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

1.1 Product identifier

Product name : SIGMACOVER 240 BASE APS HAZE GREY
Product code : 00427040
Product type : Liquid.

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 : ndpic@sfda.gov.sa

1.4 Emergency telephone number : 00966 138473100 extn 1001

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
Flam. Liq. 3, H226
Skin Irrit. 2, H315
Eye Irrit. 2, H319
Skin Sens. 1, H317
Aquatic Chronic 3, H412

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

Hazard pictograms : 

[Flammable icon] [Exclamation mark icon]
SECTION 2: Hazards identification

Signal word : Warning
Hazard statements : Flammable liquid and vapour. Causes serious eye irritation. Causes skin irritation. May cause an allergic skin reaction. Harmful 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 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 : bis-[4-(2,3-epoxypropoxy)phenyl]propane
Epoxy Resin (700<MW<=1100) 1,4-bis(2,3 epoxypropoxy)butane

Supplemental label elements : Contains epoxy constituents. May produce an allergic reaction.

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 : Prolonged or repeated contact may dry skin and cause irritation.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Identifiers</th>
<th>% by weight</th>
<th>Classification</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epoxy Resin (700&lt;MW&lt;=1100)</td>
<td>CAS: 25036-25-3</td>
<td>≥5.0 - ≤10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION 3: Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substance</th>
<th>REACH #:</th>
<th>EC:</th>
<th>CAS:</th>
<th>Index:</th>
<th>Concentration:</th>
<th>Hazard Statements</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-methylhexan-2-one</td>
<td>01-2119472300-51</td>
<td>203-737-8</td>
<td>110-12-3</td>
<td>606-026-00-4</td>
<td>≥1.0 - &lt;3.0</td>
<td>Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Asp. Tox. 1, H304 Flam. Liq. 3, H226 Acute Tox. 4, H332 Repr. 2, H361d (Unborn child) (inhalation)</td>
<td>[1][2] Substance classified with a health or environmental hazard</td>
</tr>
<tr>
<td>2-methylpropan-1-ol</td>
<td>01-2119484609-23</td>
<td>201-148-0</td>
<td>78-83-1</td>
<td>603-108-00-1</td>
<td>≥1.0 - &lt;3.0</td>
<td>Flam. Liq. 3, H226 Skin Irr. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 STOT SE 3, H336 Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irr. 2, H315 Eye Irr. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 3, H412</td>
<td>[1][2] Substance classified with a health or environmental hazard</td>
</tr>
<tr>
<td>1,4-bis(2,3 epoxypropoxy)butane</td>
<td>01-2119494060-45</td>
<td>219-371-7</td>
<td>2425-79-8</td>
<td>603-072-00-7</td>
<td>≥1.0 - ≤5.0</td>
<td>Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irr. 2, H315 Eye Irr. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 3, H412</td>
<td>[1] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII</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**: Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

**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. 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 irritation.

**Inhalation**: No known significant effects or critical hazards.

**Skin contact**: Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction.
### SECTION 4: First aid measures

**Ingestion**: No known significant effects or critical hazards.

**Over-exposure signs/symptoms**

<table>
<thead>
<tr>
<th>Eye contact</th>
<th>Adverse symptoms may include the following: pain or irritation, watering, redness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Adverse symptoms may include the following: irritation, redness, dryness, cracking</td>
</tr>
<tr>
<td>Ingestion</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

**4.3 Indication of any immediate medical attention and special treatment needed**

**Notes to physician**: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**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 harmful 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, 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.
- **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. Avoid breathing 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.

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. 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.
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. 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>
| 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.  
| 5-methylhexan-2-one     | EU OEL (Europe, 2/2017).  
|                         | TWA: 95 mg/m³ 8 hours.  
|                         | TWA: 20 ppm 8 hours.  
| 2-methylpropan-1-ol     | ACGIH TLV (United States, 3/2019).  
|                         | TWA: 152 mg/m³ 8 hours.  
|                         | TWA: 50 ppm 8 hours.  

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
## SECTION 8: Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Protection Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appropriate engineering controls</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Individual protection measures</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Hygiene measures</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Eye/face protection</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Skin protection</strong></td>
<td>Chemical splash goggles.</td>
</tr>
<tr>
<td><strong>Hand protection</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Gloves</strong></td>
<td>butyl rubber</td>
</tr>
<tr>
<td><strong>Body protection</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Other skin protection</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Respiratory protection</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Environmental exposure controls</strong></td>
<td>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.</td>
</tr>
</tbody>
</table>
SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

**Appearance**
- Physical state: Liquid.
- Colour: Grey.
- Odour: Aromatic. [Slight]
- Odour threshold: Not available.
- pH: Insoluble in water.
- Melting point/freezing point: May start to solidify at the following temperature: 8 to 12°C (46.4 to 53.6°F) This is based on data for the following ingredient: bis-[4-(2,3-epoxpropoxy)phenyl]propane. Weighted average: -20.61°C (-5.1°F)
- Initial boiling point and boiling range: >37.78°C
- Flash point: Closed cup: 38°C
- Evaporation rate: Highest known value: 0.77 (xylene) Weighted average: 0.66 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: <2.5 kPa (<18.8 mm Hg) (at 20°C) (1,4-bis(2,3 epoxypropoxy)butane). Weighted average: 0.42 kPa (3.15 mm Hg) (at 20°C)
- Vapour density: Highest known value: 11.7 (Air = 1) (bis-[4-(2,3-epoxpropoxy)phenyl]propane). Weighted average: 9.06 (Air = 1)
- Relative density: 1.61
- Solubility(ies): Insoluble in the following materials: cold water.
- Partition coefficient: n-octanol/water: Not applicable.
- Auto-ignition temperature: Lowest known value: 400°C (752°F) (5-methylhexan-2-one).
- Decomposition temperature: Stable under recommended storage and handling conditions (see Section 7).
- Viscosity: Kinematic (room temperature): >4 cm²/s
  Kinematic (40°C): >0.21 cm²/s
- Explosive properties: Product does not present an explosion hazard.
- Oxidising properties: Product does not present an oxidizing hazard.

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.
SECTION 10: Stability and reactivity

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, 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>bis-[4-(2,3-epoxipropoxy)phenyl]propane</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>23000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>15000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Epoxy Resin (700&lt;MW&lt;=1100)</td>
<td>LD50 Dermal</td>
<td>Rat</td>
<td>&gt;2000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;2000 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>5-methylhexan-2-one</td>
<td>LC50 Inhalation Gas.</td>
<td>Rat</td>
<td>5000 ppm</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>8.14 g/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>5657 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>1,4-bis(2,3 epoxypropoxy)butane</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>1130 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>1134 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

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

**Acute toxicity estimates**

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>55506.61 mg/kg</td>
</tr>
<tr>
<td>Dermal</td>
<td>16519.46 mg/kg</td>
</tr>
<tr>
<td>Inhalation (gases)</td>
<td>198021.5 ppm</td>
</tr>
<tr>
<td>Inhalation (vapours)</td>
<td>163.86 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>bis-[4-(2,3-epoxipropoxy)phenyl]propane</td>
<td>Eyes - Redness of the conjunctivae</td>
<td>Rabbit</td>
<td>0.4</td>
<td>24 hours</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Erythema/ Eschar</td>
<td>Rabbit</td>
<td>0.8</td>
<td>4 hours</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Oedema</td>
<td>Rabbit</td>
<td>0.5</td>
<td>4 hours</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>4 hours</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 mg</td>
<td>-</td>
</tr>
<tr>
<td>xylene</td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours</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>bis-[4-(2,3-epoxipropoxy)phenyl]propane</td>
<td>skin</td>
<td>Mouse</td>
<td>Sensitising</td>
</tr>
<tr>
<td>1,4-bis(2,3 epoxypropoxy)butane</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.
SECTION 11: Toxicological information

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

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Maternal toxicity</th>
<th>Fertility</th>
<th>Developmental toxin</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-methylhexan-2-one</td>
<td>-</td>
<td>-</td>
<td>Equivocal</td>
<td>Rabbit</td>
<td>Inhalation: 1250 ppm</td>
<td>-</td>
</tr>
</tbody>
</table>

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>2-methylpropan-1-ol</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Narcotic effects</td>
</tr>
</tbody>
</table>

Specific target organ toxicity (repeated exposure)
Not available.

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>
</tbody>
</table>

Information on likely routes of exposure : Not available.

Potential acute health effects

Inhalation : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.
Skin contact : Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction.
Eye contact : Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : No specific data.
Ingestion : No specific data.
Skin contact : Adverse symptoms may include the following: irritation redness dryness cracking
Eye contact : Adverse symptoms may include the following: pain or irritation 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.
### SECTION 11: Toxicological information

**Potential delayed effects**
- Not available.

**Potential immediate 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
- Not available.

#### Developmental effects
- No known significant effects or critical hazards.

#### Fertility effects
- No known significant effects or critical hazards.

#### Other information
- Not available.

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

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

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

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

Ingestion may cause nausea, diarrhea and vomiting.

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

Based on the properties of the epoxy constituent(s) and considering toxicological data on similar mixtures, this mixture may be a skin sensitizer and an irritant. It contains low molecular weight epoxy constituents which are irritating to eyes, mucous membrane and skin. Repeated skin contact may lead to irritation and to sensitisation, possibly with cross-sensitisation to other epoxies. Skin contact with the mixture and exposure to spray mist and vapour should be avoided.

Contains bis-[4-(2,3-epoxypropoxy)phenyl]propane, Epoxy Resin (700<MW<=1100), 1,4-bis(2,3 epoxypropoxy)butane. 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>bis-[4-(2,3-epoxypropoxy)phenyl]propane</td>
<td>Acute LC50 1.8 mg/l Fresh water</td>
<td>Daphnia - daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 0.3 mg/l</td>
<td>Daphnia</td>
<td>21 days</td>
</tr>
<tr>
<td>5-methylhexan-2-one</td>
<td>Acute LC50 159 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>1,4-bis(2,3 epoxypropoxy)butane</td>
<td>Acute EC50 19.8 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
SECTION 12: Ecological information

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Result</th>
<th>Dose</th>
<th>Inoculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-methylhexan-2-one</td>
<td>OECD 301D</td>
<td>67 % - Readily - 28 days</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1,4-bis(2,3 epoxypropoxy)butane</td>
<td>OECD 301F</td>
<td>43 % - Not readily - 28 days</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

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>bis-[4-(2,3-epoxipropoxy)phenyl]propane</td>
<td>-</td>
<td>-</td>
<td>Not readily</td>
</tr>
<tr>
<td>xylene</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
<tr>
<td>5-methylhexan-2-one</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
<tr>
<td>1,4-bis(2,3 epoxypropoxy)butane</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&lt;sub&gt;ow&lt;/sub&gt;</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>5-methylhexan-2-one</td>
<td>1.88</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>2-methylpropan-1-ol</td>
<td>0.76</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>1,4-bis(2,3 epoxypropoxy)butane</td>
<td>-0.15</td>
<td>-</td>
<td>low</td>
</tr>
</tbody>
</table>

12.4 Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>): Not available.

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.
SECTION 13: Disposal considerations

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

**Special precautions**: This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. 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>14.2 UN proper shipping name</th>
<th>14.3 Transport hazard class(es)</th>
<th>14.4 Packing group</th>
<th>14.5 Environmental hazards Marine pollutant substances</th>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN1263</td>
<td>PAINT</td>
<td>3</td>
<td>III</td>
<td>No.</td>
<td>UN1263</td>
<td>UN1263</td>
<td>UN1263</td>
</tr>
<tr>
<td>UN1263</td>
<td>PAINT</td>
<td>3</td>
<td>III</td>
<td>No.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Additional information**

**ADR/RID**: This class 3 viscous liquid is not subject to regulation in packagings up to 450 L according to 2.2.3.1.5.1.

**Tunnel code**: (D/E)

**IMDG**: This class 3 viscous liquid is not subject to regulation in packagings up to 450 L according to 2.3.2.5.

**IATA**: None identified.

**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.
SECTION 15: Regulatory information

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

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

H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H312 Harmful in contact with skin.
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 if inhaled.
H411 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 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. 3, H226 FLAMMABLE LIQUIDS - Category 3
Repr. 2, H361d REPRODUCTIVE TOXICITY (Unborn child) (inhalation) - Category 2
Skin Irrit. 2, H315 SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1, H317 SKIN SENSITISATION - Category 1
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
SECTION 16: Other information

Date of issue/Date of revision : 14 February 2020
Date of previous issue : No previous validation
Prepared by : EHS
Version : 1

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by us, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.