SAFETY DATA SHEET

Section 1. Chemical product and company identification

A. Product name : AMERLOCK 2 BASE ALUMINIUM
Product code : 00281057

B. Relevant identified uses of the substance or mixture and uses advised against
Product use : Professional applications, Used by spraying.
Uses advised against : Product is not intended, labelled or packaged for consumer use.

C. Supplier's information : PPG SSC
(680-090)
19, Yeocheon-ro 217beon-gil, Nam-gu, Ulsan, Korea
Tel: +82-52-210-8222
Email Address : Korea.MSDS@PPG.COM
Emergency telephone number: : +82-52-210-8222

Section 2. Hazards identification

A. Hazard classification : SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
SKIN SENSITIZATION - Category 1
GERM CELL MUTAGENICITY - Category 2
AQUATIC HAZARD (LONG-TERM) - Category 2
This product is classified in accordance with the Industrial Safety and Health Act and the Chemical Control Act.

B. GHS label elements, including precautionary statements
Symbol :

Signal word : Warning
Hazard statements : H319 - Causes serious eye irritation.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H341 - Suspected of causing genetic defects.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements
Section 2. Hazards identification

Prevention:
- P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.
- P273 - Avoid release to the environment.
- P261 - Avoid breathing vapor.
- P264 - Wash hands thoroughly after handling.
- P272 - Contaminated work clothing should not be allowed out of the workplace.

Response:
- P391 - Collect spillage.
- P308 + P313 - IF exposed or concerned: Get medical attention.
- P302 + P352 + P362 + P364 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse.
- P333 + P313 - If skin irritation or rash occurs: Get medical attention.
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337 + P313 - If eye irritation persists: Get medical attention.

Storage:
- P405 - Store locked up.

Disposal:
- P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

C. Other hazards which do not result in classification:
- None known.

Section 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name</th>
<th>Identifiers</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaction product: bisphenol-A- (epichlorhydrin); epoxy resin Aluminium powder (stabilized). 2,3-epoxypropyl neodecanoate 1,2,4,5-tetramethylbenzene ethanol</td>
<td>EPOXY RESIN</td>
<td>CAS: 25068-38-6</td>
<td>50 - &lt;60</td>
</tr>
<tr>
<td></td>
<td>ALUMINUM POWDER</td>
<td>CAS: 7429-90-5</td>
<td>10 -&lt;20</td>
</tr>
<tr>
<td></td>
<td>GLYCIDYL NEODECANOATE</td>
<td>CAS: 26761-45-5</td>
<td>10 -&lt;20</td>
</tr>
<tr>
<td></td>
<td>1,2,4,5-tetramethylbenzene</td>
<td>CAS: 95-93-2</td>
<td>5 - &lt;10</td>
</tr>
<tr>
<td></td>
<td>ETHYL ALCOHOL</td>
<td>CAS: 64-17-5</td>
<td>0.1 -&lt;1</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

A. 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.

B. 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

C. 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.

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

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

Specific treatments: No specific treatment.
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.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

A. Extinguishing media
Suitable extinguishing media: Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media: None known.

B. 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
halogenated compounds
metal oxide/oxides

C. Special equipment for fire-fighting: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Fire-fighting procedures: 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.

Section 6. Accidental release measures

A. 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. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

B. 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.
Section 6. Accidental release measures

C. Methods and materials for containment and cleaning up

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.

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.

Section 7. Handling and storage

A. Precautions for safe handling: 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 vapor or mist. Avoid release to the environment. Refer to special instructions/safety data sheet. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

B. 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 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
Section 8. Exposure controls/personal protection

A. Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminium powder (stabilized).</td>
<td>Ministry of Employment and Labor (Republic of Korea, 7/2018). TWA: 10 mg/m³ 8 hours. Form: Dust</td>
</tr>
<tr>
<td>ethanol</td>
<td>Ministry of Employment and Labor (Republic of Korea, 7/2018). TWA: 1000 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 appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

B. Appropriate engineering controls

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.

C. Personal protective equipment

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.

Eye protection: Chemical splash goggles.

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: 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.

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

A. Appearance

   Physical state : Liquid.
   Color : White.

B. Odor : Characteristic.

C. Odor threshold : Not available.

D. pH : Not available.

E. Melting/freezing point : Not available.

F. Boiling point/boiling range : >37.78°C (>100°F)

G. Flash point : Closed cup: 74°C (165.2°F)

H. Evaporation rate : Not available.

I. Flammability (solid, gas) : Not available.

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

K. Vapor pressure : Not available.

L. Solubility : Insoluble in the following materials: cold water.

M. Vapor density : Not available.

N. Relative density : 1.21

O. Partition coefficient: n-octanol/water : Not available.

P. Auto-ignition temperature : Not available.

Q. Decomposition temperature : Not available.

R. Viscosity : Kinematic (40°C (104°F)): >0.21 cm²/s (>21 cSt)

S. Molecular weight : Not applicable.

Section 10. Stability and reactivity

A. Chemical stability
   Possibility of hazardous reactions : The product is stable.
   Under normal conditions of storage and use, hazardous reactions will not occur.

B. Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products.

C. Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

D. Hazardous decomposition products : Depending on conditions, decomposition products may include the following materials: carbon oxides halogenated compounds metal oxide/oxides
Section 11. Toxicological information

A. Information on the likely routes of exposure

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. May cause an allergic skin reaction.
- **Eye contact**: Causes serious eye irritation.

Over-exposure signs/symptoms

- **Inhalation**: No specific data.
- **Ingestion**: No specific data.
- **Skin contact**: Adverse symptoms may include the following: irritation, redness.
- **Eye contact**: Adverse symptoms may include the following: pain or irritation, watering, redness.

B. Health hazards

**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>Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>&gt;2 g/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>11.4 g/kg</td>
<td>-</td>
</tr>
<tr>
<td>Aluminium powder (stabilized)</td>
<td>LC50 Inhalation Dusts and mists</td>
<td>Rat</td>
<td>&gt;5 mg/l</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;15900 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>2,3-epoxypropyl neodecanoate</td>
<td>LD50 Dermal</td>
<td>Rat</td>
<td>3800 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>1,2,4,5-tetramethylbenzene</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>9.6 g/kg</td>
<td>-</td>
</tr>
<tr>
<td>ethanol</td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>6700 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>124700 mg/m³</td>
<td>4 hours</td>
</tr>
</tbody>
</table>

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

**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>reaction product: bisphenol-A-(epichlorhydrin); epoxy resin</td>
<td>Skin - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

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

**Sensitization**

- 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.
Section 11. Toxicological information

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Route of exposure</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>reaction product: bisphenol-A-(epichlorhydrin); epoxy resin</td>
<td>skin</td>
<td>Mouse</td>
<td>Sensitizing</td>
</tr>
</tbody>
</table>

**Conclusion/Summary**

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

**Mutagenicity**

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

**Carcinogenicity**

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

**Reproductive toxicity**

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

**Teratogenicity**

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

**Specific target organ toxicity (single exposure)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Classification</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2,4,5-tetramethylbenzene</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
</tbody>
</table>

**Specific target organ toxicity (repeated exposure)**

Not available.

**Aspiration hazard**

Not available.

**Potential chronic health effects**

- **General**: Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- **Carcinogenicity**: No known significant effects or critical hazards.
- **Mutagenicity**: Suspected of causing genetic defects.
- **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.

**Additional information**

Emits toxic fumes when heated.
Section 11. Toxicological information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name</th>
<th>CAS #</th>
<th>GHS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin</td>
<td>EPOXY RESIN</td>
<td>25068-38-6</td>
<td>SKIN CORROSION/IRRITATION - Category 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SKIN SENSITIZATION - Category 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AQUATIC HAZARD (LONG-TERM) - Category 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SUBSTANCES AND MIXTURES, WHICH IN CONTACT WITH WATER, EMIT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>FLAMMABLE GASES - Category 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SKIN SENSITIZATION - Category 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AQUATIC HAZARD (LONG-TERM) - Category 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>FLAMMABLE SOLIDS - Category 1</td>
</tr>
<tr>
<td>Aluminium powder (stabilized).</td>
<td>ALUMINUM POWDER</td>
<td>7429-90-5</td>
<td>SUBSTANCES AND MIXTURES, WHICH IN CONTACT WITH WATER, EMIT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>FLAMMABLE GASES - Category 2</td>
</tr>
<tr>
<td>2,3-epoxypropyl neodecanoate</td>
<td>GLYCIDYL NEODECANOATE</td>
<td>26761-45-5</td>
<td>GERM CELL MUTAGENICITY - Category 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AQUATIC HAZARD (LONG-TERM) - Category 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AQUATIC HAZARD (LONG-TERM) - Category 4</td>
</tr>
<tr>
<td>1,2,4,5-tetramethylbenzene</td>
<td>1,2,4,5-tetramethylbenzene</td>
<td>95-93-2</td>
<td>SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SPECIFIC TARGET ORGAN TOXICITY - Category 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AQUATIC HAZARD (LONG-TERM) - Category 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AQUATIC HAZARD (LONG-TERM) - Category 4</td>
</tr>
<tr>
<td>ethanol</td>
<td>ETHYL ALCOHOL</td>
<td>64-17-5</td>
<td>SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AQUATIC HAZARD (LONG-TERM) - Category 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CARCINOGENICITY - Category 2</td>
</tr>
</tbody>
</table>

Section 12. Ecological information

A. Ecotoxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>reaction product: bisphenol-A-(epichlorhydrin); epoxy resin</td>
<td>Chronic NOEC 0.3 mg/l</td>
<td>Daphnia</td>
<td>21 days</td>
</tr>
<tr>
<td>2,3-epoxypropyl neodecanoate</td>
<td>Acute EC50 3.5 mg/l</td>
<td>Algae</td>
<td>96 hours</td>
</tr>
<tr>
<td>ethanol</td>
<td>Acute EC50 4.8 mg/l</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 9.6 mg/l</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 7640 mg/l Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
</tbody>
</table>

B. Persistence and degradability

<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>reaction product: bisphenol-A-(epichlorhydrin); epoxy resin</td>
<td>OECD 301F</td>
<td>5 % - 28 days</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Section 12. Ecological information

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>reaction product: bisphenol-A-(epichlorhydrin); epoxy resin</td>
<td>-</td>
<td>-</td>
<td>Not readily</td>
</tr>
<tr>
<td>2,3-epoxypropyl neodecanoate ethanol</td>
<td>-</td>
<td>-</td>
<td>Not readily</td>
</tr>
<tr>
<td>ethanol</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
</tbody>
</table>

C. 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>reaction product: bisphenol-A-(epichlorhydrin); epoxy resin</td>
<td>3</td>
<td>31</td>
<td>low</td>
</tr>
<tr>
<td>2,3-epoxypropyl neodecanoate</td>
<td>4.4</td>
<td>-</td>
<td>high</td>
</tr>
<tr>
<td>1,2,4,5-tetramethylbenzene</td>
<td>4</td>
<td>-</td>
<td>high</td>
</tr>
<tr>
<td>ethanol</td>
<td>-0.31</td>
<td>-</td>
<td>low</td>
</tr>
</tbody>
</table>

D. Mobility in soil

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

E. Other adverse effects

: No known significant effects or critical hazards.

Section 13. Disposal considerations

A. 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.

B. Disposal 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. 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>A. UN number</td>
<td>UN3082</td>
<td>UN3082</td>
<td>UN3082</td>
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<td>B. UN proper shipping name</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin); epoxy resin, 2,3-epoxypropyl neodecanoate)</td>
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</tr>
<tr>
<td>C. Transport hazard class(es)</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>D. Packing group</td>
<td>III</td>
<td>III</td>
<td>III</td>
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<tr>
<td>Environmental hazards</td>
<td>Yes.</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>E. Marine pollutant substances</td>
<td>Not applicable.</td>
<td>(reaction product: bisphenol-A-(epichlorhydrin); epoxy resin, 2,3-epoxypropyl neodecanoate)</td>
<td>Not applicable.</td>
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</tbody>
</table>

Additional information

**UN**: This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

**IMDG**: This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

**IATA**: This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

**F. Special precaution which a user to be aware of or needs to comply with in connection with transport or tranportation**

**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 15. Regulatory information

**A. Regulation according to ISHA**

**ISHA article 37 (Harmful substances prohibited from manufacture)**: None of the components are listed.

**ISHA article 38 (Harmful substances requiring permission)**: None of the components are listed.

**Article 2 of Youth Protection Act on Substances Hazardous to Youth**: It is not allowed to sell to persons under the age of 19.

**Exposure Limits of Chemical Substances and Physical Factors**

The following components have an OEL:
Section 15. Regulatory information

Aluminium powder (stabilized),
ethanol

ISHA Enforcement Regs Annex 11-3 (Exposure standards established for harmful factors) : None of the components are listed.

ISHA Enforcement Regs Annex 11-5 (Harmful factors subject to Work Environment Measurement) : The following components are listed: Aluminum, metal (Dust), as AL; Preparations containing material at weight ratio more than 1%

ISHA Enforcement Regs Annex 12-2 (Harmful Factors Subject to Special Health Check-up) : The following components are listed: Aluminum and compounds as Al

Standard of Industrial Safety and Health Annex 12 (Hazardous substances subject to control) : The following components are listed: aluminum and its compounds

B. Regulation according to Chemicals Control Act

CCA Article 20 Toxic Chemicals (K-Reach Article 20) : Not applicable

CCA Article 18 Prohibited (K-Reach Article 27) : None of the components are listed.

CCA Article 20 Restricted (K-Reach Article 27) : None of the components are listed.

CCA Article 11 (TRI) : The following components are listed: Aluminium and its compounds

Korea inventory : All components are listed or exempted.

CCA Article 39 (Accident Precaution Chemicals) : None of the components are listed.

C. Dangerous Materials Safety Management Act : Not applicable.

D. Wastes regulation : Dispose of contents and container in accordance with all local, regional, national and international regulations.

E. Regulation according to other foreign laws

Safety, health and environmental regulations specific for the product : No known specific national and/or regional regulations applicable to this product (including its ingredients).
Section 16. Other information

A. References: Korean Ministry of Environment; Chemical Control Act
               Korean Ministry of Labor; Industrial Safety and Health Act
               NIER Notice
               Registry of Toxic Effects of Chemical Substances (RTECS)
               U.S. Environmental Protection Agency, AQUIRE (Aquatic toxicity Information
               Retrieval) ECOTOX Database System.

B. Date of issue/Date of revision: 1/15/2020

C. Version: 4.01

D. Prepared by: EHS

D. Other

Procedure used to derive the classification

<table>
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<tr>
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<th>Justification</th>
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<td>Skin Irrit. 2, H315</td>
<td>Calculation method</td>
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<tr>
<td>Eye Irrit. 2, H319</td>
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<td>Muta. 2, H341</td>
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<tr>
<td>Aquatic Chronic 2, H411</td>
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Indicates information that has changed from previously issued version.

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 PPG, 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.