SAFETY DATA SHEET

Date of issue/Date of revision : 17 June 2019
Version : 16.01

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

1.1 Product identifier

Product name : AMERLOCK 2 GLASSFLAKE CURE
Product code : 00333624
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

PPG Coatings SPRL/BVBA
Tweemontstraat 104
B-2100 Deurne
Belgium
Telephone +32-33606311
Fax +32-33606435

e-mail address of person responsible for this SDS : PMC.Safety@PPG.com

1.4 Emergency telephone number

Supplier
+31 20 4075210

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]
Flam. Liq. 3, H226
Skin Corr. 1B, H314
Eye Dam. 1, H318
Skin Sens. 1, H317
Repr. 2, H361fd (Fertility and Unborn child)
Aquatic Acute 1, H400
Aquatic Chronic 1, H410

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

SECTION 2: Hazards identification

Hazard pictograms:

Signal word:
Danger

Hazard statements:
Flammable liquid and vapour. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Suspected of damaging fertility. Suspected of damaging the unborn child. Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention:
Wear protective gloves. Wear protective clothing. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid breathing 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 in a well-ventilated place. Keep cool.

Disposal:
Not applicable.

Hazardous ingredients:
- 4-nonylphenol, branched
- m-phenylenebis(methylamine)
- 3,6-diazaoctanethylenediamin
- Polyamidoamine

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.
SECTION 3: Composition/information on ingredients

<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>Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine m-phenylenebis(methylamine)</td>
<td>EC: Polymer, CAS: 68082-29-1</td>
<td>≥5.0 - ≤10</td>
<td>Acute Tox. 4, H302, Skin Corr. 1B, H314, Eye Dam. 1, H318, Skin Sens. 1B, H317, Aquatic Chronic 3, H412 EEUH071</td>
<td>[1]</td>
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<tr>
<td>4-tert-butylphenol</td>
<td>REACH #: 01-2119489419-21, EC: 202-679-0, CAS: 98-54-4, Index: 604-090-00-8</td>
<td>≥5.0 - ≤10</td>
<td>Skin Irrit. 2, H315, Eye Dam. 1, H318, Rep. 2, H361fd (Fertility) Aquatic Chronic 1, H410 (M=1)</td>
<td>[1]</td>
</tr>
<tr>
<td>benzyl alcohol</td>
<td>REACH #: 01-2119492630-38, EC: 202-859-9, CAS: 100-51-6, Index: 603-057-00-5</td>
<td>≥1.0 - ≤5.0</td>
<td>Acute Tox. 4, H302, Acute Tox. 4, H332, Eye Irrit. 2, H319</td>
<td>[1]</td>
</tr>
<tr>
<td>Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethyl)-ω-(2-aminomethyleneoxy)</td>
<td>REACH #: 01-2119557899-12, EC: 618-561-0, CAS: 9046-10-0 (n = 2-6)</td>
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<td>Skin Corr. 1C, H314, Eye Dam. 1, H318, Aquatic Chronic 3, H412</td>
<td>[1]</td>
</tr>
</tbody>
</table>
SECTION 3: Composition/information on ingredients

3,6-diazaoctanethylenediamin
EC: 203-950-6
CAS: 112-24-3
Index: 612-059-00-5
<1.0

Polyamidoamine
CAS: SUB104580
≤0.30

Aquatic Acute 1, H400
(Aquatic Chronic 1, H410)
(EUH071)
Acute Tox. 4, H312
Skin Corr. 1B, H314
Eye Dam. 1, H318
Skin Sens. 1, H317
Aquatic Chronic 3, H412
Skin Corr. 1C, H314
Eye Dam. 1, H318
Skin Sens. 1B, H317
STOT SE 3, H335

[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

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, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type
[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: No known significant effects or critical hazards.

Skin contact: Causes severe burns. Defatting to the skin. May cause an allergic skin reaction.
SECTION 4: First aid measures

Ingestion
: 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:
  - reduced foetal weight
  - increase in foetal deaths
  - skeletal malformations

Skin contact
: Adverse symptoms may include the following:
  - pain or irritation
  - redness
  - dryness
  - cracking
  - blistering may occur
  - reduced foetal weight
  - increase in foetal deaths
  - skeletal malformations

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 dry chemical, CO₂, water spray (fog) or foam.

Unsuitable extinguishing media
: Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture
: Flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion products
: Decomposition products may include the following materials:
  - carbon oxides
  - nitrogen oxides
  - metal oxide/oxides
SECTION 5: Firefighting measures

Special precautions for firefighting : 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

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 spill material. Shut off all ignition sources. No flares, smoking or flames in hazard area. 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 spill 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. Use spark-proof tools and explosion-proof equipment. 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. Use spark-proof tools and explosion-proof equipment. 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.

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
SECTION 7: Handling and storage

**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. Avoid exposure during pregnancy. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. Refer to special instructions/safety data sheet. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. 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 a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. 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.

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**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Exposure limit values</th>
</tr>
</thead>
</table>
                          | STEL: 441 mg/m³ 15 minutes.  
                          | STEL: 100 ppm 15 minutes.  
                          | TWA: 220 mg/m³ 8 hours.  
                          | TWA: 50 ppm 8 hours.  |
                          | STEL: 552 mg/m³ 15 minutes.  
                          | STEL: 125 ppm 15 minutes.  |
SECTION 8: Exposure controls/personal protection

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 agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Type</th>
<th>Exposure</th>
<th>Value</th>
<th>Population</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
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<td>xylene</td>
<td>DNEL</td>
<td>Short term Inhalation</td>
<td>260 mg/m³</td>
<td>General population</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Short term Inhalation</td>
<td>260 mg/m³</td>
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<td>Local</td>
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<tr>
<td></td>
<td>DNEL</td>
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<td>DNEL</td>
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<tr>
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<td>DNEL</td>
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<tr>
<td></td>
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<td>221 mg/m³</td>
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</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Short term Inhalation</td>
<td>442 mg/m³</td>
<td>General population</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Inhalation</td>
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<td>Local</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Short term Inhalation</td>
<td>442 mg/m³</td>
<td>General population</td>
<td>Local</td>
</tr>
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<td></td>
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<tr>
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<td>DNEL</td>
<td>Short term Dermal</td>
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</table>
## SECTION 8: Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Substance</th>
<th>DNEL</th>
<th>Exposition</th>
<th>Concentration</th>
<th>Population</th>
<th>Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>m-phenylenebis(methylamine)</td>
<td>DNEL</td>
<td>Long term Inhalation</td>
<td>0.2 mg/m³</td>
<td>Workers</td>
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<td>4-tert-butylphenol</td>
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<td>DNEL</td>
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<td>Long term Inhalation</td>
<td>0.5 mg/m³</td>
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<td>benzyl alcohol</td>
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<td>4 mg/kg bw/day</td>
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<td>DNEL</td>
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<td>General population</td>
<td>Systemic</td>
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<tr>
<td>Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-</td>
<td>DNEL</td>
<td>Long term Dermal</td>
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<td>ethylbenzene</td>
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<td>442 mg/m³</td>
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<td>Local</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Short term Inhalation</td>
<td>884 mg/m³</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
</tbody>
</table>

**PNECs**
SECTION 8: Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Type</th>
<th>Compartment Detail</th>
<th>Value</th>
<th>Method Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>xylene</td>
<td>-</td>
<td>Fresh water</td>
<td>0.327 mg/l</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Marine water</td>
<td>0.327 mg/l</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Sewage Treatment Plant</td>
<td>6.58 mg/l</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Fresh water sediment</td>
<td>12.46 mg/kg dwt</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Marine water sediment</td>
<td>12.46 mg/kg dwt</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Soil</td>
<td>2.31 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Fresh water</td>
<td>0.015 mg/l</td>
<td>Assessment Factors</td>
</tr>
<tr>
<td>Poly[(oxy(methyl-1,2-ethanediyl)], α-(2-aminomethyl)-ω-(2-aminomethylthoxy)-]</td>
<td>-</td>
<td>Marine water</td>
<td>0.014 mg/l</td>
<td>Assessment Factors</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Sewage Treatment Plant</td>
<td>7.5 mg/l</td>
<td>Assessment Factors</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Fresh water sediment</td>
<td>0.132 mg/kg dwt</td>
<td>Equilibrium Partitioning</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Marine water sediment</td>
<td>0.125 mg/kg dwt</td>
<td>Equilibrium Partitioning</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Soil</td>
<td>0.018 mg/kg dwt</td>
<td>Equilibrium Partitioning</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Fresh water</td>
<td>0.1 mg/l</td>
<td>Assessment Factors</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Marine water</td>
<td>0.01 mg/l</td>
<td>Assessment Factors</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Sewage Treatment Plant</td>
<td>9.6 mg/l</td>
<td>Assessment Factors</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Fresh water sediment</td>
<td>13.7 mg/kg dwt</td>
<td>Equilibrium Partitioning</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Marine water sediment</td>
<td>1.37 mg/kg dwt</td>
<td>Equilibrium Partitioning</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Soil</td>
<td>2.68 mg/kg dwt</td>
<td>Equilibrium Partitioning</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Secondary Poisoning</td>
<td>20 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

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. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

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
- Chemical splash goggles and face shield. Use eye protection according to EN 166.

Skin 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.
SECTION 8: Exposure controls/personal protection

Gloves: butyl rubber

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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.

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. Wear a respirator conforming to EN140. Filter type: organic vapour (Type A) and particulate filter P3

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: 14°C (57.2°F) This is based on data for the following ingredient: m-phenylenebis(methylamine). Weighted average: -45.04°C (-49.1°F)
Initial boiling point and boiling range: >37.78°C
Flash point: Closed cup: 45.56°C
Evaporation rate: 0.6 (butyl acetate = 1)
Material supports combustion: Yes.
Flammability (solid, gas): liquid
Upper/lower flammability or explosive limits: Greatest known range: Lower: 1.3% Upper: 13% (benzyl alcohol)
Vapour pressure: 1.1 kPa (8.5 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: 6.44 (Air = 1)
Relative density: 1.27
Solubility(ies): Insoluble in the following materials: cold water.
Water Solubility at room temperature: 1 g/l
SECTION 9: Physical and chemical properties

Partition coefficient: n-octanol/water: Not applicable.

Auto-ignition temperature: Lowest known value: 372°C (701.6°F) (4-nonylphenol, branched).

Decomposition temperature: Stable under recommended storage and handling conditions (see Section 7).

Viscosity: Kinematic (40°C): >0.21 cm²/s

Explosive properties: The product itself is not explosive, but the formation of an explosible mixture of vapour or dust with air is possible.

Oxidising properties: Product does not present an oxidizing hazard.

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, metal oxide/oxides

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>xylene</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-nonylphenol, branched</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>m-phenylenebis(methylamine)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-tert-butylphenol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>benzyl alcohol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethyl)-ω-(2-aminomethylethoxy)-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

LD50 Dermal Rabbit >1.7 g/kg 4.3 g/kg 2.14 g/kg 0.58 g/kg 700 ppm >3100 mg/kg 930 mg/kg 2.29 g/kg 2.95 g/kg >4178 mg/m³ 2000 mg/kg 1.23 g/kg 2980 mg/kg 2885 mg/kg
SECTION 11: Toxicological information

**ethylbenzene**
- LC50 Inhalation Vapour: Rat 17.8 mg/l, 4 hours
- LD50 Dermal: Rabbit 17.8 g/kg
- LD50 Oral: Rat 3.5 g/kg
- LD50 Dermal: Rabbit 805 mg/kg
- LD50 Oral: Rat 2500 mg/kg
- LD50 Oral: Rabbit >2 g/kg

**3,6-diazaoctanethylenediamin**
- LD50 Dermal: Rabbit 805 mg/kg
- LD50 Oral: Rat 2500 mg/kg

**Polyamidoamine**
- LD50 Oral: Rat >2 g/kg

**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>3855.86 mg/kg</td>
</tr>
<tr>
<td>Dermal</td>
<td>8154.76 mg/kg</td>
</tr>
<tr>
<td>Inhalation (gases)</td>
<td>88842.4 ppm</td>
</tr>
<tr>
<td>Inhalation (vapours)</td>
<td>73.4 mg/l</td>
</tr>
<tr>
<td>Inhalation (dusts and mists)</td>
<td>35.2 mg/l</td>
</tr>
</tbody>
</table>

### Irritation/Corrosion

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>xylene</td>
<td>Skin - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 mg</td>
<td>4 hours</td>
</tr>
<tr>
<td>m-phenylenebis(methylamine)</td>
<td>Skin - Severe irritant</td>
<td>Rat</td>
<td>-</td>
<td>4 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Conclusion/Summary**: 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>m-phenylenebis(methylamine)</td>
<td>skin</td>
<td>Mouse</td>
<td>Sensitising</td>
</tr>
<tr>
<td>3,6-diazaoctanethylenediamin</td>
<td>skin</td>
<td>Guinea pig</td>
<td>Sensitising</td>
</tr>
</tbody>
</table>

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

### Mutagenicity

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

### Carcinogenicity

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

### Reproductive toxicity

**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>xylene</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
<tr>
<td>Polyamidoamine</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
</tbody>
</table>

### Specific target organ toxicity (repeated exposure)

English (GB) United Kingdom (UK) 13/20
SECTION 11: Toxicological information

<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>ethylbenzene</td>
<td>Category 2</td>
<td>Not determined</td>
<td>hearing organs</td>
</tr>
</tbody>
</table>

Aspiration hazard

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>xylene</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
</tbody>
</table>

Information on likely routes of exposure: Not available.

Potential acute health effects

Inhalation: No known significant effects or critical hazards.
Ingestion: 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:
- Reduced foetal weight
- Increase in foetal deaths
- Skeletal malformations

Ingestion: Adverse symptoms may include the following:
- Stomach pains
- Reduced foetal weight
- Increase in foetal deaths
- Skeletal malformations

Skin contact: Adverse symptoms may include the following:
- Pain or irritation
- Redness
- Dryness
- Cracking
- Blistering may occur
- Reduced foetal weight
- Increase in foetal deaths
- Skeletal malformations

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.
SECTION 11: Toxicological information

General: 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: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: Suspected of damaging the unborn child.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: Suspected of damaging fertility.

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 m-phenylenebis(methylamine), 3,6-diazaoctanethylenediamin, Polyamidoamine. 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[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethyl-2-ethanol)-ω-(2-aminomethyl-2-ethanol)-ethylbenzene</td>
<td>EC50 15 mg/l</td>
<td>Algae</td>
<td>72 hours</td>
</tr>
<tr>
<td>Nonylphenols</td>
<td>Acute LC50 0.017 mg/l</td>
<td>Fish - Pleuronectes americanus</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 150 to 200 mg/l</td>
<td>Fish - Lepomis macrochirus - Young of the year</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Fresh water</td>
<td>Fish - Pleuronectes americanus</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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>xylene</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
<tr>
<td>benzyl alcohol</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
<tr>
<td>Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethyl-2-ethanol)-ω-(2-aminomethyl-2-ethanol)-ethylbenzene</td>
<td>-</td>
<td>-</td>
<td>Not readily</td>
</tr>
</tbody>
</table>

12.3 Bioaccumulative potential
SECTION 12: Ecological information

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP_{ow}</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>xylene</td>
<td>3.16</td>
<td>7.4 to 18.5</td>
<td>low</td>
</tr>
<tr>
<td>4-nonylphenol, branched</td>
<td>-</td>
<td>251.19</td>
<td>low</td>
</tr>
<tr>
<td>m-phenylenebis(methylamine)</td>
<td>0.18</td>
<td>2.69</td>
<td>low</td>
</tr>
<tr>
<td>4-tert-butylphenol</td>
<td>3.31</td>
<td>67.61</td>
<td>low</td>
</tr>
<tr>
<td>benzyl alcohol</td>
<td>1.1</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>3.15</td>
<td>79.43</td>
<td>low</td>
</tr>
<tr>
<td>3,6-diazaocanethylenediamin</td>
<td>-1.66 to -1.4</td>
<td>-</td>
<td>low</td>
</tr>
</tbody>
</table>

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : 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.

<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</td>
</tr>
</tbody>
</table>
SECTION 13: Disposal considerations

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. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

14. Transport information

<table>
<thead>
<tr>
<th>ADR/RID</th>
<th>ADN</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1 UN number</td>
<td>UN1263</td>
<td>UN1263</td>
<td>UN1263</td>
</tr>
<tr>
<td>14.2 UN proper shipping name</td>
<td>PAINT</td>
<td>PAINT</td>
<td>PAINT</td>
</tr>
<tr>
<td>14.3 Transport hazard class(es)</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>14.4 Packing group</td>
<td>III</td>
<td>III</td>
<td>III</td>
</tr>
<tr>
<td>14.5 Environmental hazards</td>
<td>Yes.</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Marine pollutant substances</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>(4-nonylphenol, branched)</td>
</tr>
<tr>
<td>14.6 Special precautions for user</td>
<td>Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

Additional information

ADR/RID: The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.
Tunnel code: (D/E)
ADN: The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.
IMDG: The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
IATA: The environmentally hazardous substance mark may appear if required by other transportation regulations.

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>4-nonylphenol, branched</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>Phenol, 2-nonyl-, branched</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 EU regulations

Ozone depleting substances (1005/2009/EU)

Not listed.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

<table>
<thead>
<tr>
<th>Category</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>E1</td>
<td></td>
</tr>
</tbody>
</table>

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
PBT = Persistent, Bioaccumulative and Toxic
vPvB = Very Persistent and Very Bioaccumulative
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
IMDG = International Maritime Dangerous Goods
IATA = International Air Transport Association

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
SECTION 16: Other information

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flam. Liq. 3, H226</td>
<td>On basis of test data</td>
</tr>
<tr>
<td>Skin Corr. 1B, H314</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Eye Dam. 1, H318</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Skin Sens. 1, H317</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Repr. 2, H361fd (Fertility and Unborn child)</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Aquatic Acute 1, H400</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Aquatic Chronic 1, H410</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

**Full text of abbreviated H statements**

- **H225**: Highly flammable liquid and vapour.
- **H226**: Flammable liquid and vapour.
- **H302**: Harmful if swallowed.
- **H304**: May be fatal if swallowed and enters airways.
- **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.
- **H332**: Harmful if inhaled.
- **H335**: May cause respiratory irritation.
- **H361f**: Suspected of damaging fertility.
- **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.
- **H412**: Harmful to aquatic life with long lasting effects.

**Full text of classifications [CLP/GHS]**

- **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 3, H412**: LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
- **Asp. Tox. 1, H304**: ASPIRATION HAZARD - Category 1
- **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
- **Flam. Liq. 2, H225**: FLAMMABLE LIQUIDS - Category 2
- **Flam. Liq. 3, H226**: FLAMMABLE LIQUIDS - Category 3
- **Repr. 2, H361f**: REPRODUCTIVE TOXICITY (Fertility) - 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
- **Skin Sens. 1B, H317**: SKIN SENSITISATION - Category 1B
- **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
SECTION 16: Other information

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Date of previous issue : 16 June 2019
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Version : 16.01

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