53 %</td>
<td></td>
</tr>
<tr>
<td>Other information:</td>
<td>COD</td>
<td>96 %</td>
<td></td>
</tr>
<tr>
<td>Other information:</td>
<td>COD</td>
<td>2,4 g/g</td>
<td></td>
</tr>
<tr>
<td>Other information:</td>
<td>BOD</td>
<td>1171 mg/g</td>
<td></td>
</tr>
</tbody>
</table>

### 2-butoxyethanol

<table>
<thead>
<tr>
<th>Toxicity / effect</th>
<th>Endpoint</th>
<th>Time</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
<th>Test method</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.1. Toxicity to fish:</td>
<td>LC50</td>
<td>96h</td>
<td>1474</td>
<td>mg/l</td>
<td>Oncorhynchus mykiss</td>
<td>OECD 203 (Fish, Acute Toxicity Test)</td>
<td></td>
</tr>
<tr>
<td>12.1. Toxicity to fish:</td>
<td>NOEC/NOE L</td>
<td>21d</td>
<td>&gt;100 mg/l</td>
<td>Brachydanio rerio</td>
<td>OECD 204 (Fish, Prolonged Toxicity Test - 14-Day Study)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.1. Toxicity to daphnia:</td>
<td>EC50</td>
<td>48h</td>
<td>1550</td>
<td>mg/l</td>
<td>Daphnia magna</td>
<td>OECD 202 (Daphnia sp. Acute Immobilisatio n Test)</td>
<td></td>
</tr>
<tr>
<td>12.1. Toxicity to daphnia:</td>
<td>NOEC/NOE L</td>
<td>21d</td>
<td>100 mg/l</td>
<td>Daphnia magna</td>
<td>OECD 211 (Daphnia magna Reproduction Test)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.1. Toxicity to algae:</td>
<td>EC50</td>
<td>72h</td>
<td>1840</td>
<td>mg/l</td>
<td>Pseudokirchneriella subcapitata</td>
<td>OECD 201 (Alga, Growth Inhibition Test)</td>
<td></td>
</tr>
<tr>
<td>12.1. Toxicity to algae:</td>
<td>NOEC/NOE L</td>
<td>72h</td>
<td>286 mg/l</td>
<td>Pseudokirchneriella subcapitata</td>
<td>OECD 201 (Alga, Growth Inhibition Test)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.2. Persistence and degradability:</td>
<td>28d</td>
<td>95 %</td>
<td>OECD 301 E (Ready Biodegradability - Modified OECD Screening Test)</td>
<td>Readily biodegradable</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 12.2. Persistence and degradability:

<table>
<thead>
<tr>
<th>Time</th>
<th>% Degradation</th>
<th>OECD Test</th>
<th>Readily biodegradable</th>
</tr>
</thead>
<tbody>
<tr>
<td>28d</td>
<td>&gt;99</td>
<td>OECD 302 B (Inherent Biodegradability - Zahn-Wellens/EMPA Test)</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### 12.3. Bioaccumulative potential:

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCF</td>
<td>3,2</td>
</tr>
<tr>
<td>Log Pow</td>
<td>0,83</td>
</tr>
</tbody>
</table>

### 12.4. Mobility in soil:

<table>
<thead>
<tr>
<th>H (Henry)</th>
<th>atm*m 3/mol</th>
</tr>
</thead>
<tbody>
<tr>
<td>0,000 0016</td>
<td></td>
</tr>
</tbody>
</table>

### 12.5. Results of PBT and vPvB assessment

- **No PBT substance, No vPvB substance**

#### Toxicity to bacteria:

<table>
<thead>
<tr>
<th>Time</th>
<th>Value</th>
<th>Organism</th>
<th>Test method</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>16h</td>
<td>700 mg/l</td>
<td>Pseudomonas putida</td>
<td>DIN 38412 T.8</td>
<td></td>
</tr>
</tbody>
</table>

#### Butane

<table>
<thead>
<tr>
<th>Toxicity / effect</th>
<th>Endpoint</th>
<th>Time</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
<th>Test method</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.1. Toxicity to fish:</td>
<td>LC50</td>
<td>96h</td>
<td>24,11</td>
<td>mg/l</td>
<td>Q SAR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.1. Toxicity to daphnia:</td>
<td>LC50</td>
<td>48h</td>
<td>14,22</td>
<td>mg/l</td>
<td>Q SAR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.3. Bioaccumulative potential:</td>
<td>Log Pow</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,98</td>
<td>A notable biological accumulation potential is not to be expected (LogPow 1-3).</td>
</tr>
<tr>
<td>12.5. Results of PBT and vPvB assessment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No PBT substance, No vPvB substance</td>
</tr>
</tbody>
</table>

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

For the substance / mixture / residual amounts

EC disposal code no.:
The waste codes are recommendations based on the scheduled use of this product. Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)

16 05 04 gases in pressure containers (including halons) containing hazardous substances
20 01 29 detergents containing hazardous substances
Recommendation:
Sewage disposal shall be discouraged.
Pay attention to local and national official regulations.
Take full aerosol cans to problem waste collection.
Take emptied aerosol cans to valuable material collection.

For contaminated packing material
Pay attention to local and national official regulations.
Recommendation:
Do not perforate, cut up or weld uncleaned container.
Recycling
15 01 04 metallic packaging

SECTION 14: Transport information

General statements
14.1. UN number: 1950

Transport by road/by rail (ADR/RID)
14.2. UN proper shipping name:
UN 1950  AEROSOLS
14.3. Transport hazard class(es): 2.1
14.4. Packing group: -
Classification code: 5F
LQ: 1 L
14.5. Environmental hazards: Not applicable
Tunnel restriction code: D

Transport by sea (IMDG-code)
14.2. UN proper shipping name:
AEROSOLS
14.3. Transport hazard class(es): 2.1
14.4. Packing group: -
EmS: F-D, S-U
Marine Pollutant: n.a
14.5. Environmental hazards: Not applicable

Transport by air (IATA)
14.2. UN proper shipping name:
Aerosols, flammable
14.3. Transport hazard class(es): 2.1
14.4. Packing group: -
14.5. Environmental hazards: Not applicable

14.6. Special precautions for user
Persons employed in transporting dangerous goods must be trained.
All persons involved in transporting must observe safety regulations.
Precautions must be taken to prevent damage.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code
Freighted as packaged goods rather than in bulk, therefore not applicable.
Minimum amount regulations have not been taken into account.
Danger code and packing code on request.
Comply with special provisions.
SECTION 15: Regulatory information

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

Observe restrictions:
Comply with national regulations/laws governing maternity protection (national implementation of the Directive 92/85/EEC)!
Comply with trade association/occupational health regulations.

Directive 2012/18/EU ("Seveso III"), Annex I, Part 1 - The following categories apply to this product (others may also need to be considered according to storage, handling etc.):

<table>
<thead>
<tr>
<th>Hazard categories</th>
<th>Notes to Annex I</th>
<th>Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of Lower-tier requirements</th>
<th>Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of Upper-tier requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>P3a</td>
<td>11.1</td>
<td>150 (netto)</td>
<td>500 (netto)</td>
</tr>
</tbody>
</table>

The Notes to Annex 1 of Directive 2012/18/EU, in particular those named in the tables here and notes 1-6, must be taken into account when assigning categories and qualifying quantities.

Directive 2010/75/EU (VOC): 21,2 %
REGULATION (EC) No 648/2004
5 % or over but less than 15 %
aliphatic hydrocarbons
less than 5 %
anionic surfactants

perfumes

Observe incident regulations.

15.2 Chemical safety assessment
A chemical safety assessment is not provided for mixtures.

SECTION 16: Other information

Revised sections: 8
Employee training in handling dangerous goods is required.
These details refer to the product as it is delivered.
Employee instruction/training in handling hazardous materials is required.

Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):
**Classification in accordance with regulation (EC) No. 1272/2008 (CLP)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Irrit. 2, H319</td>
<td>Classification according to calculation procedure.</td>
</tr>
<tr>
<td>Aerosol 1, H222</td>
<td>Classification according to calculation procedure.</td>
</tr>
<tr>
<td>Aerosol 1, H229</td>
<td>Classification based on the form or physical state.</td>
</tr>
</tbody>
</table>

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3):

- **H225** Highly flammable liquid and vapour.
- **H226** Flammable liquid and vapour.
- **H302** Harmful if swallowed.
- **H311** Toxic in contact with skin.
- **H312** Harmful in contact with skin.
- **H314** Causes severe skin burns and eye damage.
- **H315** Causes skin irritation.
- **H318** Causes serious eye damage.
- **H319** Causes serious eye irritation.
- **H331** Toxic if inhaled.
- **H332** Harmful if inhaled.
- **H336** May cause drowsiness or dizziness.

**Eye Irrit. — Eye irritation**
Aerosol — Aerosols
Flam. Liq. — Flammable liquid
STOT SE — Specific target organ toxicity - single exposure - narcotic effects
Acute Tox. — Acute toxicity - oral
Skin Irrit. — Skin irritation
Acute Tox. — Acute toxicity - dermal
Acute Tox. — Acute toxicity - inhalation
Skin Corr. — Skin corrosion
Eye Dam. — Serious eye damage
Any abbreviations and acronyms used in this document:

acc., acc. to according, according to
ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)
AOX Adsorbable organic halogen compounds
approx. approximately
Art., Art. no. Article number
ASTM ASTM International (American Society for Testing and Materials)
BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)
BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)
BSEF The International Bromine Council
bw body weight
CAS Chemical Abstracts Service
CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)
CMR carcinogenic, mutagenic, reproductive toxic
DMEL Derived Minimum Effect Level
DNEL Derived No Effect Level
dw dry weight
e.g. for example (abbreviation of Latin 'exempli gratia'), for instance
EC European Community
ECHA European Chemicals Agency
EEC European Economic Community
EINECS European Inventory of Existing Commercial Chemical Substances
ELINCS European List of Notified Chemical Substances
The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge. No responsibility.