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

1.1 Product identifier
Product name : SIGMACOVER 280 LT HARDENER
Product code : 00181453
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 : Professional applications, Used by spraying.
Use of the substance/mixture : Coating.
Uses advised against : Product is not intended, labelled or packaged for consumer use.

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 : PS.ACEMEA@ppg.com

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]
Flam. Liq. 3, H226
Skin Corr. 1C, H314
Eye Dam. 1, H318
Skin Sens. 1, H317
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
SECTION 2: Hazards identification

Hazard pictograms

- Flammable liquid and vapour.
- Causes severe skin burns and eye damage.
- May cause an allergic skin reaction.
- May cause respiratory irritation.
- May cause damage to organs through prolonged or repeated exposure.
- Toxic to aquatic life with long lasting effects.

Signal word: Danger

Hazard statements:

- Warning of danger: Flammable liquid and vapour. Causes severe skin burns and eye damage. May cause an allergic skin reaction. 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. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. 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 in a well-ventilated place. Keep cool.

Disposal: Not applicable.

Hazardous ingredients:
- Ethylbenzene
- 2-Methylpropan-1-ol
- Xylene
- Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine
- 2,4,6-tris(dimethylaminomethyl)phenol
- 3,6-Diazaoctanethylenediamin

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:
- Product meets the criteria for PBT or vPvB: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
- 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

#### 3.2 Mixtures

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Identifiers</th>
<th>% by weight</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine</td>
<td>REACH #: 01-2119972320-44 EC: 500-191-5 CAS: 68082-29-1</td>
<td>≥10 - ≤25</td>
<td>Skin Irrit. 2, H314</td>
</tr>
<tr>
<td>2,4,6-tris(dimethylaminomethyl) phenol</td>
<td>REACH #: 01-2119560597-27 EC: 202-013-9 CAS: 90-72-2 Index: 603-069-00-0</td>
<td>≥1.0 - ≤5.0</td>
<td>Acute Tox. 4, H312 Skin Irr. 1C, H314 Eye Dam. 1, H318</td>
</tr>
<tr>
<td>Formaldehyde, polymer with N,N-dimethyl-1,3-propanediamine and phenol</td>
<td>REACH ##: 01-2119560597-27</td>
<td>≥1.0 - ≤5.0</td>
<td>Skin Sens. 1A, H317 Aquatic Chronic 2, H411</td>
</tr>
<tr>
<td>3,6-diazaoctanethylenediamin</td>
<td>EC: 203-950-6 CAS: 112-24-3 Index: 612-059-00-5</td>
<td>≥1.0 - ≤3.0</td>
<td>Acute Tox. 4, H312 Skin Corr. 1B, H314 Eye Dam. 1, H318</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, are PBTs, vPvBs or Substances of equivalent concern, 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**
- May cause respiratory irritation.

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

**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:
  - 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 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
SECTION 5: Firefighting measures

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 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

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. 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 spilt 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 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. 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 spillage 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 spilt 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

**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. 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

Store between the following temperatures: 0 to 35°C (32 to 95°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.

**Recommendations:** Not available.

**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

### 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.

### 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.

**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

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Exposure limit values</th>
</tr>
</thead>
</table>
| ethylbenzene            | EU OEL (Europe, 2/2017). Absorbed through skin.  
                          | STEL: 884 mg/m³ 15 minutes.  
                          | STEL: 200 ppm 15 minutes.  
                          | TWA: 442 mg/m³ 8 hours.  
                          | TWA: 100 ppm 8 hours. |
| 2-methylpropan-1-ol     | ACGIH TLV (United States, 3/2019).  
                          | TWA: 152 mg/m³ 8 hours.  
                          | TWA: 50 ppm 8 hours. |
| xylene                  | EU OEL (Europe, 2/2017). Absorbed through skin.  
                          | STEL: 442 mg/m³ 15 minutes.  
                          | STEL: 100 ppm 15 minutes.  
                          | TWA: 221 mg/m³ 8 hours.  
                          | TWA: 50 ppm 8 hours. |
| 3,6-diazaoctanethylenediamin | IPEL (PPG). Absorbed through skin.  
                             | TWA: 1 ppm |

[Product/ingredient name and Exposure limit values extracted from the provided text]
SECTION 8: Exposure controls/personal 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.

**Respiratory 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. 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.

**Body protection**

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

**Other skin protection**

Gloves 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

**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: Amine-like.
- 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: -84.31°C (-119.8°F)

**Initial boiling point and boiling range**

>37.78°C

**Flash point**

Closed cup: 29°C

**Evaporation rate**

Highest known value: 0.84 (ethylbenzene) Weighted average: 0.75 compared with butyl acetate

**Flammability (solid, gas)**

: liquid

**Upper/lower flammability or explosive limits**

Greatest known range: Lower: 1.7% Upper: 10.9% (2-methylpropan-1-ol)

**Vapour pressure**

Highest known value: <1.6 kPa (<12 mm Hg) (at 20°C) (2-methylpropan-1-ol). Weighted average: 0.88 kPa (6.6 mm Hg) (at 20°C)

**Vapour density**

Highest known value: 5.04 (Air = 1) (3,6-diazaoctanethylenediamin). Weighted average: 3.34 (Air = 1)

**Relative density**

: 0.92

**Solubility(ies)**

: Insoluble in the following materials: cold water.

**Partition coefficient: n-octanol/water**

: Not applicable.
SECTION 9: Physical and chemical properties

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
Viscosity: 60 - 100 s (ISO 6mm)
Explosive properties: Product does not present an explosion hazard.
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

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>ethylbenzene</td>
<td>LC50 Inhalation Vapour</td>
<td>Rat</td>
<td>17.8 mg/l</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>17.8 g/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>3.5 g/kg</td>
<td>-</td>
</tr>
<tr>
<td>2-methylpropan-1-ol</td>
<td>LC50 Inhalation Vapour</td>
<td>Rat</td>
<td>24.6 mg/l</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>2460 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>2830 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>xylene</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>&gt;1.7 g/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>4.3 g/kg</td>
<td>-</td>
</tr>
<tr>
<td>2,4,6-tris(dimethylaminomethyl)phenol</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>1.28 g/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rat</td>
<td>1280 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>1200 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>3,6-diazaoctanethylenediamin</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>805 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>2500 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

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

Acute toxicity estimates

English (GB) Saudi Arabia 9/15
SECTION 11: Toxicological information

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>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Irritant</td>
<td>Human</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine</td>
<td>Eyes - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>4 hours</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Visible necrosis</td>
<td>Rabbit</td>
<td>-</td>
<td>7 days</td>
<td>-</td>
</tr>
</tbody>
</table>

Conclusion/Summary

Skin: There are no data available on the mixture itself.

Eyes: 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>Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine</td>
<td>skin</td>
<td>Mouse</td>
<td>Sensitising</td>
</tr>
<tr>
<td>2,4,6-tris(dimethylaminomethyl)phenol</td>
<td>skin</td>
<td>Guinea pig</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

Skin: There are no data available on the mixture itself.

Respiratory: 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>2-methylpropan-1-ol</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Narcotic effects</td>
</tr>
<tr>
<td>xylene</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
<tr>
<td></td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</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>ethylbenzene</td>
<td>Category 2</td>
<td>Not determined</td>
<td>hearing organs</td>
</tr>
</tbody>
</table>

Aspiration hazard

English (GB)  Saudi Arabia  10/15
SECTION 11: Toxicological information

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

Information on likely routes of exposure:

**Potential acute health effects**

- **Inhalation**: May cause respiratory irritation.
- **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: 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.
- **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**

- No known significant effects or critical hazards.

**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.
SECTION 11: Toxicological information

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 Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine, 2,4,6-tris(dimethylaminomethyl)phenol, 3,6-diazaoctanethylenediamine. 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>ethylbenzene</td>
<td>Acute LC50 150 to 200 mg/l</td>
<td>Fish</td>
<td>96 hours</td>
</tr>
<tr>
<td>2-methylpropan-1-ol</td>
<td>Acute EC50 1100 mg/l</td>
<td>Daphnia</td>
<td>48 hours</td>
</tr>
<tr>
<td>Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine</td>
<td>EC10 1.78 mg/l</td>
<td>Algae</td>
<td>72 hours</td>
</tr>
<tr>
<td>2,4,6-tris(dimethylaminomethyl)phenol</td>
<td>Acute LC50 175 mg/l</td>
<td>Fish</td>
<td>96 hours</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>ethylbenzene</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
<tr>
<td>xylene</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
<tr>
<td>Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine</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_{ow}</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>ethylbenzene</td>
<td>3.15</td>
<td>79.43</td>
<td>low</td>
</tr>
<tr>
<td>2-methylpropan-1-ol</td>
<td>0.76</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>xylene</td>
<td>3.16</td>
<td>7.4 to 18.5</td>
<td>low</td>
</tr>
<tr>
<td>3,6-diazaoctanethylenediamin</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
SECTION 12: Ecological information

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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 : Yes.

European waste catalogue (EWC)

<table>
<thead>
<tr>
<th>Waste code</th>
<th>Waste designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>08 01 11*</td>
<td>waste paint and varnish containing organic solvents or other hazardous substances</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 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. 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.

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></td>
<td>UN3469</td>
<td>UN3469</td>
<td>UN3469</td>
</tr>
</tbody>
</table>

14.2 UN proper shipping name

<table>
<thead>
<tr>
<th>14.3 Transport hazard class(es)</th>
<th>3 (8)</th>
<th>3 (8)</th>
<th>3 (8)</th>
</tr>
</thead>
</table>

14.4 Packing group

<table>
<thead>
<tr>
<th>14.5 Environmental hazards</th>
<th>Yes.</th>
<th>Yes.</th>
<th>Yes. The environmentally hazardous substance mark is not required.</th>
</tr>
</thead>
</table>

Marine pollutant substances

| Marine pollutant substances | Not applicable. | (Polyamide, Formaldehyde, polymer with N,N-dimethyl-1,3-propanediamine and phenol) | Not applicable. |

| English (GB) | Saudi Arabia | 13/15 |
SECTION 14: Transport information

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)

**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.

14.6 Special precautions for user: 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.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code: Not applicable.

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

None of the components are listed.

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**
SECTION 16: Other information

Full text of classifications [CLP/GHS]

- 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.
- H336  May cause drowsiness or dizziness.
- 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.

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
Asp. Tox. 1, H304  ASPIRATION HAZARD - Category 1
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
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. 1A, H317  SKIN SENSITISATION - Category 1A
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
STOT SE 3, H336  SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3

History

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Prepared by : EHS
Version : 1

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