

## Autotreat

### Wilhelmsen Ships Service AS\* Central Warehouse

Part Number: 698720

Version No: 10.14

Safety Data Sheet (Conforms to Annex II of REACH (1907/2006) - Regulation 2020/878)

Issue Date: 19/06/2024

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L.REACH.ISL.EN

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

### 1.1. Product Identifier

|                                      |  |
|--------------------------------------|--|
| <b>Product name</b>                  | Autotreat  |
| <b>Chemical Name</b>                 | Not Applicable                                       |
| <b>Synonyms</b>                      | Product Part Number: 698720 (25 liter). Pr No: 52699 |
| <b>Proper shipping name</b>          | POTASSIUM HYDROXIDE SOLUTION                         |
| <b>Chemical formula</b>              | Not Applicable                                       |
| <b>Other means of identification</b> | 698720   |

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

|                                  |  |
|----------------------------------|--|
| <b>Chemical Product Category</b> | PC37   Water treatment chemicals                 |
| <b>Sectors of Use</b>            | SU3   Industrial uses                            |
| <b>Relevant identified uses</b>  | Water treatment                                  |
| <b>Uses advised against</b>      | No specific uses advised against are identified. |

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

|                                |   |  |   |
|--------------------------------|---|--|---|
| <b>Registered company name</b> | Wilhelmsen Ships Service AS*<br>Central Warehouse                 | <b>Outback (M)SDS portal:</b><br><a href="http://jr.chemwatch.net/outb/account/autologin?login=wilhelmsen">http://jr.chemwatch.net/outb/account/autologin?<br/>login=wilhelmsen</a>                      | Wilhelmsen IT Services AS   |
| <b>Address</b>                 | Willem Barentszstraat 50 Rotterdam<br>Netherlands                 | -----Use our Outback portal to obtain our (M)SDSs<br>in other languages and/or format.----- For<br>questions relating to our SDSs please use Email:<br>WSS.GLOBAL.SDSINFO@wilhelmsen.com -----<br>Norway | PO Box 33 Lysaker Norway<br>NO-1324 Norway                          |
| <b>Telephone</b>               | +31 10 4877 777   | Not Available  | +47 67 58 40 00   |
| <b>Fax</b>                     | Not Available   | Not Available  | +47 67 58 47 30   |
| <b>Website</b>                 | <a href="http://www.wilhelmsen.com">http://www.wilhelmsen.com</a> | <a href="http://www.wilhelmsen.com">http://www.wilhelmsen.com</a>  | <a href="http://www.wilhelmsen.com/">http://www.wilhelmsen.com/</a> |
| <b>Email</b>                   | wss.rotterdam@wilhelmsen.com                                      | wss.global.sdsinfo@wilhelmsen.com  | wss.info@wilhelmsen.com   |

### 1.4. Emergency telephone number

|  |                          |                   |  |
|--|--------------------------|-------------------|--|
| <b>Association / Organisation</b>        | Dutch nat. poison centre | 24hrs - Chemwatch | CHEMWATCH EMERGENCY<br>RESPONSE (24/7) |
| <b>Emergency telephone numbers</b>       | + 31 88 7558561          | +31-10-4877700    | +61 3 9573 3188                        |
| <b>Other emergency telephone numbers</b> | + 31 10 4877700          | +31-10-4877700    | Not Available                          |


Once connected and if the message is not in your preferred language then please dial 01

## SECTION 2 Hazards identification

### 2.1. Classification of the substance or mixture

|   |  |
|---|--|
| Classification according to regulation (EC) No 1272/2008 [CLP] and amendments [1] | H302 - Acute Toxicity (Oral) Category 4, H314 - Skin Corrosion/Irritation Category 1A            |
| <b>Legend:</b>  | 1. Classified by Chemwatch; 2. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI |

### 2.2. Label elements

|                     |   |
|---------------------|---|
| Hazard pictogram(s) |  |
| Signal word         | <b>Danger</b>   |

### Hazard statement(s)

|      |  |
|------|--|
| H302 | Harmful if swallowed.                    |
| H314 | Causes severe skin burns and eye damage. |

### Supplementary statement(s)

Not Applicable

### Precautionary statement(s) General

|      |   |
|------|---|
| P101 | If medical advice is needed, have product container or label at hand. |
| P102 | Keep out of reach of children.  |
| P103 | Read carefully and follow all instructions.                           |

### Precautionary statement(s) Prevention

|      |  |
|------|--|
| P260 | Do not breathe mist/vapours/spray.   |
| P264 | Wash all exposed external body areas thoroughly after handling.                  |
| P280 | Wear protective gloves, protective clothing, eye protection and face protection. |
| P270 | Do not eat, drink or smoke when using this product.                              |

### Precautionary statement(s) Response

|                |  |
|----------------|--|
| P301+P330+P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. If more than 15 mins from Doctor, INDUCE VOMITING (if conscious).             |
| P303+P361+P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].                         |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P310           | Immediately call a POISON CENTER/doctor/physician/first aider.   |
| P363           | Wash contaminated clothing before reuse.   |
| P301+P312      | IF SWALLOWED: Call a POISON CENTER/doctor/physician/first aider if you feel unwell.  |
| P304+P340      | IF INHALED: Remove person to fresh air and keep comfortable for breathing.   |

### Precautionary statement(s) Storage

|      |                  |
|------|------------------|
| P405 | Store locked up. |
|------|------------------|

### Precautionary statement(s) Disposal

|      |  |
|------|--|
| P501 | Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation. |
|------|--|

Material contains potassium hydroxide, diethylaminoethanol, ethanolamine.

### 2.3. Other hazards

|                     |   |
|---------------------|---|
| diethylaminoethanol | Listed in the Europe Regulation (EC) No 1907/2006 - Annex XVII (Restrictions may apply) |
|---------------------|---|

## SECTION 3 Composition / information on ingredients

### 3.1.Substances

See 'Composition on ingredients' in Section 3.2

### 3.2.Mixtures

| 1. CAS No<br>2.EC No<br>3.Index No<br>4.REACH No                 | %<br>[weight] | Name  | Classification according to regulation<br>(EC) No 1272/2008 [CLP] and<br>amendments  | SCL / M-Factor   | Nanoform<br>Particle<br>Characteristics |
|--|---------------|---|--|--|---|
| 1. 1310-58-3<br>2.215-181-3<br>3.019-002-00-8<br>4.Not Available | 5-10          | <u>potassium<br/>hydroxide</u>  | Acute Toxicity (Oral) Category 4, Skin<br>Corrosion/Irritation Category 1A; H302,<br>H314 [2]  | Skin Corr. 1A; H314: C<br>≥ 5 %   Skin Corr. 1B;<br>H314: 2 % ≤ C < 5 %  <br>Skin Irrit. 2; H315: 0,5<br>% ≤ C < 2 %   Eye Irrit.<br>2; H319: 0,5 % ≤ C < 2<br>%<br><br>Acute M factor: Not<br>Available<br><br>Chronic M factor: Not<br>Available | Not Available                           |
| 1. 100-37-8<br>2.202-845-2<br>3.603-048-00-6<br>4.Not Available  | 1-5           | <u>diethylaminoethanol</u>  | Flammable Liquids Category 3, Acute<br>Toxicity (Oral) Category 4, Acute Toxicity<br>(Dermal) Category 4, Skin<br>Corrosion/Irritation Category 1B, Acute<br>Toxicity (Inhalation) Category 4; H226,<br>H302, H312, H314, H332 [2] | STOT SE 3; H335: C ≥<br>5 %<br><br>Acute M factor: Not<br>Available<br><br>Chronic M factor: Not<br>Available  | Not Available                           |
| 1. 141-43-5<br>2.205-483-3<br>3.603-030-00-8<br>4.Not Available  | 1-5           | <u>ethanolamine</u> *   | Acute Toxicity (Oral) Category 4, Acute<br>Toxicity (Dermal) Category 4, Skin<br>Corrosion/Irritation Category 1B, Acute<br>Toxicity (Inhalation) Category 4; H302,<br>H312, H314, H332 [2]  | STOT SE 3; H335: C ≥<br>5 %<br><br>Acute M factor: Not<br>Available<br><br>Chronic M factor: Not<br>Available  | Not Available                           |
| <b>Legend:</b>   |               | 1. Classified by Chemwatch; 2. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 3. Classification drawn from C&L; * EU IOELVs available; [e] Substance identified as having endocrine disrupting properties |  |  |   |

## SECTION 4 First aid measures

### 4.1. Description of first aid measures

|                     |   |
|---------------------|---|
| <b>Eye Contact</b>  | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Immediately hold eyelids apart and flush the eye continuously with running water.</li> <li>▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.</li> <li>▶ Transport to hospital or doctor without delay.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>  |
| <b>Skin Contact</b> | <p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Immediately flush body and clothes with large amounts of water, using safety shower if available.</li> <li>▶ Quickly remove all contaminated clothing, including footwear.</li> <li>▶ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.</li> <li>▶ Transport to hospital, or doctor.</li> </ul>  |
| <b>Inhalation</b>   | <ul style="list-style-type: none"> <li>▶ If fumes or combustion products are inhaled remove from contaminated area.</li> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>▶ Transport to hospital, or doctor, without delay.</li> <li>▶ Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema.</li> <li>▶ Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs).</li> <li>▶ As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested.</li> <li>▶ Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered.</li> </ul> <p><b>This must definitely be left to a doctor or person authorised by him/her.</b><br/>(ICSC13719)</p> |

## Autotreat

|                  |  |
|------------------|--|
| <b>Ingestion</b> | <ul style="list-style-type: none"> <li>▶ For advice, contact a Poisons Information Centre or a doctor at once.</li> <li>▶ Urgent hospital treatment is likely to be needed.</li> <li>▶ <b>If swallowed do NOT induce vomiting.</b></li> <li>▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>▶ Observe the patient carefully.</li> <li>▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>▶ Transport to hospital or doctor without delay.</li> </ul> |
|------------------|--|

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

See Section 11

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

Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.

For acute or short-term repeated exposures to highly alkaline materials:

- ▶ Respiratory stress is uncommon but present occasionally because of soft tissue edema.
- ▶ Unless endotracheal intubation can be accomplished under direct vision, cricothyroidotomy or tracheotomy may be necessary.
- ▶ Oxygen is given as indicated.
- ▶ The presence of shock suggests perforation and mandates an intravenous line and fluid administration.
- ▶ Damage due to alkaline corrosives occurs by liquefaction necrosis whereby the saponification of fats and solubilisation of proteins allow deep penetration into the tissue.

Alkalis continue to cause damage after exposure.

INGESTION:

- ▶ Milk and water are the preferred diluents

No more than 2 glasses of water should be given to an adult.

- ▶ Neutralising agents should never be given since exothermic heat reaction may compound injury.

\* Catharsis and emesis are absolutely contra-indicated.

\* Activated charcoal does not absorb alkali.

\* Gastric lavage should not be used.

Supportive care involves the following:

- ▶ Withhold oral feedings initially.
- ▶ If endoscopy confirms transmucosal injury start steroids only within the first 48 hours.
- ▶ Carefully evaluate the amount of tissue necrosis before assessing the need for surgical intervention.
- ▶ Patients should be instructed to seek medical attention whenever they develop difficulty in swallowing (dysphagia).

SKIN AND EYE:

- ▶ Injury should be irrigated for 20-30 minutes.

Eye injuries require saline. [Ellenhorn & Barceloux: Medical Toxicology]

## SECTION 5 Firefighting measures

### 5.1. Extinguishing media

- ▶ Water spray or fog.
- ▶ Foam.
- ▶ Dry chemical powder.
- ▶ BCF (where regulations permit).
- ▶ Carbon dioxide.

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

|                             |             |
|-----------------------------|-------------|
| <b>Fire Incompatibility</b> | None known. |
|-----------------------------|-------------|

### 5.3. Advice for firefighters

|                              |   |
|------------------------------|---|
| <b>Fire Fighting</b>         | <ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear full body protective clothing with breathing apparatus.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> <li>▶ Use fire fighting procedures suitable for surrounding area.</li> <li>▶ <b>Do not approach containers suspected to be hot.</b></li> <li>▶ Cool fire exposed containers with water spray from a protected location.</li> <li>▶ If safe to do so, remove containers from path of fire.</li> </ul> |
| <b>Fire/Explosion Hazard</b> | May emit corrosive fumes.   |

## SECTION 6 Accidental release measures

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

See section 8

Continued...

## 6.2. Environmental precautions

See section 12

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

| <b>Minor Spills</b>                | <ul style="list-style-type: none"> <li>▶ Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material.</li> <li>▶ Check regularly for spills and leaks.</li> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid breathing vapours and contact with skin and eyes.</li> <li>▶ Control personal contact with the substance, by using protective equipment.</li> <li>▶ Contain and absorb spill with sand, earth, inert material or vermiculite.</li> <li>▶ Wipe up.</li> <li>▶ Place in a suitable, labelled container for waste disposal.</li> </ul>  |              |            |                 |            |             |                    |  |  |  |  |                                    |   |        |        |        |                               |   |       |           |            |                            |   |        |        |         |                       |   |       |           |               |                                 |   |        |        |                 |                            |   |        |        |               |                     |  |  |  |  |                                   |   |        |            |         |                            |   |        |            |         |                                |   |        |            |                |                               |   |       |            |            |                            |   |        |            |              |                       |   |       |            |                |
|------------------------------------|--|--------------|------------|-----------------|------------|-------------|--------------------|--|--|--|--|------------------------------------|---|--------|--------|--------|-------------------------------|---|-------|-----------|------------|----------------------------|---|--------|--------|---------|-----------------------|---|-------|-----------|---------------|---------------------------------|---|--------|--------|-----------------|----------------------------|---|--------|--------|---------------|---------------------|--|--|--|--|-----------------------------------|---|--------|------------|---------|----------------------------|---|--------|------------|---------|--------------------------------|---|--------|------------|----------------|-------------------------------|---|-------|------------|------------|----------------------------|---|--------|------------|--------------|-----------------------|---|-------|------------|----------------|
| <b>Major Spills</b>                | <p>Chemical Class: bases<br/>For release onto land: recommended sorbents listed in order of priority.</p> <table border="1"> <thead> <tr> <th>SORBENT TYPE</th> <th>RANK</th> <th>APPLICATION</th> <th>COLLECTION</th> <th>LIMITATIONS</th> </tr> </thead> <tbody> <tr> <td colspan="5">LAND SPILL - SMALL</td> </tr> <tr> <td>cross-linked polymer - particulate</td> <td>1</td> <td>shovel</td> <td>shovel</td> <td>R,W,SS</td> </tr> <tr> <td>cross-linked polymer - pillow</td> <td>1</td> <td>throw</td> <td>pitchfork</td> <td>R, DGC, RT</td> </tr> <tr> <td>sorbent clay - particulate</td> <td>2</td> <td>shovel</td> <td>shovel</td> <td>R, I, P</td> </tr> <tr> <td>foamed glass - pillow</td> <td>2</td> <td>throw</td> <td>pitchfork</td> <td>R, P, DGC, RT</td> </tr> <tr> <td>expanded minerals - particulate</td> <td>3</td> <td>shovel</td> <td>shovel</td> <td>R, I, W, P, DGC</td> </tr> <tr> <td>foamed glass - particulate</td> <td>4</td> <td>shovel</td> <td>shovel</td> <td>R, W, P, DGC,</td> </tr> <tr> <td colspan="5">LAND SPILL - MEDIUM</td> </tr> <tr> <td>cross-linked polymer -particulate</td> <td>1</td> <td>blower</td> <td>skidloader</td> <td>R,W, SS</td> </tr> <tr> <td>sorbent clay - particulate</td> <td>2</td> <td>blower</td> <td>skidloader</td> <td>R, I, P</td> </tr> <tr> <td>expanded mineral - particulate</td> <td>3</td> <td>blower</td> <td>skidloader</td> <td>R, I,W, P, DGC</td> </tr> <tr> <td>cross-linked polymer - pillow</td> <td>3</td> <td>throw</td> <td>skidloader</td> <td>R, DGC, RT</td> </tr> <tr> <td>foamed glass - particulate</td> <td>4</td> <td>blower</td> <td>skidloader</td> <td>R, W, P, DGC</td> </tr> <tr> <td>foamed glass - pillow</td> <td>4</td> <td>throw</td> <td>skidloader</td> <td>R, P, DGC., RT</td> </tr> </tbody> </table> <p>Legend<br/>DGC: Not effective where ground cover is dense<br/>R: Not reusable<br/>I: Not incinerable<br/>P: Effectiveness reduced when rainy<br/>RT:Not effective where terrain is rugged<br/>SS: Not for use within environmentally sensitive sites<br/>W: Effectiveness reduced when windy<br/>Reference: Sorbents for Liquid Hazardous Substance Cleanup and Control;<br/>R.W Melvold et al: Pollution Technology Review No. 150: Noyes Data Corporation 1988</p> <ul style="list-style-type: none"> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear full body protective clothing with breathing apparatus.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> <li>▶ Stop leak if safe to do so.</li> <li>▶ Contain spill with sand, earth or vermiculite.</li> <li>▶ Collect recoverable product into labelled containers for recycling.</li> </ul> | SORBENT TYPE | RANK       | APPLICATION     | COLLECTION | LIMITATIONS | LAND SPILL - SMALL |  |  |  |  | cross-linked polymer - particulate | 1 | shovel | shovel | R,W,SS | cross-linked polymer - pillow | 1 | throw | pitchfork | R, DGC, RT | sorbent clay - particulate | 2 | shovel | shovel | R, I, P | foamed glass - pillow | 2 | throw | pitchfork | R, P, DGC, RT | expanded minerals - particulate | 3 | shovel | shovel | R, I, W, P, DGC | foamed glass - particulate | 4 | shovel | shovel | R, W, P, DGC, | LAND SPILL - MEDIUM |  |  |  |  | cross-linked polymer -particulate | 1 | blower | skidloader | R,W, SS | sorbent clay - particulate | 2 | blower | skidloader | R, I, P | expanded mineral - particulate | 3 | blower | skidloader | R, I,W, P, DGC | cross-linked polymer - pillow | 3 | throw | skidloader | R, DGC, RT | foamed glass - particulate | 4 | blower | skidloader | R, W, P, DGC | foamed glass - pillow | 4 | throw | skidloader | R, P, DGC., RT |
| SORBENT TYPE                       | RANK   | APPLICATION  | COLLECTION | LIMITATIONS     |            |             |                    |  |  |  |  |                                    |   |        |        |        |                               |   |       |           |            |                            |   |        |        |         |                       |   |       |           |               |                                 |   |        |        |                 |                            |   |        |        |               |                     |  |  |  |  |                                   |   |        |            |         |                            |   |        |            |         |                                |   |        |            |                |                               |   |       |            |            |                            |   |        |            |              |                       |   |       |            |                |
| LAND SPILL - SMALL                 |  |              |            |                 |            |             |                    |  |  |  |  |                                    |   |        |        |        |                               |   |       |           |            |                            |   |        |        |         |                       |   |       |           |               |                                 |   |        |        |                 |                            |   |        |        |               |                     |  |  |  |  |                                   |   |        |            |         |                            |   |        |            |         |                                |   |        |            |                |                               |   |       |            |            |                            |   |        |            |              |                       |   |       |            |                |
| cross-linked polymer - particulate | 1  | shovel       | shovel     | R,W,SS          |            |             |                    |  |  |  |  |                                    |   |        |        |        |                               |   |       |           |            |                            |   |        |        |         |                       |   |       |           |               |                                 |   |        |        |                 |                            |   |        |        |               |                     |  |  |  |  |                                   |   |        |            |         |                            |   |        |            |         |                                |   |        |            |                |                               |   |       |            |            |                            |   |        |            |              |                       |   |       |            |                |
| cross-linked polymer - pillow      | 1  | throw        | pitchfork  | R, DGC, RT      |            |             |                    |  |  |  |  |                                    |   |        |        |        |                               |   |       |           |            |                            |   |        |        |         |                       |   |       |           |               |                                 |   |        |        |                 |                            |   |        |        |               |                     |  |  |  |  |                                   |   |        |            |         |                            |   |        |            |         |                                |   |        |            |                |                               |   |       |            |            |                            |   |        |            |              |                       |   |       |            |                |
| sorbent clay - particulate         | 2  | shovel       | shovel     | R, I, P         |            |             |                    |  |  |  |  |                                    |   |        |        |        |                               |   |       |           |            |                            |   |        |        |         |                       |   |       |           |               |                                 |   |        |        |                 |                            |   |        |        |               |                     |  |  |  |  |                                   |   |        |            |         |                            |   |        |            |         |                                |   |        |            |                |                               |   |       |            |            |                            |   |        |            |              |                       |   |       |            |                |
| foamed glass - pillow              | 2  | throw        | pitchfork  | R, P, DGC, RT   |            |             |                    |  |  |  |  |                                    |   |        |        |        |                               |   |       |           |            |                            |   |        |        |         |                       |   |       |           |               |                                 |   |        |        |                 |                            |   |        |        |               |                     |  |  |  |  |                                   |   |        |            |         |                            |   |        |            |         |                                |   |        |            |                |                               |   |       |            |            |                            |   |        |            |              |                       |   |       |            |                |
| expanded minerals - particulate    | 3  | shovel       | shovel     | R, I, W, P, DGC |            |             |                    |  |  |  |  |                                    |   |        |        |        |                               |   |       |           |            |                            |   |        |        |         |                       |   |       |           |               |                                 |   |        |        |                 |                            |   |        |        |               |                     |  |  |  |  |                                   |   |        |            |         |                            |   |        |            |         |                                |   |        |            |                |                               |   |       |            |            |                            |   |        |            |              |                       |   |       |            |                |
| foamed glass - particulate         | 4  | shovel       | shovel     | R, W, P, DGC,   |            |             |                    |  |  |  |  |                                    |   |        |        |        |                               |   |       |           |            |                            |   |        |        |         |                       |   |       |           |               |                                 |   |        |        |                 |                            |   |        |        |               |                     |  |  |  |  |                                   |   |        |            |         |                            |   |        |            |         |                                |   |        |            |                |                               |   |       |            |            |                            |   |        |            |              |                       |   |       |            |                |
| LAND SPILL - MEDIUM                |  |              |            |                 |            |             |                    |  |  |  |  |                                    |   |        |        |        |                               |   |       |           |            |                            |   |        |        |         |                       |   |       |           |               |                                 |   |        |        |                 |                            |   |        |        |               |                     |  |  |  |  |                                   |   |        |            |         |                            |   |        |            |         |                                |   |        |            |                |                               |   |       |            |            |                            |   |        |            |              |                       |   |       |            |                |
| cross-linked polymer -particulate  | 1  | blower       | skidloader | R,W, SS         |            |             |                    |  |  |  |  |                                    |   |        |        |        |                               |   |       |           |            |                            |   |        |        |         |                       |   |       |           |               |                                 |   |        |        |                 |                            |   |        |        |               |                     |  |  |  |  |                                   |   |        |            |         |                            |   |        |            |         |                                |   |        |            |                |                               |   |       |            |            |                            |   |        |            |              |                       |   |       |            |                |
| sorbent clay - particulate         | 2  | blower       | skidloader | R, I, P         |            |             |                    |  |  |  |  |                                    |   |        |        |        |                               |   |       |           |            |                            |   |        |        |         |                       |   |       |           |               |                                 |   |        |        |                 |                            |   |        |        |               |                     |  |  |  |  |                                   |   |        |            |         |                            |   |        |            |         |                                |   |        |            |                |                               |   |       |            |            |                            |   |        |            |              |                       |   |       |            |                |
| expanded mineral - particulate     | 3  | blower       | skidloader | R, I,W, P, DGC  |            |             |                    |  |  |  |  |                                    |   |        |        |        |                               |   |       |           |            |                            |   |        |        |         |                       |   |       |           |               |                                 |   |        |        |                 |                            |   |        |        |               |                     |  |  |  |  |                                   |   |        |            |         |                            |   |        |            |         |                                |   |        |            |                |                               |   |       |            |            |                            |   |        |            |              |                       |   |       |            |                |
| cross-linked polymer - pillow      | 3  | throw        | skidloader | R, DGC, RT      |            |             |                    |  |  |  |  |                                    |   |        |        |        |                               |   |       |           |            |                            |   |        |        |         |                       |   |       |           |               |                                 |   |        |        |                 |                            |   |        |        |               |                     |  |  |  |  |                                   |   |        |            |         |                            |   |        |            |         |                                |   |        |            |                |                               |   |       |            |            |                            |   |        |            |              |                       |   |       |            |                |
| foamed glass - particulate         | 4  | blower       | skidloader | R, W, P, DGC    |            |             |                    |  |  |  |  |                                    |   |        |        |        |                               |   |       |           |            |                            |   |        |        |         |                       |   |       |           |               |                                 |   |        |        |                 |                            |   |        |        |               |                     |  |  |  |  |                                   |   |        |            |         |                            |   |        |            |         |                                |   |        |            |                |                               |   |       |            |            |                            |   |        |            |              |                       |   |       |            |                |
| foamed glass - pillow              | 4  | throw        | skidloader | R, P, DGC., RT  |            |             |                    |  |  |  |  |                                    |   |        |        |        |                               |   |       |           |            |                            |   |        |        |         |                       |   |       |           |               |                                 |   |        |        |                 |                            |   |        |        |               |                     |  |  |  |  |                                   |   |        |            |         |                            |   |        |            |         |                                |   |        |            |                |                               |   |       |            |            |                            |   |        |            |              |                       |   |       |            |                |

## 6.4. Reference to other sections

Personal Protective Equipment advice is contained in Section 8 of the SDS.

## SECTION 7 Handling and storage

### 7.1. Precautions for safe handling

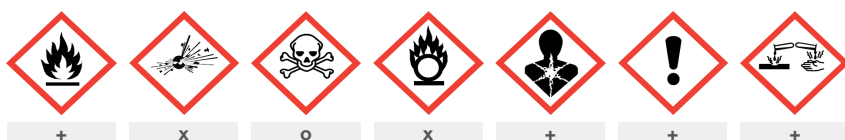
|                                      |  |
|--------------------------------------|--|
| <b>Safe handling</b>                 | <ul style="list-style-type: none"> <li>▶ Avoid all personal contact, including inhalation.</li> <li>▶ Wear protective clothing when risk of exposure occurs.</li> <li>▶ Use in a well-ventilated area.</li> <li>▶ <b>WARNING: To avoid violent reaction, ALWAYS add material to water and NEVER water to material.</b></li> <li>▶ Avoid smoking, naked lights or ignition sources.</li> <li>▶ Avoid contact with incompatible materials.</li> <li>▶ When handling, <b>DO NOT eat, drink or smoke.</b></li> </ul> |
| <b>Fire and explosion protection</b> | See section 5  |

## Autotreat

|                          |   |
|--------------------------|---|
| <b>Other information</b> | <ul style="list-style-type: none"> <li>▶ Store in original containers.</li> <li>▶ Keep containers securely sealed.</li> <li>▶ Store in a cool, dry, well-ventilated area.</li> <li>▶ Store away from incompatible materials and foodstuff containers.</li> <li>▶ Protect containers against physical damage and check regularly for leaks.</li> <li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> <li>▶ <b>DO NOT store near acids, or oxidising agents</b></li> <li>▶ No smoking, naked lights, heat or ignition sources.</li> </ul> |
|--------------------------|---|

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

|  |   |
|--|---|
| <b>Suitable container</b>  | <ul style="list-style-type: none"> <li>▶ Lined metal can, lined metal pail/ can.</li> <li>▶ Plastic pail.</li> <li>▶ Polyliner drum.</li> <li>▶ Packing as recommended by manufacturer.</li> <li>▶ Check all containers are clearly labelled and free from leaks.</li> </ul> <p>For low viscosity materials</p> <ul style="list-style-type: none"> <li>▶ Drums and jerricans must be of the non-removable head type.</li> <li>▶ Where a can is to be used as an inner package, the can must have a screwed enclosure.</li> </ul> <p>For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.):</p> <ul style="list-style-type: none"> <li>▶ Removable head packaging;</li> <li>▶ Cans with friction closures and</li> <li>▶ low pressure tubes and cartridges</li> </ul> <p>may be used.</p> <p>-</p> <p>Where combination packages are used, and the inner packages are of glass, porcelain or stoneware, there must be sufficient inert cushioning material in contact with inner and outer packages unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.</p>  |
| <b>Storage incompatibility</b>   | <p>Sodium hydroxide/ potassium hydroxide:</p> <ul style="list-style-type: none"> <li>▶ reacts with water evolving heat and corrosive fumes</li> <li>▶ reacts violently with acids, trans-acetylene dichloride, aminotetrazole, p-bis(1,3-dibromoethyl), benzene, bromoform, halogenated compounds, nitrogen-containing compounds, organic halogens, chlorine dioxide ((explodes), chloroform, cresols, cyclopentadiene, 4-chloro-2-methylphenol, cis-dichloroethylene, 2,2-dichloro-3,3-dimethylbutane, ethylene chlorohydrin, germanium, iodine pentafluoride, maleic anhydride, p-nitrotoluene, nitrogen trichloride, o-nitrophenol, phosphonium iodide, potassium peroxodisulfate, propylene oxide, 1,2,4,5-tetrachlorobenzene (highly toxic substance is forme), 2,2,3,3-tetrafluoro-1-propanol, tetrahydrofuran, thorium dicarbide, trichloroethanol, 2,4,6-trinitrotoluene, vinyl acetate</li> <li>▶ reacts with fluorine, nitroalkanes, (forming explosive compounds)</li> <li>▶ incompatible with acetic acid, acetaldehyde, acetic anhydride, acrolein, acrylonitrile, allyl chloride, organic anhydride, acrylates, alcohols, aldehydes, alkylene oxides, substituted allyls, ammonium chloroplatinate, benzanthrone, bromine, benzene-1,4-diol, carbon dioxide, cellulose nitrate, chlorine trifluoride, 4-chlorobutyronitrile, chlorohydrin, chloronitrotoluenes, chlorosulfonic acid, cinnamaldehyde, caprolactam solution, chlorocresols, 1,2-dichloroethylene, epichlorohydrin, ethylene cyanohydrin, formaldehyde (forms formic acid and flammable hydrogen gas), glycols, glyoxal, hexachloroplatinate, hydrogen sulfide, hydroquinone, iron-silicon, isocyanates, ketones, methyl azide, 4-methyl-2-nitrophenol, mineral acids (forming corresponding salt), nitrobenzene, N-nitrosohydroxylamine, nitrates pentol, phenols, phosphorus, phosphorus pentaoxide, beta-propiolactone, sodium, sulfur dioxide, tetrahydroborate, 1,1,1,2-tetrachloroethane, 2,2,2-trichloroethanol, trichloronitromethane, zirconium</li> <li>▶ ignites on contact with cinnamaldehyde or zinc and reacts explosively with a mixture of chloroform and methane</li> <li>▶ forms heat-, friction-, and/ or shock-sensitive- explosive salts with nitro-compounds, cyanogen azide, 3-ethyl-4-hydroxy-1,2,5-oxadiazole, 3-methyl-2-penten-4-yn-1-ol, N,N'-bis(2,2,2-trinitroethyl)urea, trichloroethylene (forms dichloroacetylene)</li> <li>▶ increase the explosive sensitivity of nitromethane</li> <li>▶ attacks some plastics, rubber, coatings and metals: aluminium, tin, zinc, etc, and their alloys, producing flammable hydrogen gas</li> </ul> <ul style="list-style-type: none"> <li>▶ Reacts vigorously with acids</li> <li>▶ Avoid strong acids, acid chlorides, acid anhydrides and chloroformates.</li> <li>▶ Avoid contact with copper, aluminium and their alloys.</li> </ul> |
| <b>Hazard categories in accordance with Regulation (EC) No 1272/2008/CLP (Seveso III)</b>                          | Not Available   |
| <b>Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of</b> | Not Available   |



X — Must not be stored together

O — May be stored together with specific preventions

+ — May be stored together

Continued...

Note: Depending on other risk factors, compatibility assessment based on the table above may not be relevant to storage situations, particularly where large volumes of dangerous goods are stored and handled. Reference should be made to the Safety Data Sheets for each substance or article and risks assessed accordingly.

### 7.3. Specific end use(s)

See section 1.2

## SECTION 8 Exposure controls / personal protection

### 8.1. Control parameters

| Ingredient          | DNELs<br>Exposure Pattern Worker   | PNECs<br>Compartment  |
|---------------------|--|---|
| potassium hydroxide | Inhalation 1 mg/m <sup>3</sup> (Local, Chronic)<br><i>Inhalation 1 mg/m<sup>3</sup> (Local, Chronic) *</i>   | Not Available   |
| diethylaminoethanol | Dermal 2.5 mg/kg bw/day (Systemic, Chronic)<br>Inhalation 18.3 mg/m <sup>3</sup> (Systemic, Chronic)<br>Inhalation 10.7 mg/m <sup>3</sup> (Local, Chronic)   | 0.062 mg/L (Water (Fresh))<br>0.34 mg/L (Water - Intermittent release)<br>0.006 mg/L (Water (Marine))<br>0.673 mg/kg sediment dw (Sediment (Fresh Water))<br>0.067 mg/kg sediment dw (Sediment (Marine))<br>0.098 mg/kg soil dw (Soil)<br>10 mg/L (STP) |
| ethanolamine        | Dermal 3 mg/kg bw/day (Systemic, Chronic)<br>Inhalation 1 mg/m <sup>3</sup> (Systemic, Chronic)<br>Inhalation 0.51 mg/m <sup>3</sup> (Local, Chronic)<br><i>Dermal 1.5 mg/kg bw/day (Systemic, Chronic) *</i><br><i>Inhalation 0.18 mg/m<sup>3</sup> (Systemic, Chronic) *</i><br><i>Oral 1.5 mg/kg bw/day (Systemic, Chronic) *</i><br><i>Inhalation 0.28 mg/m<sup>3</sup> (Local, Chronic) *</i> | 0.07 mg/L (Water (Fresh))<br>0.028 mg/L (Water - Intermittent release)<br>0.007 mg/L (Water (Marine))<br>0.357 mg/kg sediment dw (Sediment (Fresh Water))<br>0.036 mg/kg sediment dw (Sediment (Marine))<br>1.29 mg/kg soil dw (Soil)<br>100 mg/L (STP) |

\* Values for General Population

### Occupational Exposure Limits (OEL)

#### INGREDIENT DATA

| Source   | Ingredient          | Material name                               | TWA                           | STEL                          | Peak                          | Notes  |
|--|---------------------|---|-------------------------------|-------------------------------|-------------------------------|--|
| Iceland Occupational Exposure Limits   | potassium hydroxide | Potassium hydroxide                         | Not Available                 | Not Available                 | 2 mg/m <sup>3</sup>           | Not Available  |
| Iceland Occupational Exposure Limits   | diethylaminoethanol | 2-Diethylaminoethanol (diethylethanolamine) | 2 ppm / 9.6 mg/m <sup>3</sup> | Not Available                 | Not Available                 | the substance can easily enter the body through the skin |
| EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs) | ethanolamine        | 2-Aminoethanol                              | 1 ppm / 2.5 mg/m <sup>3</sup> | 7.6 mg/m <sup>3</sup> / 3 ppm | Not Available                 | Skin   |
| Iceland Occupational Exposure Limits   | ethanolamine        | 2-Aminoethanol (ethanolamine)               | 1 ppm / 2.5 mg/m <sup>3</sup> | Not Available                 | 3 ppm / 7.6 mg/m <sup>3</sup> | the substance can easily enter the body through the skin |

### Emergency Limits

| Ingredient          | TEEL-1                 | TEEL-2              | TEEL-3               |
|---------------------|------------------------|---------------------|----------------------|
| potassium hydroxide | 0.18 mg/m <sup>3</sup> | 2 mg/m <sup>3</sup> | 54 mg/m <sup>3</sup> |
| diethylaminoethanol | 6 ppm                  | 83 ppm              | 500 ppm              |
| ethanolamine        | 6 ppm                  | 170 ppm             | 1,000 ppm            |

| Ingredient          | Original IDLH | Revised IDLH  |
|---------------------|---------------|---------------|
| potassium hydroxide | Not Available | Not Available |
| diethylaminoethanol | 100 ppm       | Not Available |
| ethanolamine        | 30 ppm        | Not Available |

### MATERIAL DATA

for potassium hydroxide:

The TLV-TWA is protective against respiratory tract irritation produced at higher concentrations

For diethylaminoethanol:

Odour Threshold Value: 0.011 ppm (detection), 0.040 ppm (recognition)

The TLV-TWA is thought to be protective against irritation and sensitisation.

Odour Safety Factor(OSF)

OSF=1.8E2 (2-DIETHYLAMINOETHANOL)

Exposed individuals are **NOT** reasonably expected to be warned, by smell, that the Exposure Standard is being exceeded.

Odour Safety Factor (OSF) is determined to fall into either Class C, D or E.

The Odour Safety Factor (OSF) is defined as:

OSF= Exposure Standard (TWA) ppm/ Odour Threshold Value (OTV) ppm

Classification into classes follows:

| Class | OSF    | Description  |
|-------|--------|--|
| A     | 550    | Over 90% of exposed individuals are aware by smell that the Exposure Standard (TLV-TWA for example) is being reached, even when distracted by working activities |
| B     | 26-550 | As "A" for 50-90% of persons being distracted  |
|       | 1-26   | As "A" for less than 50% of persons being distracted   |
| D     | 0.18-1 | 10-50% of persons aware of being tested perceive by smell that the Exposure Standard is being reached  |
| E     | <0.18  | As "D" for less than 10% of persons aware of being tested  |

for monoethanolamine:

Odour threshold: 3-4 ppm.


Continuous exposure at 5 ppm produced only slight systemic effects. Intermittent exposure produces a lesser degree of toxicity in laboratory animals. This decreased toxicity is related to the rate of elimination;

the longer retained, the greater the toxicity,. The TLV-TWA is thought to be protective against the risk of irritation and neuropathic effects.

Odour Safety Factor (OSF)

OSF=0.77 (ETHANOL AMINE)

## 8.2. Exposure controls

|  |  |
|--|--|
| <p><b>8.2.1. Appropriate engineering controls</b></p>                                      | <p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure.</p>   |
| <p><b>8.2.2. Individual protection measures, such as personal protective equipment</b></p> |   |
| <p><b>Eye and face protection</b></p>  | <ul style="list-style-type: none"> <li>▶ Safety glasses with unperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient where complete eye protection is needed such as when handling bulk-quantities, where there is a danger of splashing, or if the material may be under pressure.</li> <li>▶ Chemical goggles. Whenever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted. [AS/NZS 1337.1, EN166 or national equivalent]</li> <li>▶ Full face shield (20 cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes; these afford face protection.</li> <li>▶ Alternatively a gas mask may replace splash goggles and face shields.</li> <li>▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.</li> </ul> |
| <p><b>Skin protection</b></p>  | <p>See Hand protection below</p>   |
| <p><b>Hands/feet protection</b></p>  | <ul style="list-style-type: none"> <li>▶ Elbow length PVC gloves</li> <li>▶ When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots.</li> </ul> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>▶ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.</li> <li>▶ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.</li> </ul>  |
| <p><b>Body protection</b></p>  | <p>See Other protection below</p>  |
| <p><b>Other protection</b></p>   | <ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ PVC Apron.</li> <li>▶ PVC protective suit may be required if exposure severe.</li> <li>▶ Eyewash unit.</li> <li>▶ Ensure there is ready access to a safety shower.</li> </ul>  |

## Recommended material(s)

### GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

**"Forsberg Clothing Performance Index".**

The effect(s) of the following substance(s) are taken into account in the **computer-generated** selection:

## Respiratory protection

Type AK-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.

Continued...



Autotreat

Autotreat

| Material         | CPI |
|------------------|-----|
| BUTYL            | A   |
| NITRILE          | A   |
| BUTYL/NEOPRENE   | C   |
| HYPALON          | C   |
| NATURAL RUBBER   | C   |
| NATURAL+NEOPRENE | C   |
| NEOPRENE         | C   |
| NEOPRENE/NATURAL | C   |
| NITRILE+PVC      | C   |
| PVA              | C   |
| PVC              | C   |
| VITON            | C   |

\* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

**NOTE:** As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

\* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

**Ansell Glove Selection**

| Glove — In order of recommendation |
|------------------------------------|
| AlphaTec® 15-554                   |
| AlphaTec® Solvex® 37-185           |
| AlphaTec® 38-612                   |
| AlphaTec® 58-008                   |
| AlphaTec® 58-530B                  |
| AlphaTec® 58-530W                  |
| AlphaTec® 58-735                   |
| AlphaTec® Solvex® 37-675           |
| AlphaTec® 79-700                   |
| DermaShield™ 73-711                |

The suggested gloves for use should be confirmed with the glove supplier.

**8.2.3. Environmental exposure controls**

See section 12

**SECTION 9 Physical and chemical properties**

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

|  |               |  |               |
|--|---------------|--|---------------|
| <b>Appearance</b>                          | Yellow        |  |               |
| <b>Physical state</b>                      | Liquid        | <b>Relative density (Water = 1)</b>            | 1.105 - 1.125 |
| <b>Odour</b>                               | Not Available | <b>Partition coefficient n-octanol / water</b> | Not Available |
| <b>Odour threshold</b>                     | Not Available | <b>Auto-ignition temperature (°C)</b>          | Not Available |
| <b>pH (as supplied)</b>                    | 13-14         | <b>Decomposition temperature (°C)</b>          | Not Available |
| <b>Melting point / freezing point (°C)</b> | Not Available | <b>Viscosity (cSt)</b>                         | Not Available |
| <b>Initial boiling point and</b>           | >100-760      | <b>Molecular weight (g/mol)</b>                | Not Available |

Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

| Required Minimum Protection Factor | Half-Face Respirator | Full-Face Respirator | Powered Air Respirator   |
|------------------------------------|----------------------|----------------------|--------------------------|
| up to 10 x ES                      | AK-AUS P2            | -                    | AK-PAPR-AUS / Class 1 P2 |
| up to 50 x ES                      | -                    | AK-AUS / Class 1 P2  | -                        |
| up to 100 x ES                     | -                    | AK-2 P2              | AK-PAPR-2 P2 ^           |

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

## Autotreat

|                           |                        |                                   |               |
|---------------------------|------------------------|-----------------------------------|---------------|
| boiling range (°C)        |                        |                                   |               |
| Flash point (°C)          | >62                    | Taste                             | Not Available |
| Evaporation rate          | Not Available BuAC = 1 | Explosive properties              | Not Available |
| Flammability              | Combustible.           | Oxidising properties              | Not Available |
| Upper Explosive Limit (%) | Not Available          | Surface Tension (dyn/cm or mN/m)  | Not Available |
| Lower Explosive Limit (%) | Not Available          | Volatile Component (%vol)         | Not Available |
| Vapour pressure (kPa)     | Not Available          | Gas group                         | Not Available |
| Solubility in water       | Miscible               | pH as a solution (1%)             | Not Available |
| Vapour density (Air = 1)  | Not Available          | VOC g/L                           | Not Available |
| Nanoform Solubility       | Not Available          | Nanoform Particle Characteristics | Not Available |
| Particle Size             | Not Available          |                                   |               |

## 9.2. Other information

Not Available

## SECTION 10 Stability and reactivity

|  |  |
|--|--|
| 10.1.Reactivity                          | See section 7.2  |
| 10.2. Chemical stability                 | <ul style="list-style-type: none"> <li>▶ Unstable in the presence of incompatible materials.</li> <li>▶ Product is considered stable.</li> <li>▶ Hazardous polymerisation will not occur.</li> </ul> |
| 10.3. Possibility of hazardous reactions | See section 7.2  |
| 10.4. Conditions to avoid                | See section 7.2  |
| 10.5. Incompatible materials             | See section 7.2  |
| 10.6. Hazardous decomposition products   | See section 5.3  |

## SECTION 11 Toxicological information

## 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

|           |  |
|-----------|--|
| Inhaled   | <p>Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system, in a substantial number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung damage resulting in the impairment of gas exchange, the primary function of the lungs. Respiratory tract irritation often results in an inflammatory response involving the recruitment and activation of many cell types, mainly derived from the vascular system.</p> <p>Inhalation of alkaline corrosives may produce irritation of the respiratory tract with coughing, choking, pain and mucous membrane damage. Pulmonary oedema may develop in more severe cases; this may be immediate or in most cases following a latent period of 5-72 hours. Symptoms may include a tightness in the chest, dyspnoea, frothy sputum, cyanosis and dizziness. Findings may include hypotension, a weak and rapid pulse and moist rales.</p> <p>Inhalation of potassium hydroxide dust may be fatal due to spasm, inflammation and oedema of the larynx and bronchi, chemical pneumonitis and severe pulmonary oedema. Symptoms of overexposure include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting</p> <p>The material has <b>NOT</b> been classified by EC Directives or other classification systems as "harmful by inhalation". This is because of the lack of corroborating animal or human evidence. In the absence of such evidence, care should be taken nevertheless to ensure exposure is kept to a minimum and that suitable control measures be used, in an occupational setting to control vapours, fumes and aerosols.</p> |
| Ingestion | <p>Ingestion of alkaline corrosives may produce immediate pain, and circumoral burns. Mucous membrane corrosive damage is characterised by a white appearance and soapy feel; this may then become brown, oedematous and ulcerated. Profuse salivation with an inability to swallow or speak may also result. Even where there is limited or no evidence of chemical burns, both the oesophagus and stomach may experience a burning pain; vomiting and diarrhoea may follow. The vomitus may be thick and may be slimy (mucous) and may eventually contain blood and shreds of mucosa. Epiglottal oedema may result in respiratory distress and asphyxia. Marked hypotension is symptomatic of shock; a weak and rapid pulse, shallow respiration and clammy skin may also be evident.</p> <p>Swallowing of the liquid may cause aspiration of vomit into the lungs with the risk of haemorrhaging, pulmonary oedema, progressing to chemical pneumonitis; serious consequences may result.</p> <p>Signs and symptoms of chemical (aspiration) pneumonitis may include coughing, gasping, choking, burning of the mouth, difficult breathing, and bluish coloured skin (cyanosis).</p> <p>The material has <b>NOT</b> been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health).</p>   |

Continued...

**Autotreat**

|                     |   |
|---------------------|---|
|                     | Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.  |
| <b>Skin Contact</b> | <p>The material can produce severe chemical burns following direct contact with the skin.</p> <p>Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions.</p> <p>Potassium hydroxide burns are not immediately painful; onset of pain may be delayed minutes or hours; thus care should be taken to avoid contamination of gloves and boots.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p> <p>Skin contact with alkaline corrosives may produce severe pain and burns; brownish stains may develop. The corroded area may be soft, gelatinous and necrotic; tissue destruction may be deep.</p>   |
| <b>Eye</b>          | Direct contact with alkaline corrosives may produce pain and burns. Oedema, destruction of the epithelium, corneal opacification and iritis may occur. In less severe cases these symptoms tend to resolve. In severe injuries the full extent of the damage may not be immediately apparent with late complications comprising a persistent oedema, vascularisation and corneal scarring, permanent opacity, staphyloma, cataract, symblepharon and loss of sight.   |
| <b>Chronic</b>      | <p>Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue. Gastrointestinal disturbances may also occur. Chronic exposures may result in dermatitis and/or conjunctivitis.</p> <p>Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems.</p> <p>Practical experience shows that skin contact with the material is capable either of inducing a sensitisation reaction in a substantial number of individuals, and/or of producing a positive response in experimental animals.</p> <p>Substances that can cause occupational asthma (also known as asthmagens and respiratory sensitisers) can induce a state of specific airway hyper-responsiveness via an immunological, irritant or other mechanism. Once the airways have become hyper-responsive, further exposure to the substance, sometimes even to tiny quantities, may cause respiratory symptoms. These symptoms can range in severity from a runny nose to asthma. Not all workers who are exposed to a sensitiser will become hyper-responsive and it is impossible to identify in advance who are likely to become hyper-responsive.</p> <p>Substances than can cuase occupational asthma should be distinguished from substances which may trigger the symptoms of asthma in people with pre-existing air-way hyper-responsiveness. The latter substances are not classified as asthmagens or respiratory sensitisers</p> <p>Wherever it is reasonably practicable, exposure to substances that can cuase occupational asthma should be prevented.</p> <p>Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.</p> <p>Serious damage (clear functional disturbance or morphological change which may have toxicological significance) is likely to be caused by repeated or prolonged exposure. As a rule the material produces, or contains a substance which produces severe lesions. Such damage may become apparent following direct application in subchronic (90 day) toxicity studies or following sub-acute (28 day) or chronic (two-year) toxicity tests.</p> <p>Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.</p> |

|                            |   |   |
|----------------------------|---|---|
| <b>Autotreat</b>           | <b>TOXICITY</b>                                       | <b>IRRITATION</b>   |
|                            | Not Available   | Not Available   |
| <b>potassium hydroxide</b> | <b>TOXICITY</b>                                       | <b>IRRITATION</b>   |
|                            | Oral (Rat) LD50: 273 mg/kg <sup>[2]</sup>             | Eye (rabbit):1mg/24h rinse-moderate                               |
|                            |   | Eye: adverse effect observed (irritating) <sup>[1]</sup>          |
|                            |   | Skin (human): 50 mg/24h SEVERE                                    |
|                            |   | Skin (rabbit): 50 mg/24h SEVERE                                   |
|                            |   | Skin: adverse effect observed (corrosive) <sup>[1]</sup>          |
| <b>diethylaminoethanol</b> | <b>TOXICITY</b>                                       | <b>IRRITATION</b>   |
|                            | Dermal (Guinea Pig) LD50: ~885 mg/kg <sup>[1]</sup>   | Eye (rabbit) : 5 mg - SEVERE                                      |
|                            | Inhalation(Mouse) LC50; 5 mg/L4h <sup>[2]</sup>       | Eye: adverse effect observed (irritating) <sup>[1]</sup>          |
|                            | Oral (Rat) LD50: 1300 mg/kg <sup>[2]</sup>            | Skin (rabbit): 10 mg/24h - open                                   |
|                            |   | Skin (rabbit): 500 mg-open - mild                                 |
|                            |   | Skin: adverse effect observed (corrosive) <sup>[1]</sup>          |
| <b>ethanolamine</b>        | <b>TOXICITY</b>                                       | <b>IRRITATION</b>   |
|                            | Dermal (rabbit) LD50: 1000 mg/kg <sup>[2]</sup>       | Eye (rabbit): 0.76 mg - SEVERE                                    |
|                            | Inhalation(Guinea) LC50; ~0.145 mg/l4h <sup>[2]</sup> | Eye: adverse effect observed (irreversible damage) <sup>[1]</sup> |
|                            | Oral (Guinea) LD50; 620 mg/kg <sup>[2]</sup>          | Skin (rabbit):505 mg open-moderate                                |
|                            |   | Skin: adverse effect observed (corrosive) <sup>[1]</sup>          |

## Autotreat

**Legend:** 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

|   |   |
|---|---|
| <b>Autotreat</b>  | The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.  |
| <b>POTASSIUM HYDROXIDE</b>  | The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.<br>The material may produce severe skin irritation after prolonged or repeated exposure, and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) thickening of the epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis. Prolonged contact is unlikely, given the severity of response, but repeated exposures may produce severe ulceration.   |
| <b>DIETHYLAMINOETHANOL</b>  | The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.<br>For diethylaminoethanol (DEAE)<br><b>Acute toxicity:</b> DEAE was rapidly absorbed via the oral route. It is presumably absorbed by dermal and inhalation routes of administration. In the rat it was widely distributed to many tissues. It was primarily excreted unchanged via the urine in rats. Excretion via the feces was also observed in rats, but to a lesser extent. Urinary excretion was also reported in humans. The major metabolites in rats were reported to be diethylaminoacetic acid and diethyl-(2- hydroxyethyl)-amino-oxide.<br>The LD50 for the rat after oral administration was 1320 mg/kg bw.  |
| <b>ETHANOLAMINE</b>   | * Bayer<br>The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling the epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.   |
| <b>Autotreat &amp; POTASSIUM HYDROXIDE &amp; DIETHYLAMINOETHANOL &amp; ETHANOLAMINE</b> | Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production.   |
| <b>DIETHYLAMINOETHANOL &amp; ETHANOLAMINE</b>   | While it is difficult to generalise about the full range of potential health effects posed by exposure to the many different amine compounds, characterised by those used in the manufacture of polyurethane and polyisocyanurate foams, it is agreed that overexposure to the majority of these materials may cause adverse health effects.<br><ul style="list-style-type: none"> <li>▶ Many amine-based compounds can induce histamine liberation, which, in turn, can trigger allergic and other physiological effects, including bronchoconstriction or bronchial asthma and rhinitis.</li> <li>▶ Systemic symptoms include headache, nausea, faintness, anxiety, a decrease in blood pressure, tachycardia (rapid heartbeat), itching, erythema (reddening of the skin), urticaria (hives), and facial edema (swelling). Systemic effects (those affecting the body) that are related to the pharmacological action of amines are usually transient.</li> </ul> Typically, there are four routes of possible or potential exposure: inhalation, skin contact, eye contact, and ingestion.<br><b>Inhalation:</b><br>Inhalation of vapors may, depending upon the physical and chemical properties of the specific product and the degree and length of exposure, result in moderate to severe irritation of the tissues of the nose and throat and can irritate the lungs. Products with higher vapour pressures have a greater potential for higher airborne concentrations. This increases the probability of worker exposure.<br>Higher concentrations of certain amines can produce severe respiratory irritation, characterised by nasal discharge, coughing, difficulty in breathing, and chest pains.<br>Chronic exposure via inhalation may cause headache, nausea, vomiting, drowsiness, sore throat, bronchopneumonia, and possible lung damage. Also, repeated and/or prolonged exposure to some amines may result in liver disorders, jaundice, and liver enlargement. Some amines have been shown to cause kidney, blood, and central nervous system disorders in laboratory animal studies.<br>While most polyurethane amine catalysts are not sensitizers, some certain individuals may also become sensitized to amines and may experience respiratory distress, including asthma-like attacks, whenever they are subsequently exposed to even very small amounts of vapor. Once sensitized, these individuals must avoid any further exposure to amines. Although chronic or repeated inhalation of vapor concentrations below hazardous or recommended exposure limits should not ordinarily affect healthy individuals, chronic overexposure may lead to permanent pulmonary injury, including a reduction in lung function, breathlessness, chronic bronchitis, and immunologic lung disease.<br>Inhalation hazards are increased when exposure to amine catalysts occurs in situations that produce aerosols, mists, or heated vapors.<br>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. |
| <b>Acute Toxicity</b>   | ✓   |
| <b>Carcinogenicity</b>  | ✗   |

Continued...

## Autotreat

|                                   |   |                          |   |
|-----------------------------------|---|--------------------------|---|
| Skin Irritation/Corrosion         | ✓ | Reproductivity           | ✗ |
| Serious Eye Damage/Irritation     | ✗ | STOT - Single Exposure   | ✗ |
| Respiratory or Skin sensitisation | ✗ | STOT - Repeated Exposure | ✗ |
| Mutagenicity                      | ✗ | Aspiration Hazard        | ✗ |

**Legend:** ✗ – Data either not available or does not fill the criteria for classification  
 ✓ – Data available to make classification

## 11.2 Information on other hazards

## 11.2.1. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

## 11.2.2. Other information

See Section 11.1

## SECTION 12 Ecological information

## 12.1. Toxicity

| Autotreat           | Endpoint   | Test Duration (hr) | Species                       | Value         | Source        |
|---------------------|--|--------------------|-------------------------------|---------------|---------------|
|                     | Not Available  | Not Available      | Not Available                 | Not Available | Not Available |
| potassium hydroxide | Endpoint   | Test Duration (hr) | Species                       | Value         | Source        |
|                     | NOEC(ECx)  | 24h                | Fish                          | 28mg/l        | 2             |
|                     | LC50   | 96h                | Fish                          | 80mg/l        | 2             |
| diethylaminoethanol | Endpoint   | Test Duration (hr) | Species                       | Value         | Source        |
|                     | BCF  | 672h               | Fish                          | <0.61         | 7             |
|                     | NOEC(ECx)  | 72h                | Algae or other aquatic plants | 5mg/l         | 2             |
|                     | LC50   | 96h                | Fish                          | 100mg/l       | 1             |
|                     | EC50   | 72h                | Algae or other aquatic plants | 28mg/l        | 2             |
|                     | EC50   | 48h                | Crustacea                     | 83.6mg/l      | 1             |
|                     | EC50   | 96h                | Algae or other aquatic plants | 40.7mg/l      | 2             |
| ethanolamine        | Endpoint   | Test Duration (hr) | Species                       | Value         | Source        |
|                     | EC50   | 72h                | Algae or other aquatic plants | 15mg/l        | 1             |
|                     | EC50   | 48h                | Crustacea                     | 65mg/l        | 1             |
|                     | LC50   | 96h                | Fish                          | 75mg/l        | 1             |
|                     | NOEC(ECx)  | 72h                | Algae or other aquatic plants | 4mg/l         | 1             |
|                     | EC50   | 96h                | Algae or other aquatic plants | 80mg/l        | 2             |
| <b>Legend:</b>      | Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data |                    |                               |               |               |

Harmful to aquatic organisms.

Prevent, by any means available, spillage from entering drains or water courses.

**DO NOT discharge into sewer or waterways.**

## 12.2. Persistence and degradability

| Ingredient          | Persistence: Water/Soil | Persistence: Air |
|---------------------|-------------------------|------------------|
| diethylaminoethanol | LOW                     | LOW              |
| ethanolamine        | LOW                     | LOW              |

## 12.3. Bioaccumulative potential

| Ingredient          | Bioaccumulation      |
|---------------------|----------------------|
| diethylaminoethanol | LOW (BCF = 6.1)      |
| ethanolamine        | LOW (LogKOW = -1.31) |

Continued...

**12.4. Mobility in soil**

| Ingredient          | Mobility              |
|---------------------|-----------------------|
| diethylaminoethanol | LOW (Log KOC = 5.979) |
| ethanolamine        | HIGH (Log KOC = 1)    |

**12.5. Results of PBT and vPvB assessment**

|                         | P             | B             | T             |
|-------------------------|---------------|---------------|---------------|
| Relevant available data | Not Available | Not Available | Not Available |
| PBT                     | ✗             | ✗             | ✗             |
| vPvB                    | ✗             | ✗             | ✗             |
| PBT Criteria fulfilled? | No            |               |               |
| vPvB                    | No            |               |               |

**12.6. Endocrine disrupting properties**

No evidence of endocrine disrupting properties were found in the current literature.

**12.7. Other adverse effects**

No evidence of ozone depleting properties were found in the current literature.


**SECTION 13 Disposal considerations**

**13.1. Waste treatment methods**

|                                     |  |
|-------------------------------------|--|
| <b>Product / Packaging disposal</b> | <ul style="list-style-type: none"> <li>▶ Containers may still present a chemical hazard/ danger when empty.</li> <li>▶ Return to supplier for reuse/ recycling if possible.</li> </ul> <p>Otherwise:</p> <ul style="list-style-type: none"> <li>▶ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.</li> <li>▶ Where possible retain label warnings and SDS and observe all notices pertaining to the product.</li> <li>▶ <b>DO NOT allow wash water from cleaning or process equipment to enter drains.</b></li> <li>▶ It may be necessary to collect all wash water for treatment before disposal.</li> <li>▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.</li> <li>▶ Where in doubt contact the responsible authority.</li> <li>▶ Recycle wherever possible.</li> <li>▶ Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.</li> <li>▶ Treat and neutralise at an approved treatment plant.</li> <li>▶ Treatment should involve: Neutralisation with suitable dilute acid followed by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material).</li> <li>▶ Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.</li> </ul> |
| <b>Waste treatment options</b>      | Not Available  |
| <b>Sewage disposal options</b>      | Not Available  |

**SECTION 14 Transport information**

**Labels Required**

|                         |   |
|-------------------------|---|
|                         |  |
| <b>Marine Pollutant</b> | NO  |

**Land transport (ADR-RID)**

|   |                              |
|---|------------------------------|
| <b>14.1. UN number or ID number</b>     | 1814                         |
| <b>14.2. UN proper shipping name</b>    | POTASSIUM HYDROXIDE SOLUTION |
| <b>14.3. Transport hazard class(es)</b> | Class 8                      |

Autotreat

|                                    |                                |                |
|------------------------------------|--------------------------------|----------------|
|                                    | Subsidiary Hazard              | Not Applicable |
| 14.4. Packing group                | II                             |                |
| 14.5. Environmental hazard         | Not Applicable                 |                |
| 14.6. Special precautions for user | Hazard identification (Kemler) | 80             |
|                                    | Classification code            | C5             |
|                                    | Hazard Label                   | 8              |
|                                    | Special provisions             | Not Applicable |
|                                    | Limited quantity               | 1 L            |
|                                    | Tunnel Restriction Code        | E              |

Air transport (ICAO-IATA / DGR)

|                                    |   |                |
|------------------------------------|---|----------------|
| 14.1. UN number                    | 1814  |                |
| 14.2. UN proper shipping name      | Potassium hydroxide solution                              |                |
| 14.3. Transport hazard class(es)   | ICAO/IATA Class   | 8              |
|                                    | ICAO / IATA Subsidiary Hazard                             | Not Applicable |
|                                    | ERG Code  | 8L             |
| 14.4. Packing group                | II  |                |
| 14.5. Environmental hazard         | Not Applicable  |                |
| 14.6. Special precautions for user | Special provisions  | A3 A803        |
|                                    | Cargo Only Packing Instructions                           | 855            |
|                                    | Cargo Only Maximum Qty / Pack                             | 30 L           |
|                                    | Passenger and Cargo Packing Instructions                  | 851            |
|                                    | Passenger and Cargo Maximum Qty / Pack                    | 1 L            |
|                                    | Passenger and Cargo Limited Quantity Packing Instructions | Y840           |
|                                    | Passenger and Cargo Limited Maximum Qty / Pack            | 0.5 L          |

Sea transport (IMDG-Code / GGVSee)

|                                    |                              |                |
|------------------------------------|------------------------------|----------------|
| 14.1. UN number                    | 1814                         |                |
| 14.2. UN proper shipping name      | POTASSIUM HYDROXIDE SOLUTION |                |
| 14.3. Transport hazard class(es)   | IMDG Class                   | 8              |
|                                    | IMDG Subsidiary Hazard       | Not Applicable |
| 14.4. Packing group                | II                           |                |
| 14.5. Environmental hazard         | Not Applicable               |                |
| 14.6. Special precautions for user | EMS Number                   | F-A , S-B      |
|                                    | Special provisions           | Not Applicable |
|                                    | Limited Quantities           | 1 L            |

Inland waterways transport (ADN)

|                                    |                              |                |
|------------------------------------|------------------------------|----------------|
| 14.1. UN number                    | 1814                         |                |
| 14.2. UN proper shipping name      | POTASSIUM HYDROXIDE SOLUTION |                |
| 14.3. Transport hazard class(es)   | 8                            | Not Applicable |
| 14.4. Packing group                | II                           |                |
| 14.5. Environmental hazard         | Not Applicable               |                |
| 14.6. Special precautions for user | Classification code          | C5             |
|                                    | Special provisions           | Not Applicable |

## Autotreat

|                    |        |
|--------------------|--------|
| Limited quantity   | 1 L    |
| Equipment required | PP, EP |
| Fire cones number  | 0      |

**14.7. Maritime transport in bulk according to IMO instruments****14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code**

Not Applicable

**14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code**

| Product name        | Group         |
|---------------------|---------------|
| potassium hydroxide | Not Available |
| diethylaminoethanol | Not Available |
| ethanolamine        | Not Available |

**14.7.3. Transport in bulk in accordance with the IGC Code**

| Product name        | Ship Type     |
|---------------------|---------------|
| potassium hydroxide | Not Available |
| diethylaminoethanol | Not Available |
| ethanolamine        | Not Available |

**SECTION 15 Regulatory information****15.1. Safety, health and environmental regulations / legislation specific for the substance or mixture****potassium hydroxide is found on the following regulatory lists**

## Europe EC Inventory

European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)

European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI

Iceland Occupational Exposure Limits

**diethylaminoethanol is found on the following regulatory lists**

EU REACH Regulation (EC) No 1907/2006 - Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

## Europe EC Inventory

European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)

European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI

Iceland Occupational Exposure Limits

**ethanolamine is found on the following regulatory lists**

EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs)

EU European Chemicals Agency (ECHA) Community Rolling Action Plan (CoRAP) List of Substances

## Europe EC Inventory

European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)

European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI

Iceland Occupational Exposure Limits

**Additional Regulatory Information**

Not Applicable

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - : Directives 98/24/EC, - 92/85/EEC, - 94/33/EC, - 2008/98/EC, - 2010/75/EU; Commission Regulation (EU) 2020/878; Regulation (EC) No 1272/2008 as updated through ATPs.

**Information according to 2012/18/EU (Seveso III):**

|                        |               |
|------------------------|---------------|
| <b>Seveso Category</b> | Not Available |
|------------------------|---------------|

**15.2. Chemical safety assessment**

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

**National Inventory Status**

Continued...



## Autotreat

| National Inventory                             | Status  |
|--|---|
| Australia - AIC / Australia Non-Industrial Use | Yes   |
| Canada - DSL                                   | Yes   |
| Canada - NDSL                                  | No (potassium hydroxide; diethylaminoethanol; ethanolamine)   |
| China - IECSC                                  | Yes   |
| Europe - EINEC / ELINCS / NLP                  | Yes   |
| Japan - ENCS                                   | Yes   |
| Korea - KECI                                   | Yes   |
| New Zealand - NZIoC                            | Yes   |
| Philippines - PICCS                            | Yes   |
| USA - TSCA                                     | Yes   |
| Taiwan - TCSI                                  | Yes   |
| Mexico - INSQ                                  | Yes   |
| Vietnam - NCI                                  | Yes   |
| Russia - FBEPH                                 | Yes   |
| <b>Legend:</b>                                 | Yes = All CAS declared ingredients are on the inventory<br>No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration. |

## SECTION 16 Other information

|                      |            |
|----------------------|------------|
| <b>Revision Date</b> | 19/06/2024 |
| <b>Initial Date</b>  | 18/03/2018 |

## CONTACT POINT

- For quotations contact your local Customer Services - <http://wssdirectory.wilhelmsen.com/#/customerservices> - - Responsible for safety data sheet Wilhelmsen Ships Service AS - Prepared by: Compliance Manager, - Email: [wss.global.sdsinfo@wilhelmsen.com](mailto:wss.global.sdsinfo@wilhelmsen.com) - Telephone: Tel.: +47 67584000

## Full text Risk and Hazard codes

|             |                               |
|-------------|-------------------------------|
| <b>H226</b> | Flammable liquid and vapour.  |
| <b>H312</b> | Harmful in contact with skin. |
| <b>H332</b> | Harmful if inhaled.           |

## SDS Version Summary

| Version | Date of Update | Sections Updated  |
|---------|----------------|---|
| 9.14    | 19/06/2024     | Toxicological information - Acute Health (skin), Toxicological information - Acute Health (swallowed), First Aid measures - Advice to Doctor, Toxicological information - Chronic Health, Hazards identification - Classification, Disposal considerations - Disposal, Ecological Information - Environmental, Exposure controls / personal protection - Exposure Standard, Composition / information on ingredients - Ingredients, Exposure controls / personal protection - Personal Protection (hands/feet), Identification of the substance / mixture and of the company / undertaking - Synonyms |

## Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:

EN 166 Personal eye-protection

EN 340 Protective clothing

EN 374 Protective gloves against chemicals and micro-organisms

EN 13832 Footwear protecting against chemicals

EN 133 Respiratory protective devices

## Definitions and abbreviations

- PC - TWA: Permissible Concentration-Time Weighted Average
- PC - STEL: Permissible Concentration-Short Term Exposure Limit

Continued...

## Autotreat

- IARC: International Agency for Research on Cancer
- ACGIH: American Conference of Governmental Industrial Hygienists
- STEL: Short Term Exposure Limit
- TEEL: Temporary Emergency Exposure Limit,
- IDLH: Immediately Dangerous to Life or Health Concentrations
- ES: Exposure Standard
- OSF: Odour Safety Factor
- NOAEL: No Observed Adverse Effect Level
- LOAEL: Lowest Observed Adverse Effect Level
- TLV: Threshold Limit Value
- LOD: Limit Of Detection
- OTV: Odour Threshold Value
- BCF: BioConcentration Factors
- BEI: Biological Exposure Index
- DNEL: Derived No-Effect Level
- PNEC: Predicted no-effect concentration
  
- AIIC: Australian Inventory of Industrial Chemicals
- DSL: Domestic Substances List
- NDSL: Non-Domestic Substances List
- IECSC: Inventory of Existing Chemical Substance in China
- EINECS: European INventory of Existing Commercial chemical Substances
- ELINCS: European List of Notified Chemical Substances
- NLP: No-Longer Polymers
- ENCS: Existing and New Chemical Substances Inventory
- KECI: Korea Existing Chemicals Inventory
- NZIoC: New Zealand Inventory of Chemicals
- PICCS: Philippine Inventory of Chemicals and Chemical Substances
- TSCA: Toxic Substances Control Act
- TCSI: Taiwan Chemical Substance Inventory
- INSQ: Inventario Nacional de Sustancias Químicas
- NCI: National Chemical Inventory
- FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

**Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]**

| Classification according to regulation (EC) No 1272/2008 [CLP] and amendments | Classification Procedure |
|---|--------------------------|
| Acute Toxicity (Oral)<br>Category 4, H302                                     | Expert judgement         |
| Skin Corrosion/Irritation<br>Category 1A, H314                                | Minimum classification   |

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