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

1.1 Product identifier
   - Product name: AMERLOCK SEALER HRD
   - Product code: 00333521
   - Product type: Liquid.
   - Other means of identification: Not available.

1.2 Relevant identified uses of the substance or mixture and uses advised against
   - Product use: Industrial applications, Used by spraying.
   - Use of the substance/mixture: Coating.

1.3 Details of the supplier of the safety data sheet
   Sigma Paint Saudi Arabia Ltd.
   PO Box 7509
   Dammam 31472
   Saudi Arabia
   Tel: 00966 138 47 31 00
   Fax: 00966 138 47 17 34
   - e-mail address of person responsible for this SDS: ndpic@sfda.gov.sa

1.4 Emergency telephone number: 00966 138473100 extn 1001

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
   - Product definition: Mixture
   - Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
     Acute Tox. 4, H302
     Acute Tox. 4, H332
     Skin Corr. 1C, H314
     Eye Dam. 1, H318
     Skin Sens. 1, H317
     Carc. 2, H351
     STOT SE 3, H335
     STOT RE 2, H373
     Aquatic Chronic 2, H411

   The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.
   See Section 16 for the full text of the H statements declared above.
   See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements
Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II

AMERLOCK SEALER HRD

Date of issue/Date of revision : 20 December 2018

SECTION 2: Hazards identification

Hazard pictograms :

Signal word : Danger
Hazard statements : Harmful if swallowed or if inhaled.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Suspected of causing cancer.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.
Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention : Wear protective gloves. Wear protective clothing. Wear eye or face protection. Do not breathe vapour.
Response : IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF SWALLOWED: Immediately call a POISON CENTER or physician. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Storage : Store locked up.
Disposal : Not applicable.

Hazardous ingredients :

furfuryl alcohol
Poly[ oxy(methyl-1,2-ethanediyl)], α-(2-aminomethyl-ethyl)-ω-(2-aminomethyleneoxy)-
Mixture of Cycloaliphatic Amines
3,6-diazaocataneethylenediamin

Supplemental label elements : Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.
Tactile warning of danger : Not applicable.

2.3 Other hazards
Other hazards which do not result in classification : Causes digestive tract burns. Prolonged or repeated contact may dry skin and cause irritation. Contains a substance that may emit formaldehyde if stored beyond its shelf life and/or during cure at curing temperatures greater than 60C/140F.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture
<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Identifiers</th>
<th>% by weight</th>
<th>Classification</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Furfuryl alcohol</td>
<td>REACH #: 01-2119493965-18</td>
<td>≥10 - ≤25</td>
<td>Acute Tox. 4, H302</td>
<td>[1][2]</td>
</tr>
<tr>
<td></td>
<td>CAS: 98-00-0</td>
<td></td>
<td>Acute Tox. 4, H312</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Index: 603-018-00-2</td>
<td></td>
<td>Acute Tox. 3, H331</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2, H319</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Carc. 2, H351</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STOT SE 3, H335</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STOT RE 2, H373</td>
<td></td>
</tr>
<tr>
<td>Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethyl)-ω-(2-aminomethylthelyoxy)-</td>
<td>REACH #: 01-2119557899-12</td>
<td>≥10 - ≤25</td>
<td>Skin Corr. 1C, H314</td>
<td>[1]</td>
</tr>
<tr>
<td>Formaldehyde, polymer with 1, 3-dimethylbenzene</td>
<td>EC: 618-561-0</td>
<td></td>
<td>Eye Dam. 1, H318</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CAS: 9046-10-0 (n = 2-6)</td>
<td></td>
<td>Aquatic Chronic 3, H412</td>
<td>[1]</td>
</tr>
<tr>
<td></td>
<td>CAS: 26139-75-3</td>
<td>≥10 - ≤25</td>
<td>Eye Irrit. 2, H315</td>
<td></td>
</tr>
<tr>
<td>benzyl alcohol</td>
<td>REACH #: 01-2119492630-38</td>
<td>≥5.0 - ≤10</td>
<td>Acute Tox. 4, H302</td>
<td>[1][2]</td>
</tr>
<tr>
<td></td>
<td>EC: 202-859-9</td>
<td></td>
<td>Acute Tox. 4, H332</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CAS: 100-51-6</td>
<td></td>
<td>Eye Irrit. 2, H319</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Index: 603-057-00-5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixture of Cycloaliphatic Amines</td>
<td>CAS: SUB100744</td>
<td>≥5.0 - ≤10</td>
<td>Acute Tox. 4, H302</td>
<td>[1]</td>
</tr>
<tr>
<td>TERTIARY AMINE</td>
<td>CAS: SUB100742</td>
<td>≥1.0 - ≤5.0</td>
<td>Eye Irrit. 2, H319</td>
<td>[1]</td>
</tr>
<tr>
<td>3,6-diazaoctanethylenediamin</td>
<td>EC: 203-950-6</td>
<td>≥0.30 - ≤2.6</td>
<td>Acute Tox. 4, H312</td>
<td>[1][2]</td>
</tr>
<tr>
<td></td>
<td>CAS: 112-24-3</td>
<td></td>
<td>Skin Corr. 1B, H314</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Index: 612-059-00-5</td>
<td></td>
<td>Eye Dam. 1, H318</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Sens. 1, H317</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic 3, H412</td>
<td></td>
</tr>
<tr>
<td>4-nonylphenol, branched</td>
<td>EC: 284-325-5</td>
<td>≥0.10 - ≤2.2</td>
<td>Acute Tox. 4, H302</td>
<td>[1][5]</td>
</tr>
<tr>
<td></td>
<td>CAS: 84852-15-3</td>
<td></td>
<td>Skin Corr. 1B, H314</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Index: 601-053-00-8</td>
<td></td>
<td>Eye Dam. 1, H318</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Repr. 2, H361fd (Fertility and Unborn child)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Acute 1, H400 (M=10)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic 1, H410 (M=10)</td>
<td></td>
</tr>
<tr>
<td>Nonylphenols</td>
<td>EC: 294-048-1</td>
<td>&lt;0.25</td>
<td>Acute Tox. 4, H302</td>
<td>[1][5]</td>
</tr>
<tr>
<td></td>
<td>CAS: 91672-41-2</td>
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<td>Skin Corr. 1B, H314</td>
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<td></td>
<td></td>
<td></td>
<td>Eye Dam. 1, H318</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Repr. 2, H361fd (Fertility and Unborn child)</td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Aquatic Acute 1, H400 (M=10)</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic 1, H410 (M=10)</td>
<td></td>
</tr>
</tbody>
</table>

See Section 16 for the full text of the H statements declared above.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Type
SECTION 3: Composition/information on ingredients

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[5] Substance of equivalent concern
[6] Additional disclosure due to company policy

Occupational exposure limits, if available, are listed in Section 8.

SUB codes represent substances without registered CAS Numbers.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.
Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.
Ingestion : If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do NOT induce vomiting.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : Harmful if inhaled. May cause respiratory irritation.
Skin contact : Causes severe burns. Defatting to the skin. May cause an allergic skin reaction.
Ingestion : Harmful if swallowed. Corrosive to the digestive tract. Causes burns.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
- pain
- watering
- redness
Inhalation : Adverse symptoms may include the following:
- respiratory tract irritation
- coughing
Skin contact : Adverse symptoms may include the following:
- pain or irritation
- redness
- dryness
- cracking
- blistering may occur
Ingestion : Adverse symptoms may include the following:
- stomach pains

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Specific treatments : No specific treatment.
SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media: None known.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: Decomposition products may include the following materials: carbon oxides, nitrogen oxides, Formaldehyde.

5.3 Advice for firefighters

Special precautions for fire-fighters: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and material for containment and cleaning up

Small spill: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill: Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spill product.
SECTION 6: Accidental release measures

6.4 Reference to other sections

See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

**Protective measures**

Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Avoid release to the environment. Refer to special instructions/safety data sheet. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene**

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Do not store above the following temperature: 50°C (122°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

See Section 1.2 for Identified uses.

**Recommendations**

**Industrial sector specific solutions**

Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

**Occupational exposure limits**
SECTION 8: Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Exposure limit values</th>
</tr>
</thead>
<tbody>
<tr>
<td>furfuryl alcohol</td>
<td>ACGIH TLV (United States, 3/2018). Absorbed through skin. TWA: 0.2 ppm 8 hours.</td>
</tr>
<tr>
<td>benzyl alcohol</td>
<td>IPEL (PPG). TWA: 10 ppm STEL: 50 ppm</td>
</tr>
<tr>
<td>3,6-diazaoctanethylenediamin</td>
<td>IPEL (PPG). Absorbed through skin. TWA: 1 ppm</td>
</tr>
</tbody>
</table>

Recommended monitoring procedures: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical substances) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

8.2 Exposure controls

Appropriate engineering controls: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Skin protection: Chemical splash goggles and face shield.

Hand protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 2 or higher (breakthrough time greater than 30 minutes according to EN 374) is recommended. The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

Gloves: nitrile neoprene

Body protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
SECTION 8: Exposure controls/personal protection

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection: Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance
- Physical state: Liquid.
- Colour: Not available.
- Odour: Characteristic.
- Odour threshold: Not available.
- pH: Insoluble in water.
- Melting point/freezing point: May start to solidify at the following temperature: 12°C (53.6°F) This is based on data for the following ingredient: 3,6-diazaoctanethylenediamin. Weighted average: -21.53°C (-6.8°F)
- Initial boiling point and boiling range: >37.78°C
- Flash point: Closed cup: 100°C
- Evaporation rate: Highest known value: 0.04 (furfuryl alcohol) Weighted average: 0.03 compared with butyl acetate
- Material supports combustion: Yes.
- Flammability (solid, gas): Liquid
- Upper/lower flammability or explosive limits: Greatest known range: Lower: 1.8% Upper: 16.3% (furfuryl alcohol)
- Vapour pressure: Highest known value: 0.09 kPa (0.7 mm Hg) (at 20°C) (Poly[oxy(methyl-1,2-ethanediyl)], o-(2-aminomethylvinyl)-ω-(2-aminomethylethoxy)-). Weighted average: 0.05 kPa (0.38 mm Hg) (at 20°C)
- Vapour density: Highest known value: 15.4 (Air = 1) (1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich). Weighted average: 6.65 (Air = 1)
- Relative density: 1.02
- Solubility(ies): Insoluble in the following materials: cold water.
- Water Solubility at room temperature: 21.5 g/l
- Partition coefficient: n-octanol/water: Not applicable.
- Auto-ignition temperature: Lowest known value: 337.78°C (640°F) (3,6-diazaoctanethylenediamin).
- Decomposition temperature: Stable under recommended storage and handling conditions (see Section 7).
- Viscosity: Kinematic (40°C): >0.21 cm²/s
- Explosive properties: Product does not present an explosion hazard.
- Oxidising properties: Product does not present an oxidizing hazard.
SECTION 9: Physical and chemical properties

9.2 Other information
No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity
No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability
The product is stable.

10.3 Possibility of hazardous reactions
Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid
When exposed to high temperatures may produce hazardous decomposition products.
Refer to protective measures listed in sections 7 and 8.

10.5 Incompatible materials
Keep away from the following materials to prevent strong exothermic reactions:
oxidising agents, strong alkalis, strong acids.

10.6 Hazardous decomposition products
Depending on conditions, decomposition products may include the following materials: carbon oxides nitrogen oxides Formaldehyde.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>furfuryl alcohol</td>
<td>LC50 Inhalation Vapour</td>
<td>Rat</td>
<td>934 mg/m³</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation Vapour</td>
<td>Rat</td>
<td>233 ppm</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>400 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rat</td>
<td>3825 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>0.132 g/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rat</td>
<td>2980 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Poly[(oxy(methyl-1,2-ethanediyl)], α-(2-aminomethyl-ethyly)-]</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>2885 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>benzyl alcohol</td>
<td>LC50 Inhalation Dusts and mists</td>
<td>Rat</td>
<td>&gt;4178 mg/m³</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>2000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>1.23 g/kg</td>
<td>-</td>
</tr>
<tr>
<td>Mixture of Cycloaliphatic Amines</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>&gt;1 g/kg</td>
<td>-</td>
</tr>
<tr>
<td>TERTIARY AMINE</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>1.242 g/kg</td>
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<td>3,6-diazaoctanethylenediamin</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>805 mg/kg</td>
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<td>4-nonylphenol, branched</td>
<td>LD50 Dermal</td>
<td>Rat</td>
<td>2500 mg/kg</td>
<td>-</td>
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<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>2.14 g/kg</td>
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<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>0.58 g/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Conclusion/Summary: There are no data available on the mixture itself.

Acute toxicity estimates

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>1412.5 mg/kg</td>
</tr>
<tr>
<td>Dermal</td>
<td>4793.1 mg/kg</td>
</tr>
<tr>
<td>Inhalation (vapours)</td>
<td>13.92 mg/l</td>
</tr>
<tr>
<td>Inhalation (dusts and mists)</td>
<td>19.02 mg/l</td>
</tr>
</tbody>
</table>

Irritation/Corrosion

Conclusion/Summary
SECTION 11: Toxicological information

### Potential acute health effects

**Inhalation**
- Harmful if inhaled. May cause respiratory irritation.

**Ingestion**
- Harmful if swallowed. Corrosive to the digestive tract. Causes burns.

**Skin contact**
- Causes severe burns. Defatting to the skin. May cause an allergic skin reaction.

**Eye contact**
- Causes serious eye damage.

### Symptoms related to the physical, chemical and toxicological characteristics

**Inhalation**
- Adverse symptoms may include the following:
  - Respiratory tract irritation
  - Coughing

**Ingestion**
- Adverse symptoms may include the following:
  - Stomach pains

**Skin contact**
- Adverse symptoms may include the following:
  - Pain or irritation
  - Redness
  - Dryness
  - Cracking
  - Blistering may occur

### Skin contact
- Causes severe burns. Defatting to the skin. May cause an allergic skin reaction.

### Eye contact
- Causes serious eye damage.

### Conclusion/Summary

**Skin**
- There are no data available on the mixture itself.

**Respiratory**
- There are no data available on the mixture itself.

### Sensitisation

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Route of exposure</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,6-diazaoctanethylenediamin</td>
<td>Skin</td>
<td>Guinea pig</td>
<td>Sensitising</td>
</tr>
</tbody>
</table>

### Carcinogenicity

**Conclusion/Summary**
- There are no data available on the mixture itself.

### Mutagenicity

**Conclusion/Summary**
- There are no data available on the mixture itself.

### Teratogenicity

**Conclusion/Summary**
- There are no data available on the mixture itself.

### Specific target organ toxicity (single exposure)

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Furfuryl alcohol</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td></td>
</tr>
<tr>
<td>Formaldehyde, polymer with 1,3-dimethylbenzene</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td></td>
</tr>
</tbody>
</table>

### Specific target organ toxicity (repeated exposure)

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Furfuryl alcohol</td>
<td>Category 2</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
</tbody>
</table>
SECTION 11: Toxicological information

Eye contact: Adverse symptoms may include the following:
- pain
- watering
- redness

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure
- Potential immediate effects: Not available.
- Potential delayed effects: Not available.

Long term exposure
- Potential immediate effects: Not available.
- Potential delayed effects: Not available.

Potential chronic health effects
Not available.

Conclusion/Summary: Not available.

General: May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity: Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Other information: Not available.

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness.

Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

Ingestion may cause nausea, diarrhea and vomiting.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Contains 3,6-diazaoctanethylenediamin. May produce an allergic reaction.

SECTION 12: Ecological information

12.1 Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poly[oxymethyl-1,2-ethanediyl], α-(2-aminomethyl)-ω-(2-aminomethoxy)-Phenol, 2-nonyl-, branched</td>
<td>EC50 15 mg/l</td>
<td>Algae</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 0.017 mg/l</td>
<td>Fish - Pleuronectes americanus</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

English (GB) United Arab Emirates 11/15
SECTION 12: Ecological information

Conclusion/Summary: There are no data available on the mixture itself.

12.2 Persistence and degradability

Conclusion/Summary: There are no data available on the mixture itself.

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poly(oxy(methyl-1,2-ethanediyl), α-(2-aminomethyl)-ω-(2-aminomethylethoxy)-benzyl alcohol</td>
<td>-</td>
<td>-</td>
<td>Not readily</td>
</tr>
</tbody>
</table>

12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Furfuryl alcohol</td>
<td>0.28</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Benzyl alcohol</td>
<td>1.1</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>3,6-diazaoctanethylenediamin</td>
<td>-1.66 to -1.4</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>4-nonylphenol, branched</td>
<td>-</td>
<td>251.19</td>
<td>low</td>
</tr>
</tbody>
</table>

12.4 Mobility in soil

Soil/water partition coefficient (KOC): Not available.

Mobility: Not available.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects: No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal: The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste: Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

European waste catalogue (EWC)

<table>
<thead>
<tr>
<th>Waste code</th>
<th>Waste designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>08 01 99</td>
<td>wastes not otherwise specified</td>
</tr>
</tbody>
</table>

Packaging

Methods of disposal: The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
SECTION 13: Disposal considerations

<table>
<thead>
<tr>
<th>Type of packaging</th>
<th>European waste catalogue (EWC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Container</td>
<td>15 01 06 mixed packaging</td>
</tr>
</tbody>
</table>

Special precautions: This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

<table>
<thead>
<tr>
<th>14.1 UN number</th>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN3066</td>
<td>PAINT</td>
<td>PAINT</td>
<td>PAINT</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.2 UN proper shipping name</th>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAINT</td>
<td>PAINT</td>
<td>PAINT</td>
<td>PAINT</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.3 Transport hazard class(es)</th>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.4 Packing group</th>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>III</td>
<td>III</td>
<td>III</td>
<td>III</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.5 Environmental hazards</th>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable.</td>
<td>Yes.</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.6 Special precautions for user</th>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport within user's premises</td>
<td>The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The environmentally hazardous substance may appear if required by other transportation regulations.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</th>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern
### SECTION 15: Regulatory information

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Intrinsic property</th>
<th>Status</th>
<th>Reference number</th>
<th>Date of revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]</td>
<td>Substance of equivalent concern for environment</td>
<td>Candidate</td>
<td>ED/169/2012</td>
<td>12/19/2012</td>
</tr>
<tr>
<td>Nonylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]</td>
<td>Substance of equivalent concern for environment</td>
<td>Candidate</td>
<td>ED/169/2012</td>
<td>10/29/2013</td>
</tr>
</tbody>
</table>

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles**

**Other national and international regulations.**

**Ozone depleting substances (1005/2009/EU)**

Not listed.

**15.2 Chemical safety assessment**

No Chemical Safety Assessment has been carried out.

### SECTION 16: Other information

- Indicates information that has changed from previously issued version.

**Abbreviations and acronyms**

- ATE = Acute Toxicity Estimate
- CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
- DNEL = Derived No Effect Level
- EUH statement = CLP-specific Hazard statement
- PNEC = Predicted No Effect Concentration
- RRN = REACH Registration Number

**Full text of abbreviated H statements**

- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H331 Toxic if inhaled.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H351 Suspected of causing cancer.
- H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.
- H411 Toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects.
SECTION 16: Other information

Full text of classifications [CLP/GHS]

- Acute Tox. 3, H331: ACUTE TOXICITY (inhalation) - Category 3
- Acute Tox. 4, H302: ACUTE TOXICITY (oral) - Category 4
- Acute Tox. 4, H312: ACUTE TOXICITY (dermal) - Category 4
- Acute Tox. 4, H332: ACUTE TOXICITY (inhalation) - Category 4
- Aquatic Acute 1, H400: SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
- Aquatic Chronic 1, H410: LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
- Aquatic Chronic 2, H411: LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
- Aquatic Chronic 3, H412: LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
- Carc. 2, H351: CARCINOGENICITY - Category 2
- EUH071: Corrosive to the respiratory tract.
- Eye Dam. 1, H318: SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
- Eye Irrit. 2, H319: SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
- Repr. 2, H361fd: REPRODUCTIVE TOXICITY (Fertility and Unborn child) - Category 2
- Skin Corr. 1B, H314: SKIN CORROSION/IRRITATION - Category 1B
- Skin Corr. 1C, H314: SKIN CORROSION/IRRITATION - Category 1C
- Skin Irrit. 2, H315: SKIN CORROSION/IRRITATION - Category 2
- Skin Sens. 1, H317: SKIN SENSITISATION - Category 1
- STOT RE 2, H373: SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
- STOT SE 3, H335: SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3

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| Prepared by | : | EHS |
| Version | : | 5 |

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