1 Identification of substance

- Product details
  - Trade name: Lanadol ABAC
  - Article number: 2260
  - Application of the substance / the preparation
    Disinfectant for outerwear, nursing home ware, protective clothing, and breathing masks. Disinfectant for the rinsing zone in continuous batch washers.
  - Manufacturer/Supplier:
    Chemische Fabrik Kreussler & Co. GmbH
    Postfach 120454
    D-65082 Wiesbaden
  - Information department:
    Abteilung TQM
    Herr Vogel
    +49 (0) 611 9271-175
    Stefan.Kopp@kreussler.com
  - Emergency information: +49 (0) 611 9271-0

2 Composition/Data on components

- Chemical characterization
  - Description: Mixture of the substances listed below with nonhazardous additions.

- Dangerous components:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>63449-41-2</td>
<td>quaternary ammonium compounds, benzyl-C8-18-alkyldimethyl, chlorides C, Xn, N; R 21/22-34-50</td>
<td>15-30%</td>
</tr>
<tr>
<td>112-34-5</td>
<td>2-(2-butoxyethoxy)ethanol Xi; R 36</td>
<td>5.0-15%</td>
</tr>
<tr>
<td>61789-77-3</td>
<td>Quaternary ammonium compounds, dicocoalkyldimethyl, chlorides C, Xn, N; R 22-34-50/53-67</td>
<td>1.0-5.0%</td>
</tr>
<tr>
<td>27083-27-8</td>
<td>Poly (1-hexamethylenebiguanide) hydrochloride Xn, Xi, N; R 22-38-41-43-50/53</td>
<td>1.0-5.0%</td>
</tr>
<tr>
<td>157627-86-6</td>
<td>Alcohols C13-C15 branched and linear, ethoxylated Xn, Xi, N; R 22-41-50</td>
<td>1.0-5.0%</td>
</tr>
<tr>
<td>77-92-9</td>
<td>citric acid Xi; R 36</td>
<td>≤1%</td>
</tr>
<tr>
<td>2634-33-5</td>
<td>1,2-benzisothiazol-3(2H)-one Xn, Xi, N; R 22-38-41-43-50</td>
<td>≤1%</td>
</tr>
<tr>
<td>2682-20-4</td>
<td>2-methyl-2H-isothiazol-3-one T, C; R 24/25-34-43</td>
<td>≤1%</td>
</tr>
</tbody>
</table>

- Ingredients according to detergent regulation EC 648/2004
  - cationic surfactants 15 - 30%
  - non-ionic surfactants, BENZISOTHIAZOLINONE, METHYLISOTHIAZOLINONE < 5%

- Additional information: For the wording of the listed risk phrases refer to section 16.

3 Hazards identification

- Hazard description:
  - C Corrosive
  - N Dangerous for the environment

- Information pertaining to particular dangers for man and environment:
  The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
  - R 22 Harmful if swallowed.
  - R 34 Causes burns.
  - R 43 May cause sensitisation by skin contact.
Trade name: Lanadol ABAC

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

- **Classification system:**
  - The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- **NFPA ratings (scale 0 - 4)**

  Health = 3  
  Fire = 0  
  Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**

  Health = 3  
  Fire = 0  
  Reactivity = 0

4 First aid measures

- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Do not induce vomiting; immediately call for medical help.

5 Fire fighting measures

- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Person-related safety precautions:** Wear protective equipment. Keep unprotected persons away.
- **Measures for environmental protection:** Dilute with plenty of water.
- **Measures for cleaning/collecting:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

7 Handling and storage

- **Handling:**
  - Information for safe handling: No special measures required.
  - Information about protection against explosions and fires: No special measures required.

- **Storage:**
  - Requirements to be met by storerooms and receptacles: No special requirements.
  - Information about storage in one common storage facility: Not required.
  - Further information about storage conditions: Keep receptacle tightly sealed.

8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

- **Components with limit values that require monitoring at the workplace:**
  - The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Personal protective equipment:**
  - **General protective and hygienic measures:** Keep away from foodstuffs, beverages and feed.

(Contd. on page 3)
Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.

- **Breathing equipment:** Not required.
- **Protection of hands:**
  - **Material of gloves** PVC or PE gloves
  - **For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:** PVC or PE gloves
- **Eye protection:** Tightly sealed goggles

### 9 Physical and chemical properties

<table>
<thead>
<tr>
<th>General Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Form:</strong> Fluid</td>
</tr>
<tr>
<td><strong>Color:</strong> Colorless</td>
</tr>
<tr>
<td><strong>Odor:</strong> Product specific</td>
</tr>
</tbody>
</table>

- **Change in condition**
  - **Melting point/Melting range:** Undetermined.
  - **Boiling point/Boiling range:** Undetermined.

- **Flash point:** Not applicable.

- **Auto igniting:** Product is not selfigniting.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Density at 20°C (68°F):** 0.96 g/cm³

- **Solubility in / Miscibility with Water:** Fully miscible.

- **pH-value at 20°C (68°F):** 4

- **Viscosity:**
  - **Dynamic at 20°C (68°F):** 22 mPas

- **Solvent content:**
  - **Organic solvents:** 10.0 %

### 10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Dangerous reactions** No dangerous reactions known.
- **Dangerous products of decomposition:** No dangerous decomposition products known.
11 Toxicological information

- Acute toxicity:
  - LD/LC50 values that are relevant for classification:
    - 63449-41-2 quaternary ammonium compounds, benzyl-C8-18-alkyldimethyl, chlorides
      - Oral LD-50 240 mg/kg (rat)
      - Dermal LD-50 1560 mg/kg (rat)
    - 27083-27-8 Poly (1-hexamethylenebiguanide) hydrochloride
      - Oral LD-50 >2000 mg/kg (rat)
  - Primary irritant effect:
    - on the skin: Caustic effect on skin and mucous membranes.
    - on the eye: Strong caustic effect.
    - Sensitization: Sensitization possible through skin contact.
  - Additional toxicological information:
    - The product shows the following dangers according to internally approved calculation methods for preparations:
      - Corrosive

12 Ecological information

- Ecotoxic effects:
  - Aquatic toxicity:
    - 27083-27-8 Poly (1-hexamethylenebiguanide) hydrochloride
      - EC-50 48h 0.18-0.45 mg/l (Daphnia magna)
      - LC-50 96h 0.65-0.9 mg/l (Blauer Sonnenbarsch)
      - <1 mg/l (Regenbogenforelle)
  - General notes: The product may not be released into the environment without control.

13 Disposal considerations

- Product:
  - Recommendation: Dispose of in accordance with local, state, and federal Regulations.
- Uncleaned packagings:
  - Recommendation: Packaging can be reused or recycled after cleaning.

14 Transport information

- DOT regulations:
  - Hazard class: 8
  - Identification number: UN3265
  - Packing group: I
  - Proper shipping name (technical name): CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (ALKYLDIMETHYLBENZYLAMMONIUMCHLORID)
  - Label 8
- Land transport ADR/RID (cross-border):
  - ADR/RID class: 8 Corrosive substances
  - Danger code (Kemler): 80
  - UN-Number: 3265
  - Packaging group: II
  - Description of goods: 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (ALKYLDIMETHYLBENZYLAMMONIUMCHLORID)
Trade name: Lanadol ABAC

- Maritime transport IMDG:
  - IMDG Class: 8
  - UN Number: 3265
  - Label: 8
  - Packaging group: II
  - EMS Number: F-A, S-B
  - Marine pollutant: No
  - Proper shipping name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (ALKYLDIMETHYLBENZYLAMMONIUMCHLORID)

- Air transport ICAO-TI and IATA-DGR:
  - ICAO/IATA Class: 8
  - UN/ID Number: 3265
  - Label: 8
  - Packaging group: II
  - Proper shipping name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (ALKYLDIMETHYLBENZYLAMMONIUMCHLORID)

**15 Regulations**

- Sara
  - Section 355 (extremely hazardous substances):
    None of the ingredient is listed.

- Section 313 (Specific toxic chemical listings):
  None of the ingredients is listed.

- TSCA (Toxic Substances Control Act):
  63449-41-2 quaternary ammonium compounds, benzyl-C8-18-alkylidimethyl, chlorides
  112-34-5 2-(2-butoxyethoxy)ethanol
  61789-77-3 Quaternary ammonium compounds, dicocoalkylidimethyl, chlorides
  27083-27-8 Poly (1-hexamethylenebiguanide) hydrochloride
  77-92-9 citric acid
  2634-33-5 1,2-benzisothiazol-3(2H)-one
  2682-20-4 2-methyl-2H-isothiazol-3-one
  9043-30-5 alpha-iso-Tridecyl-omegahydroxy-polyglykolether
  9005-00-9 alpha-Octadecyl-omega-hydroxy-polyglykolether

- Proposition 65
  - Chemicals known to cause cancer:
    None of the ingredients is listed.

- Chemicals known to cause reproductive toxicity for females:
  None of the ingredients is listed.

- Chemicals known to cause reproductive toxicity for males:
  None of the ingredients is listed.

- Chemicals known to cause developmental toxicity:
  None of the ingredients is listed.

- Cancerogenity categories
  - EPA (Environmental Protection Agency)
    None of the ingredients is listed.
  - IARC (International Agency for Research on Cancer)
    None of the ingredients is listed.
Trade name: Lanadol ABAC

- **NTP (National Toxicology Program)**
  None of the ingredients is listed.

- **TLV (Threshold Limit Value established by ACGIH)**
  None of the ingredients is listed.

- **MAK (German Maximum Workplace Concentration)**
  None of the ingredients is listed.

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**
  None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**
  None of the ingredients is listed.

- **Product related hazard informations:**
  The product has been classified and marked in accordance with directives on hazardous materials.

- **Hazard symbols:**
  - C Corrosive
  - N Dangerous for the environment

- **Hazard-determining components of labelling:**
  Poly (1-hexamethylenebiguanide) hydrochloride
  1,2-benzisothiazol-3(2H)-one
  quaternary ammonium compounds, benzyl-C8-18-alkyldimethyl, chlorides

- **Risk phrases:**
  22 Harmful if swallowed.
  34 Causes burns.
  43 May cause sensitisation by skin contact.
  50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

- **Safety phrases:**
  22 Do not breathe dust.
  36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
  45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

### 16 Other information

The information of Items 4 through 8 and 10 through 12 partially refers not to the use and the proper application of the product (see Directions for Use/Product Information) but to the release of larger quantities in the case of accidents and irregularities. The information exclusively describes the safety requirements of the product(s) and is based on the present state of our experience. This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing MSDS:**
  Abteilung TQM
  Herr Vogel
  +49 (0) 611/9271-175

- **Contact:** Herr Vogel

* Data compared to the previous version altered.