SAFETY DATA SHEET

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

1.1 Product identifier
Product name: SIGMACOVER 240 HARDENER
Product code: 00311983
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.

1.3 Details of the supplier of the safety data sheet
PPG Coatings SPRL/BVBA
Tweemontstraat 104
B-2100 Deurne
Belgium
Telephone +32-33606311
Fax +32-33606435

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

1.4 Emergency telephone number
Supplier
+31 20 4075210

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Product definition: Mixture
Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
Flam. Liq. 3, H226
Acute Tox. 4, H332
Skin Corr. 1B, H314
Eye Dam. 1, H318
Resp. Sens. 1, H334
Skin Sens. 1, H317

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
- Corrosive
- Dust hazard
- Other hazard

Signal word: Danger

Hazard statements:
- Flammable liquid and vapor.
- Harmful if inhaled.
- Causes severe skin burns and eye damage.
- May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- May cause an allergic skin reaction.

Precautionary statements:

Prevention:

Response:
- IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or physician. 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:
- Cashew, nutshell liq., polymer with diethylenetriamine and formaldehyde
- ethylenediamine
- 2,2’-iminodiethylamine

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

2.3 Other hazards:

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>
</tr>
</thead>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

**Type**

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

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

**SUB codes represent substances without registered CAS Numbers.**
SECTION 4: First aid measures

4.1 Description of first aid measures

**Eye contact**
- Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

**Inhalation**
- Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

**Skin contact**
- Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

**Ingestion**
- If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

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

4.2 Most important symptoms and effects, both acute and delayed

**Potential acute health effects**

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

**Inhalation**
- Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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

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

**Over-exposure signs/symptoms**

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

**Inhalation**
- Adverse symptoms may include the following:
  - wheezing and breathing difficulties
  - asthma

**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

Hazards from the substance or mixture: Flammable liquid and vapor. 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.

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 spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders: If specialized 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 spilled 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).

6.3 Methods and materials 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.
SECTION 6: Accidental release measures

Large spill: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach 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 spilled 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 or asthma, allergies or chronic or recurrent respiratory disease 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 breathe vapor or mist. Do not ingest. 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 grounding 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.
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>
<tbody>
<tr>
<td>xylene</td>
<td>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.</td>
</tr>
<tr>
<td>ethylenediamine</td>
<td>ACGIH TLV (United States, 3/2018). Absorbed through skin. TWA: 10 ppm 8 hours.</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>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.</td>
</tr>
<tr>
<td>2,2'-iminodiethylamine</td>
<td>ACGIH TLV (United States, 3/2018). Absorbed through skin. TWA: 4.2 mg/m³ 8 hours. TWA: 1 ppm 8 hours.</td>
</tr>
</tbody>
</table>

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

DNELs

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Type</th>
<th>Exposure</th>
<th>Value</th>
<th>Population</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>xylene</td>
<td>DNEL</td>
<td>Short term Inhalation</td>
<td>289 mg/m³</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Short term Inhalation</td>
<td>289 mg/m³</td>
<td>Workers</td>
<td>Local</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Dermal</td>
<td>180 mg/kg bw/day 77 mg/m³</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Short term Inhalation</td>
<td>174 mg/m³</td>
<td>Consumers</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Short term Inhalation</td>
<td>174 mg/m³</td>
<td>Consumers</td>
<td>Local</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Dermal</td>
<td>108 mg/kg bw/day 14.8 mg/m³</td>
<td>Consumers</td>
<td>Systemic</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>DNEL</td>
<td>Long term Oral</td>
<td>1.6 mg/kg bw/day 77 mg/m³</td>
<td>Consumers</td>
<td>Systemic</td>
</tr>
</tbody>
</table>
### SECTION 8: Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Compartment</th>
<th>Type</th>
<th>Value</th>
<th>Method Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2,2'-iminodiethylamine</strong></td>
<td>- Fresh water</td>
<td>0.56 mg/l</td>
<td>Assessment Factors</td>
</tr>
<tr>
<td></td>
<td>- Marine water</td>
<td>0.056 mg/l</td>
<td>Assessment Factors</td>
</tr>
<tr>
<td></td>
<td>- Sewage Treatment Plant</td>
<td>6 mg/l</td>
<td>Assessment Factors</td>
</tr>
<tr>
<td></td>
<td>- Fresh water sediment</td>
<td>1072 mg/kg dwt</td>
<td>Equilibrium Partitioning</td>
</tr>
<tr>
<td></td>
<td>- Marine water sediment</td>
<td>107.2 mg/kg dwt</td>
<td>Equilibrium Partitioning</td>
</tr>
<tr>
<td></td>
<td>- Soil</td>
<td>7.97 mg/kg dwt</td>
<td>-</td>
</tr>
</tbody>
</table>

#### PNECs

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Type</th>
<th>Compartment Detail</th>
<th>Value</th>
<th>Method Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>xylene</td>
<td>- Fresh water</td>
<td>0.327 mg/l</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Marine water</td>
<td>0.327 mg/l</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Sewage Treatment Plant</td>
<td>6.58 mg/l</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Fresh water sediment</td>
<td>12.46 mg/kg dwt</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Marine water sediment</td>
<td>12.46 mg/kg dwt</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Soil</td>
<td>2.31 mg/kg</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>- Fresh water</td>
<td>0.1 mg/l</td>
<td>Assessment Factors</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Marine water</td>
<td>0.01 mg/l</td>
<td>Assessment Factors</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Sewage Treatment Plant</td>
<td>9.6 mg/l</td>
<td>Assessment Factors</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Fresh water sediment</td>
<td>13.7 mg/kg dwt</td>
<td>Equilibrium Partitioning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Marine water sediment</td>
<td>1.37 mg/kg dwt</td>
<td>Equilibrium Partitioning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Soil</td>
<td>2.68 mg/kg dwt</td>
<td>Equilibrium Partitioning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Secondary Poisoning</td>
<td>20 mg/kg</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

8.2 Exposure controls
## SECTION 8: Exposure controls/personal protection

### 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, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

### Individual protection measures

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

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

#### Skin protection
- 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.

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

#### Gloves
- 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.

#### 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
- By spraying: air-fed respirator. By other operations than spraying, in well ventilated areas, air-fed respirators could be replaced by a combination charcoal filter and particulate filter mask. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Wear a respirator conforming to EN140. Filter type: organic vapor (Type A) and particulate filter P3

#### Environmental exposure controls
- Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
### 9.1 Information on basic physical and chemical properties

#### Appearance
- **Physical state**: Liquid.
- **Color**: Not available.
- **Odor**: Aromatic.
- **Odor threshold**: Not available.
- **pH**: Insoluble in water.
- **Melting point/freezing point**: May start to solidify at the following temperature: 11.1°C (52°F) This is based on data for the following ingredient: ethylenediamine. Weighted average: -70.24°C (-94.4°F)
- **Initial boiling point and boiling range**: >37.78°C
- **Flash point**: Closed cup: 48°C
- **Evaporation rate**: Highest known value: 0.91 (ethylenediamine) Weighted average: 0.72 compared with butyl acetate
- **Material supports combustion**: Yes.
- **Flammability (solid, gas)**: Liquid
- **Upper/lower flammability or explosive limits**: Greatest known range: Lower: 2.5% Upper: 16.6% (ethylenediamine)
- **Vapor pressure**: Highest known value: 1.4 kPa (10.5 mm Hg) (at 20°C) (ethylenediamine). Weighted average: 0.93 kPa (6.98 mm Hg) (at 20°C)
- **Vapor density**: Highest known value: 3.7 (Air = 1) (xylene). Weighted average: 3.4 (Air = 1)
- **Relative density**: 0.98
- **Solubility(ies)**: Insoluble in the following materials: cold water.
- **Partition coefficient: n-octanol/water**: Not applicable.
- **Auto-ignition temperature**: Lowest known value: 358°C (676.4°F) (2,2'-iminodiethylamine).
- **Decomposition temperature**: Stable under recommended storage and handling conditions (see Section 7).
- **Viscosity**: Kinematic (40°C): >0.21 cm²/s
- **Viscosity**: 100 s (ISO 6mm)
- **Explosive properties**: The product itself is not explosive, but the formation of an explosive mixture of vapor or dust with air is possible.
- **Oxidizing properties**: Product does not present an oxidizing hazard.

### 9.2 Other information
No additional information.

### 10.0 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.

Code: 00311983 Date of issue/Date of revision: 27 December 2018
SIGMACOVER 240 HARDENER

SECTION 10: Stability and reactivity

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: oxidizing 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>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>ethylenediamine</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>0.73 g/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>0.5 g/kg</td>
<td>-</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>LC50 Inhalation Vapor</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>2,2’-iminodiethylamine</td>
<td>LC50 Inhalation Dusts and mists</td>
<td>Rat</td>
<td>0.07 to 0.3 mg/l</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>1090 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>1080 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>3087.9 mg/kg</td>
</tr>
<tr>
<td>Dermal</td>
<td>4486.1 mg/kg</td>
</tr>
<tr>
<td>Inhalation (vapors)</td>
<td>130.3 mg/l</td>
</tr>
<tr>
<td>Inhalation (dusts and mists)</td>
<td>3.782 mg/l</td>
</tr>
</tbody>
</table>

Irritation/Corrosion

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>xylene</td>
<td>Skin - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 mg</td>
<td>-</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.
Sensitization

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.
SECTION 11: Toxicological information

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>2,2'-iminodiethylamine</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

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

Information on the likely routes of exposure: Not available.

Potential acute health effects

Inhalation: Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Ingestion: No known significant effects or critical hazards.

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: wheezing and breathing difficulties asthma

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 and also 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.
SECTION 11: Toxicological information

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 : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Other information : Not available.

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

Exposure to component solvent vapor 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 Cashew, nutshell liq., polymer with diethylenetriamine and formaldehyde, ethylenediamine, 2,2’-iminodiethylamine. 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 Fresh water</td>
<td>Fish - Lepomis macrochirus - Young of the year</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>xylene</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
</tbody>
</table>

12.3 Bioaccumulative potential
**SECTION 12: Ecological information**

<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>ethylenediamine</td>
<td>-2.04</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>3.15</td>
<td>79.43</td>
<td>low</td>
</tr>
<tr>
<td>2,2'-iminodiethylamine</td>
<td>-1.3</td>
<td>4.47</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

**PBT**

: Not applicable.

**vPvB**

: Not applicable.

12.6 Other adverse effects

: No known significant effects or critical hazards.

**SECTION 13: Disposal considerations**

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

13.1 Waste treatment methods

**Product**

**Methods of disposal**

: The generation of waste should be avoided or minimized 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 minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Type of packaging**

<table>
<thead>
<tr>
<th>European waste catalogue (EWC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Container 15 01 06</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. Vapor 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 spilled material and runoff and contact with soil, waterways, drains and sewers.
14. Transport information

<table>
<thead>
<tr>
<th>ADR/RID</th>
<th>ADN</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>14.1 UN number</strong></td>
<td>UN3469</td>
<td>UN3469</td>
<td>UN3469</td>
</tr>
<tr>
<td><strong>14.2 UN proper shipping name</strong></td>
<td>PAINT, FLAMMABLE, CORROSIVE</td>
<td>PAINT, FLAMMABLE, CORROSIVE</td>
<td>PAINT, FLAMMABLE, CORROSIVE</td>
</tr>
<tr>
<td><strong>14.3 Transport hazard class(es)</strong></td>
<td>3 (8)</td>
<td>3 (8)</td>
<td>3 (8)</td>
</tr>
<tr>
<td><strong>14.4 Packing group</strong></td>
<td>III</td>
<td>III</td>
<td>III</td>
</tr>
<tr>
<td><strong>14.5 Environmental hazards</strong></td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td>Marine pollutant substances</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

**Additional information**

- ADR/RID: None identified.
- ADN: None identified.
- IMDG: None identified.
- 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 authorization
  - 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
  - Not applicable.

**Other EU regulations**

- Ozone depleting substances (1005/2009/EU)
  - Not listed.

- Seveso Directive
  - This product is controlled under the Seveso Directive.

- Danger criteria
Section 15: Regulatory Information

Category
P5c

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

Full text of abbreviated H statements

| H225  | Highly flammable liquid and vapor. |
| H226  | Flammable liquid and vapor.        |
| 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.     |
| H330  | Fatal if inhaled.                  |
| H332  | Harmful if inhaled.                |
| H334  | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H335  | May cause respiratory irritation.  |
| H373  | May cause damage to organs through prolonged or repeated exposure. |

Full text of classifications [CLP/GHS]

| Acute Tox. 2, H330 | ACUTE TOXICITY (inhaled) - Category 2 |
| Acute Tox. 4, H302 | ACUTE TOXICITY (oral) - Category 4 |
| Acute Tox. 4, H312 | ACUTE TOXICITY (dermal) - Category 4 |
| Acute Tox. 4, H332 | ACUTE TOXICITY (inhaled) - Category 4 |
| 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 |
| Resp. Sens. 1, H334 | RESPIRATORY SENSITIZATION - Category 1 |
| Skin Corr. 1B, H314 | SKIN CORROSION/IRRITATION - Category 1B |
| Skin Irrit. 2, H315 | SKIN CORROSION/IRRITATION - Category 2 |
| Skin Sens. 1, H317 | SKIN SENSITIZATION - Category 1 |
**SECTION 16: Other information**

<table>
<thead>
<tr>
<th>Skin Sens. 1B, H317</th>
<th>SKIN SENSITIZATION - Category 1B</th>
</tr>
</thead>
<tbody>
<tr>
<td>STOT RE 2, H373</td>
<td>SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2</td>
</tr>
<tr>
<td>STOT SE 3, H335</td>
<td>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3</td>
</tr>
</tbody>
</table>

**History**

<table>
<thead>
<tr>
<th>Date of issue/ Date of revision</th>
<th>27 December 2018</th>
</tr>
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<tbody>
<tr>
<td>Date of previous issue</td>
<td>23 November 2018</td>
</tr>
<tr>
<td>Prepared by</td>
<td>EHS</td>
</tr>
<tr>
<td>Version</td>
<td>12.03</td>
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