SAFETY DATA SHEET

Date of issue: 10 July 2021
Version: 5

Section 1. Identification

Chemical name: AMERLOCK SEALER CURE
GHS product identifier: AMERLOCK SEALER CURE
Code: AK-0B

Relevant identified uses of the substance or mixture and uses advised against
Product use: Coating.
Industrial applications.

Supplier's details: PPG Industries International Inc. Taiwan Branch.
No.209, Hong Tzuenn Rd Ping Chen City, Taoyuan County, Taiwan
Tel: 886 3 3663922
886 3 3751639 (Automotive OEM Coatings Products).
Fax: 886 3 2182667

Emergency telephone number:
North: +886-3-3663922
North: +886-911998320
South: +886-7-8718105
South: +886-932793707

Section 2. Hazards identification

Classification of the substance or mixture:
- ACUTE TOXICITY (oral) - Category 4
- ACUTE TOXICITY (dermal) - Category 4
- ACUTE TOXICITY (inhalation) - Category 2
- SKIN CORROSION/IRRITUATION - Category 1B
- SERIOUS EYE DAMAGE/ EYE IRRIGATION - Category 1
- SKIN SENSITIZATION - Category 1
- CARCINOGENICITY - Category 2
- SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
- SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
- AQUATIC TOXICITY (ACUTE) - Category 2
- AQUATIC TOXICITY (CHRONIC) - Category 2

Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: 25.9%
Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 35.6%
Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 69%
Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 56.2%

GHS label elements
Section 2. Hazards identification

Hazard pictograms:

- 
- 
- 
- 

Signal word: Danger

Hazard statements:
- Harmful if swallowed or in contact with skin.
- Causes severe skin burns and eye damage.
- May cause an allergic skin reaction.
- Fatal if inhaled.
- May cause respiratory irritation.
- Suspected of causing cancer.
- May cause damage to organs through prolonged or repeated exposure.
- Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention:
- Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. In case of inadequate ventilation wear respiratory protection. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Response:
- Collect spillage. IF exposed or concerned: Get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse. IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell. Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

Storage:
- Store locked up. Store in a well-ventilated place. Keep container tightly closed.

Disposal:
- Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification:
- Causes digestive tract burns. Prolonged or repeated contact may dry skin and cause irritation. Contains a substance that may emit formaldehyde if stored beyond its shelf life and/or during cure at curing temperatures greater than 60C (140F).

Section 3. Composition/information on ingredients

Substance/mixture: Mixture
Section 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Hazardous ingredients</th>
<th>Concentration %</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>furfuryl alcohol</td>
<td>20 - &lt;25</td>
<td>98-00-0</td>
</tr>
<tr>
<td>Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethyl-ethyl)-ω-(2-aminomethyl-ethoxy)-</td>
<td>10 - &lt;20</td>
<td>9046-10-0 (n = 2-6)</td>
</tr>
<tr>
<td>Polyaminoamide</td>
<td>10 - &lt;20</td>
<td>68082-29-1</td>
</tr>
<tr>
<td>Formaldehyde, polymer with 1,3-dimethylbenzene</td>
<td>10 - &lt;20</td>
<td>26139-75-3</td>
</tr>
<tr>
<td>1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich</td>
<td>10 - &lt;20</td>
<td>68515-49-1</td>
</tr>
<tr>
<td>benzyl alcohol</td>
<td>5 - &lt;10</td>
<td>100-51-6</td>
</tr>
<tr>
<td>Formaldehyde, polymer with benzenamine, hydrogenated</td>
<td>5 - &lt;10</td>
<td>135108-88-2</td>
</tr>
<tr>
<td>2,4,6-tris(dimethylaminomethyl)phenol</td>
<td>1 - &lt;3</td>
<td>90-72-2</td>
</tr>
<tr>
<td>4-nonylphenol, branched</td>
<td>1 - &lt;3</td>
<td>84852-15-3</td>
</tr>
<tr>
<td>3,6-diazaocanethylenediamin</td>
<td>1 - &lt;3</td>
<td>112-24-3</td>
</tr>
<tr>
<td>salicylic acid</td>
<td>1 - &lt;3</td>
<td>69-72-7</td>
</tr>
<tr>
<td>4,4’-methylenebis(cyclohexylamine)</td>
<td>1 - &lt;3</td>
<td>1761-71-3</td>
</tr>
<tr>
<td>Phenol, 2-nonyl-, branched</td>
<td>0.1 - &lt;0.3</td>
<td>91672-41-2</td>
</tr>
</tbody>
</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 and hence require reporting in this section.

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

SUB codes represent substances without registered CAS Numbers.

Section 4. First aid measures

**Description of necessary first aid measures**

**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.

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

**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.
Section 4. 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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact: Causes serious eye damage.

Inhalation: Fatal if inhaled. May cause respiratory irritation.

Skin contact: Causes severe burns. Harmful in contact with skin. Defatting to the skin. May cause an allergic skin reaction.

Ingestion: Harmful if swallowed. Corrosive to the digestive tract. Causes burns.

Over-exposure signs/symptoms

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

Inhalation: Adverse symptoms may include the following:
- respiratory tract irritation
- coughing

Skin contact: Adverse symptoms may include the following:
- pain or irritation
- redness
- dryness
- cracking
- blistering may occur

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

Indication of immediate medical attention and special treatment needed, if necessary

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.

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.

See toxicological information (Section 11)
Section 5. Fire-fighting measures

**Extinguishing media**

<table>
<thead>
<tr>
<th>Suitable</th>
<th>Not suitable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use an extinguishing agent suitable for the surrounding fire.</td>
<td>None known.</td>
</tr>
</tbody>
</table>

**Specific hazards arising from the chemical**

- In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous thermal decomposition products**

- Decomposition products may include the following materials: carbon oxides, nitrogen oxides, formaldehyde.

**Special protective actions 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.

**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.

Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

- 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. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

**Methods and materials for containment and cleaning up**

**Large spill**

- Stop leak if without risk. Move containers from spill area. 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 (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

**Small spill**

- Stop leak if without risk. Move containers from spill area. 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 7. Handling and storage

Precautions for safe handling: Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Conditions for safe storage, including any incompatibilities: Do not store above the following temperature: 50°C (122°F). Store in accordance with local regulations. Store in 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. 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.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>furfuryl alcohol</td>
<td>TW Minstry of Labor, labor permissible workplace exposure standards, allowable concentration (Taiwan, 3/2018). Absorbed through skin.</td>
</tr>
<tr>
<td></td>
<td>STEL: 60 mg/m³ 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>STEL: 15 ppm 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>TWA: 40 mg/m³ 8 hours.</td>
</tr>
<tr>
<td></td>
<td>TWA: 10 ppm 8 hours.</td>
</tr>
</tbody>
</table>

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.

Individual protection measures

Respiratory protection: Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.
Section 8. Exposure controls/personal protection

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.

Gloves: nitrile neoprene

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.

Eye protection: Chemical splash goggles and face shield.

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.

Section 9. Physical and chemical properties

Appearance

Physical state: Liquid.

Color: Not available.

Odor: Characteristic.

Odor threshold: Not available.

pH: Not applicable.

Melting point: Not available.

Boiling point: >37.78°C (>100°F)

Flash point: Closed cup: 100°C (212°F)

Flammability (solid, gas): Not available.

Burning time: Not applicable.

Burning rate: Not available.

Decomposition temperature: Not available.

Evaporation rate: Not available.

Lower and upper explosive (flammable) limits: Not available.

Vapor pressure: Not available.

Vapor density: Not available.

Relative density: 1.02

Solubility: Insoluble in the following materials: cold water.

Solubility in water at room temperature (g/l): 21.5 g/l

Partition coefficient: n-octanol/water: Not applicable.
Section 9. Physical and chemical properties

Auto-ignition temperature : Not available.
Viscosity : Kinematic (40°C): >21 mm²/s

Section 10. Stability and reactivity

Chemical stability : The product is stable.
Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products.
Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.
Hazardous decomposition products : Depending on conditions, decomposition products may include the following materials: carbon oxides nitrogen oxides Formaldehyde.
Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

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>furfuryl alcohol</td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>934 mg/m³</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>233 ppm</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>400 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rat</td>
<td>3825 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>0.132 g/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rat</td>
<td>2980 g/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Poly[oxy(methyl-1,2-ethanediyl)],α-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2-aminomethylethyl)-ω-(2-aminomethyleneoxy)-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rat</td>
<td>2885 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;60000 mg/kg</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>16000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>benzyl alcohol</td>
<td>LC50 Inhalation Dusts and mists</td>
<td>Rat</td>
<td>&gt;4178 mg/m³</td>
<td>4 hours</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></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>1.28 g/kg</td>
<td>-</td>
</tr>
<tr>
<td>2,4,6-tris (dimethylaminomethyl) phenol</td>
<td>LD50 Dermal</td>
<td>Rat</td>
<td>1280 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>1200 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>4-nonylphenol, branched</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>2.14 g/kg</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rabbit</td>
<td>1300 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>3,6-diazaoctanethylenediamin</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>1465 mg/kg</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>1716 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>
Section 11. Toxicological information

### Irritation/Corrosion

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4,6-tris (dimethylaminomethyl) phenol</td>
<td>Skin - Visible necrosis</td>
<td>Rabbit</td>
<td>-</td>
<td>4 hours</td>
<td>7 days</td>
</tr>
<tr>
<td>4-nonylphenol, branched</td>
<td>Skin - Erythema/Eschar</td>
<td>Rabbit</td>
<td>4</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Sensitization

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Route of exposure</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formaldehyde, polymer with benzenamine, hydrogenated 2,4,6-tris (dimethylaminomethyl) phenol 3,6-diazaoctanethylenediamin</td>
<td>skin</td>
<td>Guinea pig</td>
<td>Sensitizing</td>
</tr>
<tr>
<td></td>
<td>skin</td>
<td>Guinea pig</td>
<td>Sensitizing</td>
</tr>
<tr>
<td></td>
<td>skin</td>
<td>Guinea pig</td>
<td>Sensitizing</td>
</tr>
</tbody>
</table>

### Mutagenicity

Not available.

### Carcinogenicity

Not available.

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>furfuryl alcohol</td>
<td>Category 3</td>
<td>-</td>
<td>Respiratory tract irritation</td>
</tr>
<tr>
<td>Formaldehyde, polymer with 1,3-dimethylbenzene</td>
<td>Category 3</td>
<td>-</td>
<td>Respiratory tract irritation</td>
</tr>
</tbody>
</table>

### Specific target organ toxicity (repeated exposure)

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>furfuryl alcohol</td>
<td>Category 2</td>
<td>oral</td>
<td>-</td>
</tr>
<tr>
<td>Formaldehyde, polymer with benzenamine, hydrogenated 4,4'-methylenbis(cyclohexylamine)</td>
<td>Category 2</td>
<td>oral</td>
<td>kidneys</td>
</tr>
</tbody>
</table>

Taiwan GHS
Section 11. Toxicological information

Aspiration hazard

<table>
<thead>
<tr>
<th>Name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>furfuryl alcohol</td>
<td>ASPIRATION HAZARD - Category 2</td>
</tr>
<tr>
<td>benzyl alcohol</td>
<td>ASPIRATION HAZARD - Category 2</td>
</tr>
</tbody>
</table>

Information on the likely routes of exposure

Potential acute health effects

Inhalation: Fatal if inhaled. May cause respiratory irritation.
Ingestion: Harmful if swallowed. Corrosive to the digestive tract. Causes burns.
Skin contact: Causes severe burns. Harmful in contact with skin. 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

Eyes: Adverse symptoms may include the following:
- pain
- watering
- redness

Inhalation: Adverse symptoms may include the following:
- respiratory tract irritation
- coughing

Skin: Adverse symptoms may include the following:
- pain or irritation
- redness
- dryness
- cracking
- blistering may occur

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

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.
Potential chronic health effects
Not available.
Section 11. Toxicological information

General
May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity
Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity
No known significant effects or critical hazards.

Reproductive toxicity
No known significant effects or critical hazards.

Skin contact
Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Numerical measures of toxicity

Acute toxicity estimates

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Oral (mg/kg)</th>
<th>Dermal (mg/kg)</th>
<th>Inhalation (gases) (ppm)</th>
<th>Inhalation (vapors) (mg/l)</th>
<th>Inhalation (dusts and mists) (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMERLOCK SEALER CURE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>furfuryl alcohol</td>
<td>933</td>
<td>1954.3</td>
<td>N/A</td>
<td>1.3</td>
<td>0.63</td>
</tr>
<tr>
<td>Poly(oxy(methyl-1,2-ethanediy]), α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-1,2-Benzenedi carboxylic acid, di-C9-11-branched alkyl esters, C10-rich</td>
<td>500</td>
<td>1100</td>
<td>N/A</td>
<td>0.934</td>
<td>0.5</td>
</tr>
<tr>
<td>benzyl alcohol</td>
<td>2885</td>
<td>2980</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Formaldehyde, polymer with benzenamine, hydrogenated</td>
<td>1230</td>
<td>2000</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2,4,6-tris(dimethylaminomethyl)phenol</td>
<td>500</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>4-nonylphenol, branched</td>
<td>2885</td>
<td>1280</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>3,6-diazaoctanethylenediamin</td>
<td>1716</td>
<td>1465</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>salicylic acid</td>
<td>891</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>4,4’-methylenebis(cyclohexylamine)</td>
<td>625</td>
<td>2110</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Phenol, 2-nonyl-, branched</td>
<td>500</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Other information
Causes digestive tract burns. Prolonged or repeated contact may dry skin and cause irritation. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Contains a substance that may emit formaldehyde if stored beyond its shelf life and/or during cure at curing temperatures greater than 60C (140F). Avoid contact with skin and clothing.
Section 12. Ecological information

**Toxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylthoxy)-benzyl alcohol</td>
<td>EC50 15 mg/l</td>
<td>Algae</td>
<td>72 hours</td>
</tr>
<tr>
<td>Formaldehyde, polymer with benzenamine, hydrogenated 2,4,6-tris(dimethylaminomethyl)phenol 4-nonylphenol, branched</td>
<td>Acute EC50 63 mg/l</td>
<td>Fish</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 175 mg/l</td>
<td>Fish</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 0.04 mg/l</td>
<td>Algae - Pseudokirchneriella subcapitata</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 0.044 mg/l</td>
<td>Crustaceans - Moina macrocopa Fish</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 0.221 mg/l</td>
<td></td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 1147.57 mg/l Fresh water</td>
<td></td>
<td>48 hours</td>
</tr>
<tr>
<td>salicylic acid</td>
<td>Acute EC50 1147.57 mg/l</td>
<td></td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 5.6 mg/l Fresh water</td>
<td></td>
<td>21 days</td>
</tr>
<tr>
<td>Phenol, 2-nonyl-, branched</td>
<td>Acute LC50 0.017 mg/l</td>
<td>Fish - Pleuronectes americanus</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

**Persistence and degradability**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylthoxy)-benzyl alcohol</td>
<td>-</td>
<td>-</td>
<td>Not readily</td>
</tr>
<tr>
<td>Formaldehyde, polymer with benzenamine, hydrogenated 2,4,6-tris(dimethylaminomethyl)phenol 4-nonylphenol, branched</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
</tbody>
</table>

**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>fururyl alcohol</td>
<td>0.3</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich benzyl alcohol</td>
<td>8.8</td>
<td>-</td>
<td>high</td>
</tr>
<tr>
<td>Formaldehyde, polymer with benzenamine, hydrogenated 2,4,6-tris(dimethylaminomethyl)phenol 4-nonylphenol, branched</td>
<td>0.87</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>3,6-diazaoctanethylenediamin salicylic acid</td>
<td>0.219</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>4,4'-methylenebis(cyclohexylamine)</td>
<td>-</td>
<td>-</td>
<td>low</td>
</tr>
</tbody>
</table>

**Mobility in soil**

Taiwan GHS Page: 12/15
Section 12. Ecological information

Soil/water partition coefficient ($K_{OC}$) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. 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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

<table>
<thead>
<tr>
<th></th>
<th>UN</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN number</td>
<td>UN3066</td>
<td>UN3066</td>
<td>UN3066</td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>PAINT</td>
<td>PAINT</td>
<td>PAINT</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
<td>II</td>
<td>II</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>Yes. The environmentally hazardous substance mark is not required.</td>
<td>Yes.</td>
<td>Yes. The environmentally hazardous substance mark is not required.</td>
</tr>
<tr>
<td>Marine pollutant substances</td>
<td>Not applicable.</td>
<td>(4-nonylphenol, branched, 4,4'-methylenebis (cyclohexylamine))</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

Additional information

<table>
<thead>
<tr>
<th></th>
<th>UN</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN</td>
<td>None identified.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IMDG</td>
<td>The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IATA</td>
<td>The environmentally hazardous substance mark may appear if required by other transportation regulations.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.
Section 14. Transport information

Transport in bulk according to IMO instruments: Not applicable.

Section 15. Regulatory information

TCCSCA List of toxic chemicals

<table>
<thead>
<tr>
<th>Listed no.</th>
<th>Series no.</th>
<th>Product name</th>
<th>RQ</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>68</td>
<td>5</td>
<td>1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich</td>
<td>50</td>
<td>1</td>
</tr>
</tbody>
</table>

Regulations Applicable:
1. Rules for Occupational Safety and Health Facilities
2. Regulations for the Labeling and Hazard Communication of Hazardous Chemicals
3. Prevention Rules for Organic Solvent Intoxication/Poisoning.
4. Standards of Permissible Exposure Limits of Airborne Hazardous Substances in Workplace
5. Traffic Safety Regulation of Road.

Section 16. Other information

References
Not available.

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Version: 5

Indicates information that has changed from previously issued version.

Remarks
New SDS layout incorporating TW Table 2017

Key to abbreviations
ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships,
Section 16. Other information

1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
RID = The Regulations concerning the International Carriage of Dangerous Goods
by Rail
UN = United Nations

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