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

1.1 Product identifier

Product name: SIGMACOVER 2 HARDENER
Product code: 00331917
Product type: Liquid.

Other means of identification
Not available.

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

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 Paints Egypt
Villa#8, street 279
New Maadi, Cairo
Egypt
Tel: 00202 516 223 797
Fax: 00202 516 38 04

E-mail address of person responsible for this SDS: PS.ACEMEA@ppg.com

1.4 Emergency telephone number: +20 2 6840902

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.

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:
- Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine
- 2,4,6-tris(dimethylaminomethyl)phenol
- 3-aminomethyl-3,5,5-trimethylcyclohexylamine
- 4-nonylphenol, branched
- 4,4’-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine
- Amines, polyethylenepoly-, triethylenetetramine fraction

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.
### 3.2 Mixtures

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Identifiers</th>
<th>% by weight</th>
<th>Classification Regulation (EC) No. 1272/2008 [CLP]</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine benzyl alcohol</td>
<td>EC: Polymer CAS: 68082-29-1</td>
<td>≥5.0 - ≤10</td>
<td>Eye Dam. 1, H318</td>
<td>[1]</td>
</tr>
<tr>
<td>cyclohexanone</td>
<td>REACH #: 01-2119453616-35 EC: 203-631-1 CAS: 108-94-1 Index: 606-010-00-7</td>
<td>≥1.0 - ≤5.0</td>
<td>Acute Tox. 4, H302 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Dam. 1, H318</td>
<td>[1]</td>
</tr>
<tr>
<td>3-aminomethyl-3,5,5-trimethylcyclohexylamine</td>
<td>REACH #: 01-2119514687-32 EC: 220-666-8 CAS: 2855-13-2 Index: 612-067-00-9</td>
<td>≥1.0 - ≤5.0</td>
<td>Acute Tox. 4, H302 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Dam. 1, H318 Acute Chronic 3, H412</td>
<td>[1][5]</td>
</tr>
<tr>
<td>4-nonylphenol, branched</td>
<td>REACH #: 01-2119510715-45 EC: 284-325-5 CAS: 84852-15-3 Index: 601-053-00-8</td>
<td>≥1.0 - ≤5.0</td>
<td>Aquatic Chronic 1, H410 (M=10)</td>
<td>[1]</td>
</tr>
<tr>
<td>4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine 2-methylpropan-1-ol</td>
<td>CAS: 38294-64-3</td>
<td>≥1.0 - ≤5.0</td>
<td>Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 STOT SE 3, H336</td>
<td>[1][2]</td>
</tr>
<tr>
<td>salicylic acid</td>
<td>REACH #: 01-2119486984-17 EC: 200-712-3 CAS: 69-72-7 Index: 607-732-00-5</td>
<td>&lt;1.0</td>
<td>Acute Tox. 4, H302 Eye Dam. 1, H318 Repr. 2, H361d (Fertility and Unborn child)</td>
<td>[1]</td>
</tr>
<tr>
<td>Fatty acids, tall-oil, reaction</td>
<td>EC: 263-160-2</td>
<td>&lt;1.0</td>
<td>Acute Tox. 4, H302</td>
<td>[1]</td>
</tr>
</tbody>
</table>
SECTION 3: Composition/information on ingredients

<table>
<thead>
<tr>
<th>Products with diethylenetriamine</th>
<th>CAS: 61790-69-0</th>
<th>Substance classified with a health or environmental hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amines, polyethylenepoly-, triethylenetetramine fraction</td>
<td>REACH #: 01-2119487919-13 EC: 292-588-2 CAS: 90640-67-8</td>
<td>Substance with a workplace exposure limit</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

<table>
<thead>
<tr>
<th>Eye contact</th>
<th>Causes serious eye damage.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Causes severe burns. Defatting to the skin. May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Corrosive to the digestive tract. Causes burns.</td>
</tr>
</tbody>
</table>

Over-exposure signs/symptoms
SECTION 4: First aid measures

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

Ingestion
: Adverse symptoms may include the following:
  - stomach pains
  - 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

Hazard 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 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
  - halogenated compounds
  - metal oxide/oxides

5.3 Advice for firefighters

Special precautions for firefighters
: 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.
SECTION 5: Firefighting measures

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

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...
SECTION 7: Handling and storage

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

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Exposure limit values</th>
</tr>
</thead>
</table>
| 4-methylpentan-2-one    | EU OEL (Europe, 2/2017).  
                          | STEL: 208 mg/m³ 15 minutes.  
                          | STEL: 50 ppm 15 minutes.  
                          | TWA: 83 mg/m³ 8 hours.  
                          | TWA: 20 ppm 8 hours. |
| benzyl alcohol          | IPEL (PPG).  
                          | TWA: 10 ppm  
                          | STEL: 50 ppm |
| cyclohexanone           | EU OEL (Europe, 2/2017). Absorbed through skin.  
                          | STEL: 81.6 mg/m³ 15 minutes.  
                          | STEL: 20 ppm 15 minutes.  
                          | TWA: 40.8 mg/m³ 8 hours.  
                          | TWA: 10 ppm 8 hours. |
| 2-methylpropan-1-ol     | ACGIH TLV (United States, 3/2019).  
                          | TWA: 152 mg/m³ 8 hours.  
                          | TWA: 50 ppm 8 hours. |
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

Skin protection

Hand protection: Chemical splash goggles and face shield.

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:
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.

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. [Strong]
- **Odour threshold**: Not available.
- **pH**: Insoluble in water.
- **Melting point/freezing point**: May start to solidify at the following temperature: 8°C (46.4°F) This is based on data for the following ingredient: 3-aminomethyl-3,5,5-trimethylcyclohexylamine. Weighted average: -41.01°C (-41.8°F)

**Initial boiling point and boiling range**: >37.78°C

**Flash point**: Closed cup: 39°C

**Evaporation rate**: Highest known value: 1.7 (4-methylpentan-2-one) Weighted average: 0.93 compared with butyl acetate

**Flammability (solid, gas)**: Liquid

**Upper/lower flammability or explosive limits**: Greatest known range: Lower: 1.3% Upper: 13% (benzyl alcohol)

**Vapour pressure**: Highest known value: 2.1 kPa (15.8 mm Hg) (at 20°C) (4-methylpentan-2-one). Weighted average: 0.64 kPa (4.8 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: 4.88 (Air = 1)

**Relative density**: 1.36

**Solubility(ies)**: Insoluble in the following materials: cold water.

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

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

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

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

**Viscosity**: 40 - <60 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, halogenated compounds, metal 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>2-methylpentan-2-one</td>
<td>LC50 Inhalation Vapour</td>
<td>Rat</td>
<td>12.3 mg/l</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>2.08 g/kg</td>
<td>-</td>
</tr>
<tr>
<td>benzyl alcohol</td>
<td>LC50 Inhalation Dusts and</td>
<td>Rat</td>
<td>&gt;4178 mg/m³</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>mists</td>
<td></td>
<td></td>
<td></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>2,4,6-tris(dimethylamino)methylphenol</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>Rabbit</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>cyclohexanone</td>
<td>LC50 Inhalation Gas.</td>
<td>Rat</td>
<td>8000 ppm</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation Vapour</td>
<td>Rat</td>
<td>11 mg/l</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>1100 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>1.54 g/kg</td>
<td>-</td>
</tr>
<tr>
<td>4-nonylphenol, branched</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>2.14 g/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>1300 mg/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>salicylic acid</td>
<td>LD50 Oral</td>
<td>Rabbit</td>
<td>1465 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Amines, polyethylenepoly-,</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>1716 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>triethylenetetramine fraction</td>
<td></td>
<td></td>
<td></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>5362.25 mg/kg</td>
</tr>
<tr>
<td>Dermal</td>
<td>8906.18 mg/kg</td>
</tr>
<tr>
<td>Inhalation (gases)</td>
<td>186463.47 ppm</td>
</tr>
<tr>
<td>Inhalation (vapours)</td>
<td>81.56 mg/l</td>
</tr>
<tr>
<td>Inhalation (dusts and mists)</td>
<td>30.82 mg/l</td>
</tr>
</tbody>
</table>

Irritation/Corrosion

English (GB) Egypt 10/17
SECTION 11: Toxicological information

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:

<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>2,4,6-tris(dimethylaminomethyl)phenol 4-nonylphenol, branched</td>
<td>Skin - Visible necrosis</td>
<td>Rabbit</td>
<td>-</td>
<td>4 hours</td>
<td>7 days</td>
</tr>
<tr>
<td></td>
<td>Skin - Erythema/Eschar</td>
<td>Rabbit</td>
<td>-</td>
<td>-</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>2,4,6-tris(dimethylaminomethyl)phenol</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>4-methylpentan-2-one 2-methylpropan-1-ol</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>Narcotic effects</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>Fatty acids, tall-oil, reaction products with diethylenetriamine</td>
<td>Category 2</td>
<td>Oral</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

Aspiration hazard

Not available.

Information on likely routes of exposure: Not available.
### SECTION 11: Toxicological information

**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.

**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.
SECTION 11: Toxicological information

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 2,4,6-tris(dimethylaminomethyl)phenol, 3-aminomethyl-3,5,5-trimethylcylohexylamine, 4,4'-
Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with
3-aminomethyl-3,5,5-trimethylcylohexylamine, Amines, polyethylene poly-, triethylenetetramine fraction. 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>2,4,6-tris(dimethylaminomethyl)phenol</td>
<td>Acute LC50 175 mg/l</td>
<td>Fish</td>
<td>96 hours</td>
</tr>
<tr>
<td>4-nonylphenol, branched</td>
<td>Acute LC50 0.221 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>salicylic acid</td>
<td>Acute EC50 1147.57 mg/l</td>
<td>Daphnia - Daphnia longispina - Neonate</td>
<td>48 hours</td>
</tr>
<tr>
<td>Amines, polyethylene poly-, triethylenetetramine fraction</td>
<td>Fresh water</td>
<td>Daphnia magna - Daphnia magna - Neonate</td>
<td>21 days</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 5.6 mg/l</td>
<td>Aquatic plants - Daphnia magna</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 20 mg/l</td>
<td>Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 31.1 mg/l</td>
<td>Fish - Pimephales promelas</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 330 mg/l</td>
<td>Crustaceans</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute NOEC 2.5 mg/l</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>benzyl alcohol</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
</tbody>
</table>

12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogPow</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-methylpentan-2-one</td>
<td>1.31</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>benzyl alcohol</td>
<td>1.1</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>cyclohexanone</td>
<td>0.81</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>4-nonylphenol, branched</td>
<td>-</td>
<td>251.19</td>
<td>low</td>
</tr>
<tr>
<td>4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcylohexylamine</td>
<td>-</td>
<td>5.13</td>
<td>low</td>
</tr>
<tr>
<td>2-methylpropan-1-ol</td>
<td>0.76</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>salicylic acid</td>
<td>2.26</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Amines, polyethylene poly-, triethylenetetramine fraction</td>
<td>-2.65</td>
<td>-</td>
<td>low</td>
</tr>
</tbody>
</table>

12.4 Mobility in soil

Soil/water partition coefficient (Koc): Not available.
SECTION 12: Ecological information

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

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>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1 UN number</td>
<td>UN3469</td>
<td>UN3469</td>
</tr>
<tr>
<td>14.2 UN proper shipping name</td>
<td>PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE</td>
<td>PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE</td>
</tr>
<tr>
<td>14.3 Transport hazard class(es)</td>
<td>3 (8)</td>
<td>3 (8)</td>
</tr>
<tr>
<td>14.4 Packing group</td>
<td>III</td>
<td>III</td>
</tr>
<tr>
<td>14.5 Environmental hazards</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
</tbody>
</table>

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SECTION 14: Transport information

Marine pollutant substances | Not applicable. | (4-nonylphenol, branched) | Not applicable.

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

<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>
</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.
SECTION 16: Other information

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:
- H225: Highly flammable liquid and vapour.
- H226: Flammable liquid and vapour.
- 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.
- H332: Harmful if inhaled.
- H335: May cause respiratory irritation.
- H336: May cause drowsiness or dizziness.
- H361d: Suspected of damaging the unborn child.
- H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child.
- H373: May cause damage to organs through prolonged or repeated exposure if swallowed.
- 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
- EUH066: Repeated exposure may cause skin dryness or cracking.
- 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, H361d: REPRODUCTIVE TOXICITY (Unborn child) - 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. 1A, H317: SKIN SENSITISATION - Category 1A
- Skin Sens. 1B, H317: SKIN SENSITISATION - Category 1B
- STOT RE 2, H373 (oral): SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE (oral) - 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:
- Date of issue/Date of revision: 15 April 2020
- Date of previous issue: 7 November 2019

English (GB)  Egypt  16/17
SECTION 16: Other information

Prepared by : EHS
Version : 6.03

Disclaimer
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