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

1.1. Product identifier
BriteGuard Surface FINISHER

Further trade names
BO 5841000, 1000 ml
BO 5845000, 5000 ml

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

Use of the substance/mixture
Cleaning agent

1.3. Details of the supplier of the safety data sheet
Company name: BOHLE AG
Street: Dieselstr. 10
Place: D-42781 Haan
Telephone: +49 2129 5568-0
Fax: +49 2129 5568-282
Contact person: Klaus Nehren
Telephone: +49 2129 5568-276
Internet: www.bohle-group.com

1.4. Emergency telephone number
Emergency CONTACT (24-Hour-Number): GBK GmbH +49 (0)6132-84463

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008
Hazard categories:
Acute toxicity: Acute Tox. 4
Skin corrosion/irritation: Skin Corr. 1B
Serious eye damage/eye irritation: Eye Dam. 1
Hazardous to the aquatic environment: Aquatic Chronic 3

Hazard Statements:
Harmful if inhaled.
Causes severe skin burns and eye damage.
Causes serious eye damage.
Harmful to aquatic life with long lasting effects.

2.2. Label elements

Regulation (EC) No. 1272/2008
Hazard components for labelling
- 2-aminoethanol, ethanolamine

Signal word: Danger

Pictograms:

Hazard statements:
H332 Harmful if inhaled.
H314 Causes severe skin burns and eye damage.
H412 Harmful to aquatic life with long lasting effects.

Revision No: 2.02
GB - EN
Print date: 27.06.2017
Precautionary statements

P260 Do not breathe vapour/aerosol.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
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.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P312 Call a POISON CENTER/doctor if you feel unwell.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>141-43-5</td>
<td>2-aminoethanol, ethanolamine</td>
<td>25-50 %</td>
</tr>
<tr>
<td>205-483-3</td>
<td>603-030-00-8 Acute Tox. 4, Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, Aquatic Chronic 3; H302 H312 H332 H314 H412</td>
<td></td>
</tr>
<tr>
<td>111-76-2</td>
<td>&lt;25 % 2-butoxyethanol, butyl cellosolve, ethylene glycol monobutyl ether</td>
<td></td>
</tr>
<tr>
<td>203-905-0</td>
<td>603-014-00-0 Acute Tox. 4, Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2; H302 H312 H332 H315 H319</td>
<td></td>
</tr>
</tbody>
</table>

Full text of H and EUH statements: see section 16.

Labelling for contents according to Regulation (EC) No 648/2004

< 5 % phosphonates.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information
Take off immediately all contaminated clothing.
Remove affected person from the danger area and lay down.

After inhalation
Provide fresh air.
If unconscious place in recovery position and seek medical advice.
If symptoms persist, call a physician.

After contact with skin
Wash with plenty of water.
If skin irritation persists, call a physician.

After contact with eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If symptoms persist, call a physician.

After ingestion
Rinse mouth. Let water be drunken in little sips (dilution effect).
Do NOT induce vomiting. Call a doctor.
Do not allow a neutralisation agent to be drunk.

SECTION 5: Firefighting measures
5.1. Extinguishing media

**Suitable extinguishing media**
- Carbon dioxide (CO2), Extinguishing powder, Water spray jet, alcohol resistant foam

** Unsuitable extinguishing media**
- High power water jet

5.2. Special hazards arising from the substance or mixture

In case of fire may be liberated: Carbon monoxide, Carbon dioxide
Nitrogen oxides (NOx)

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus. In case of fire and/or explosion do not breathe fumes.

Additional information
- Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation. Wear personal protective equipment.

6.2. Environmental precautions

Do not empty into drains.

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

SECTION 7: Handling and storage
SECTION 8: Exposure controls/personal protection
SECTION 13: Disposal considerations

---

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling
- Provide sufficient air exchange and/or exhaust in work rooms.
- Provide eye shower and label its location conspicuously

Advice on protection against fire and explosion
- Usual measures for fire prevention.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels
- Keep only in the original container in a cool, well-ventilated place.
- Protect against direct sunlight.
- Always close containers tightly after the removal of product.

Advice on storage compatibility
- Keep away from food, drink and animal feedingstuffs.

Further information on storage conditions
- Storage temperature: -5°C - 40°C

---

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
Exposure limits (EH40)

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>ppm</th>
<th>mg/m³</th>
<th>fibres/ml</th>
<th>Category</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>141-43-5</td>
<td>2-Aminoethanol</td>
<td>1</td>
<td>2.5</td>
<td></td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>7.6</td>
<td></td>
<td>STEL (15 min)</td>
<td>WEL</td>
</tr>
<tr>
<td>111-76-2</td>
<td>2-Butoxyethanol</td>
<td>25</td>
<td>123</td>
<td></td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50</td>
<td>246</td>
<td></td>
<td>STEL (15 min)</td>
<td>WEL</td>
</tr>
</tbody>
</table>

Biological Monitoring Guidance Values (EH40)

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>Parameter</th>
<th>Value</th>
<th>Test material</th>
<th>Sampling time</th>
</tr>
</thead>
<tbody>
<tr>
<td>111-76-2</td>
<td>2-Butoxyethanol</td>
<td>butoxyacetic acid</td>
<td>240 mmol/mol</td>
<td>urine</td>
<td>Post shift</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

**Appropriate engineering controls**

Even in case of a full release, due to the small amount of substances present, it is not expected that exposure limits will be reached. However it is the duty of the user to verify this and follow given exposure limits at the workplace.

**Protective and hygiene measures**

- Provide adequate ventilation. Do not breathe vapour/aerosol.
- Avoid contact with skin, eyes and clothing. Take off all contaminated clothing immediately.
- Keep away from food, drink and animal feedingstuffs. When using do not eat or drink.
- Do not smoke. Wash hands before breaks and at the end of workday.

**Eye/face protection**

- safety glasses with side-shields conforming to EN166

**Hand protection**

- The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it.
- Recommended material: Butyl caoutchouc (butyl rubber), FKM (fluoro rubber), NBR (Nitrile rubber), CR (polychloroprene, chloroprene rubber)
- Take note of the information given by the producer concerning permeability and break through times , and of special workplace conditions (mechanical strain, duration of contact).

**Skin protection**

- impervious clothing DIN EN 13034
- Chemical resistant safety shoes

**Respiratory protection**

- In case of inadequate ventilation wear respiratory protection. Combination filtering device (EN 14387)
- Recommended Filter type: A-P2

**Environmental exposure controls**

- Do not allow to enter into surface water or drains.

**SECTION 9: Physical and chemical properties**

9.1. Information on basic physical and chemical properties

- Physical state: liquid
- Colour: green
- Odour: sweet

- **pH-Value (at 20 °C):** 11.8

**Test method**
Changes in the physical state

Initial boiling point and boiling range: 100 °C
Flash point: >70 °C

Explosive properties
Not explosive
Ignition temperature: 240 °C

Auto-ignition temperature not auto-flammable

Vapour pressure: 23 hPa
(at 20 °C)
Density (at 20 °C): 1.02 g/cm³
Water solubility: completely miscible
Solvent content: > 45%

SECTION 10: Stability and reactivity

10.1. Reactivity
None under normal processing.

10.2. Chemical stability
No decomposition if used as directed.

10.3. Possibility of hazardous reactions
No known hazardous reactions.

10.4. Conditions to avoid
None known.

10.5. Incompatible materials
None known.

10.6. Hazardous decomposition products
None known.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
### Acute toxicity

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Exposure route</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>141-43-5</td>
<td>2-aminoethanol, ethanolamine</td>
<td>oral</td>
<td>LD50</td>
<td>2050 mg/kg</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>1000 mg/kg</td>
<td>Rabbit</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalative vapour</td>
<td>ATE</td>
<td>11 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalative aerosol</td>
<td>ATE</td>
<td>1,5 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>111-76-2</td>
<td>2-butoxyethanol, butyl cellosolve, ethylene glycol monobutyl ether</td>
<td>oral</td>
<td>LD50</td>
<td>1480 mg/kg</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>2000 mg/kg</td>
<td>Rabbit</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalative (4 h) vapour</td>
<td>LC50</td>
<td>&gt;3,1 mg/l</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalative aerosol</td>
<td>ATE</td>
<td>1,5 mg/l</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 12: Ecological information

#### 12.1. Toxicity

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Aquatic toxicity</th>
<th>Dose</th>
<th>[h]</th>
<th>[d]</th>
<th>Species</th>
<th>Source</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>141-43-5</td>
<td>2-aminoethanol, ethanolamine</td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>329 mg/l</td>
<td>96 h</td>
<td>Lepomis macrochirus (Bluegill)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute algae toxicity</td>
<td>ErC50</td>
<td>15 mg/l</td>
<td>72 h</td>
<td>Desmodesmus subspicatus</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>65 mg/l</td>
<td>48 h</td>
<td>Daphnia magna</td>
<td></td>
<td></td>
</tr>
<tr>
<td>111-76-2</td>
<td>2-butoxyethanol, butyl cellosolve, ethylene glycol monobutyl ether</td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>1490 mg/l</td>
<td>96 h</td>
<td>Lepomis macrochirus</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 12.3. Bioaccumulative potential

**Partition coefficient n-octanol/water**

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>141-43-5</td>
<td>2-aminoethanol, ethanolamine</td>
<td>-1,91 (25°C)</td>
</tr>
<tr>
<td>111-76-2</td>
<td>2-butoxyethanol, butyl cellosolve, ethylene glycol monobutyl ether</td>
<td>0,81 (25°C)</td>
</tr>
</tbody>
</table>

#### 12.6. Other adverse effects

slightly hazardous to water (WGK 1)

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

**Advice on disposal**

In accordance with local and national regulations.

Waste disposal number of waste from residues/unused products
### SECTION 14: Transport information

#### Land transport (ADR/RID)

<table>
<thead>
<tr>
<th>14.1. UN number:</th>
<th>UN 1719</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2. UN proper shipping name:</td>
<td>CAUSTIC ALKALI LIQUID, N.O.S. 2-aminoethanol, ethanolamine</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es):</td>
<td>8</td>
</tr>
<tr>
<td>14.4. Packing group:</td>
<td>II</td>
</tr>
</tbody>
</table>

Hazard label: 8

- Classification code: C5
- Special Provisions: 274
- Limited quantity: 1 L
- Excepted quantity: E2
- Transport category: 2
- Hazard No: 80
- Tunnel restriction code: E

#### Inland waterways transport (ADN)

<table>
<thead>
<tr>
<th>14.1. UN number:</th>
<th>UN 1719</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2. UN proper shipping name:</td>
<td>CAUSTIC ALKALI LIQUID, N.O.S. 2-aminoethanol, ethanolamine</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es):</td>
<td>8</td>
</tr>
<tr>
<td>14.4. Packing group:</td>
<td>II</td>
</tr>
</tbody>
</table>

Hazard label: 8

- Classification code: C5
- Special Provisions: 274
- Limited quantity: 1 L
- Excepted quantity: E2

#### Marine transport (IMDG)

<table>
<thead>
<tr>
<th>14.1. UN number:</th>
<th>UN 1719</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2. UN proper shipping name:</td>
<td>CAUSTIC ALKALI LIQUID, N.O.S. 2-aminoethanol, ethanolamine</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es):</td>
<td>8</td>
</tr>
</tbody>
</table>

Waste disposal number of used product

160305 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; organic wastes containing hazardous substances

Classified as hazardous waste.

Waste disposal number of contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances

Classified as hazardous waste.
14.4. Packing group: II
Hazard label: 8

Special Provisions: 274
Limited quantity: 1 L
Excepted quantity: E2
EmS: F-A, S-B

Air transport (ICAO-TI/IATA-DGR)
14.1. UN number: UN 1719
14.2. UN proper shipping name: CAUSTIC ALKALI LIQUID, N.O.S. 2-aminoethanol, ethanolamine
14.3. Transport hazard class(es): II
14.4. Packing group: II
Hazard label: 8

Special Provisions: A3 A803
Limited quantity Passenger: 0.5 L
Passenger LQ: Y840
Excepted quantity: E2
IATA-packing instructions - Passenger: 851
IATA-max. quantity - Passenger: 1 L
IATA-packing instructions - Cargo: 855
IATA-max. quantity - Cargo: 30 L

SECTION 15: Regulatory information

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

EU regulatory information
Restrictions on use (REACH, annex XVII):
Entry 3: 2-aminoethanol, ethanolamine; 2-butoxyethanol, butyl cellosolve, ethylene glycol monobutyl ether

National regulatory information
Employment restrictions: Observe restrictions to employment for juvenils according to the ‘juvenile work protection guideline’ (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.
Water contaminating class (D): 1 - slightly water contaminating

15.2. Chemical safety assessment
Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Relevant H and EUH statements (number and full text)
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H412 Harmful to aquatic life with long lasting effects.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)