Section 1. Chemical product and company identification

A. Product name : AMERCOAT 385ASA CURE
   Product code : 00334383

B. Relevant identified uses of the substance or mixture and uses advised against
   Product use : Industrial 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
   : FLAMMABLE LIQUIDS - Category 3
     CORROSIVE TO METALS - Category 1
     SKIN CORROSION/IRRITATION - Category 1
     SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
     SKIN SENSITIZATION - Category 1
     TOXIC TO REPRODUCTION - Category 2
     SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
     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 : Danger
Hazard statements:
- H226 - Flammable liquid and vapor.
- H290 - May be corrosive to metals.
- H314 - Causes severe skin burns and eye damage.
- H317 - May cause an allergic skin reaction.
- H335 - May cause respiratory irritation.
- H361 - Suspected of damaging fertility or the unborn child.
- H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements:

Prevention:
- P201 - Obtain special instructions before use.
- P280 - Wear protective gloves. Wear protective clothing. Wear eye or face protection.
- P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P241 - Use explosion-proof electrical, ventilating or lighting equipment.
- P242 - Use non-sparking tools.
- P243 - Take action to prevent static discharges.
- P234 - Keep only in original packaging.
- P273 - Avoid release to the environment.
- P261 - Avoid breathing vapor.

Response:
- P391 - Collect spillage.
- P390 - Absorb spillage to prevent material damage.
- P310 - Immediately call a POISON CENTER or doctor.
- P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
- P302 + P352 - IF ON SKIN: Wash with plenty of water.
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage:
- P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
- P403 + P235 - Keep cool.

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:
- Causes digestive tract burns. Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

CAS number/other identifiers
- CAS number: Not applicable.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name</th>
<th>Identifiers</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>aluminium oxide</td>
<td>ALUMINUM OXIDE</td>
<td>CAS: 1344-28-1</td>
<td>30 - &lt;40</td>
</tr>
<tr>
<td>Talc, not containing asbestiform fibres</td>
<td>Talc, non-asbestos form</td>
<td>CAS: 14807-96-6</td>
<td>20 - &lt;30</td>
</tr>
<tr>
<td>Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine</td>
<td>POLYAMIDE</td>
<td>CAS: 68082-29-1</td>
<td>10 - &lt;20</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), light aromatic</td>
<td>SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC</td>
<td>CAS: 64742-95-6</td>
<td>5 - &lt;10</td>
</tr>
<tr>
<td>Nonylphenols</td>
<td>4-nonylphenol, branched</td>
<td>CAS: 84852-15-3</td>
<td>5 - &lt;10</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), heavy arom.</td>
<td>SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC</td>
<td>CAS: 64742-94-5</td>
<td>5 - &lt;10</td>
</tr>
</tbody>
</table>
Section 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2,4-trimethylbenzene</td>
<td>95-63-6</td>
<td>1 - &lt;5</td>
</tr>
<tr>
<td>titanium dioxide</td>
<td>13463-67-7</td>
<td>0.1 - &lt;1</td>
</tr>
<tr>
<td>Nonylphenols</td>
<td>91672-41-2</td>
<td>0.1 - &lt;1</td>
</tr>
<tr>
<td>naphthalene</td>
<td>91-20-3</td>
<td>0.1 - &lt;1</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>100-41-4</td>
<td>0.1 - &lt;1</td>
</tr>
<tr>
<td>cumene</td>
<td>98-82-8</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
   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.

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.

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
   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

A. Extinguishing media
   Suitable extinguishing media: Use dry chemical, CO₂, water spray (fog) or foam.
   Unsuitable extinguishing media: Do not use water jet.
Section 5. Fire-fighting measures

B. Specific hazards arising from the chemical

- **Hazardous thermal decomposition products**: Decomposition products may include the following materials:
  - carbon oxides
  - nitrogen oxides
  - halogenated compounds
  - metal oxide/oxides

- **Specific hazards arising from the chemical**: 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. 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.

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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Section 6. Accidental release measures

A. Personal precautions, protective equipment and emergency procedures

- **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. 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.

B. Environmental precautions

- **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.

C. 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. Absorb spillage to prevent material damage. Dispose of via a licensed waste disposal contractor.

- **Large spill**: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Absorb spillage to prevent material damage. 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. Avoid exposure during pregnancy. 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: Do not store above the following temperature: 50°C (122°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 in a corrosion resistant container with a resistant inner liner. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep away from metals. 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 oxide</td>
<td>Ministry of Employment and Labor (Republic of Korea, 7/2018). TWA: 10 mg/m³ 8 hours. Form: total dust with less than 1% of free SiO2</td>
</tr>
<tr>
<td>Talc, not containing asbestiform fibres</td>
<td>Ministry of Employment and Labor (Republic of Korea, 7/2018). TWA: 2 mg/m³ 8 hours. Form: fibers</td>
</tr>
<tr>
<td>1,2,4-trimethylbenzene</td>
<td>Ministry of Employment and Labor (Republic of Korea, 7/2018). TWA: 25 ppm 8 hours.</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>Ministry of Employment and Labor (Republic of Korea, 7/2018). TWA: 10 mg/m³ 8 hours. Form: total dust with less than 1% of free SiO2</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>Ministry of Employment and Labor (Republic of Korea, 7/2018). Absorbed through skin. STEL: 15 ppm 15 minutes. TWA: 10 ppm 8 hours.</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>Ministry of Employment and Labor (Republic of Korea, 7/2018).</td>
</tr>
</tbody>
</table>
Section 8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Substance</th>
<th>Recommended monitoring procedures</th>
<th>Environmental exposure controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>cumene</td>
<td>STEL: 125 ppm 15 minutes. TWA: 100 ppm 8 hours. TWA: 50 ppm 8 hours.</td>
<td>Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.</td>
</tr>
</tbody>
</table>

B. 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. 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 and face shield.

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. 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.

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 : Not available.

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: 47.78°C (118°F)

H. Evaporation rate
   0.22 (butyl acetate = 1)

I. Flammability (solid, gas)
   Not available.

J. Lower and upper explosive (flammable) limits
   Greatest known range: Lower: 0.6%  Upper: 7% (Solvent naphtha (petroleum), heavy arom.)

K. Vapor pressure
   0.79 kPa (5.9 mm Hg) [room temperature]

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

M. Vapor density
   Not available.

N. Relative density
   1.63

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 nitrogen oxides halogenated compounds metal oxide/oxides
Section 11. Toxicological information

A. Information on the likely routes of exposure

Potential acute health effects

Inhalation : May cause respiratory irritation.

Ingestion : Corrosive to the digestive tract. Causes burns.

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

Eye contact : Causes serious eye damage.

Over-exposure signs/symptoms

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
  coughing
  reduced fetal weight
  increase in fetal deaths
  skeletal malformations

Ingestion : Adverse symptoms may include the following:
  stomach pains
  reduced fetal weight
  increase in fetal deaths
  skeletal malformations

Skin contact : Adverse symptoms may include the following:
  pain or irritation
  redness
  dryness
  cracking
  blistering may occur
  reduced fetal weight
  increase in fetal deaths
  skeletal malformations

Eye contact : Adverse symptoms may include the following:
  pain
  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>Solvent naphtha (petroleum), light aromatic</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>3.48 g/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>8400 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Nonylphenols</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>2.14 g/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>1300 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), heavy arom.</td>
<td>LC50 Inhalation Dusts and mists</td>
<td>Rat</td>
<td>&gt;5.2 mg/l</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;5 g/kg</td>
<td>-</td>
</tr>
<tr>
<td>1,2,4-trimethylbenzene</td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>18000 mg/m³</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>5 g/kg</td>
<td>-</td>
</tr>
<tr>
<td>titanium dioxide</td>
<td>LC50 Inhalation Dusts and mists</td>
<td>Rat</td>
<td>&gt;6.82 mg/l</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>&gt;5000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;5000 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>
Section 11. Toxicological information

<table>
<thead>
<tr>
<th>Substance</th>
<th>LD50 Oral</th>
<th>Route of exposure</th>
<th>Species</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>naphthalene</td>
<td>&gt;20 g/kg</td>
<td>Dermal</td>
<td>Rabbit</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>490 mg/kg</td>
<td>Oral</td>
<td>Rat</td>
<td>-</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>17.8 mg/l</td>
<td>Inhalation Vapor</td>
<td>Rat</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>3.5 g/kg</td>
<td>Oral</td>
<td>Rat</td>
<td>-</td>
</tr>
<tr>
<td>cumene</td>
<td>12.3 g/kg</td>
<td>Dermal</td>
<td>Rabbit</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>1400 mg/kg</td>
<td>Oral</td>
<td>Rat</td>
<td>-</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>
</tr>
</thead>
<tbody>
<tr>
<td>Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine</td>
<td>Skin - Irritant</td>
<td>Human</td>
<td>-</td>
</tr>
<tr>
<td>Nonylphenols</td>
<td>Eyes - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Erythema/Eschar</td>
<td>Rabbit</td>
<td>4</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

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Route of exposure</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine</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)
Section 11. Toxicological information

Specific target organ toxicity (repeated exposure)
Not available.

Aspiration hazard

<table>
<thead>
<tr>
<th>Name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvent naphtha (petroleum), light aromatic</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), heavy arom. ethylbenzene</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
<tr>
<td></td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
</tbody>
</table>

Potential chronic health effects

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

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : Suspected of damaging fertility.

Additional information
Do not taste or swallow. 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. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name</th>
<th>CAS #</th>
<th>GHS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminium oxide</td>
<td>ALUMINUM OXIDE</td>
<td>1344-28-1</td>
<td>Not classified.</td>
</tr>
<tr>
<td>Talc, not containing asbestiform fibres</td>
<td>Talc, non-asbestos form</td>
<td>14807-96-6</td>
<td>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3</td>
</tr>
<tr>
<td>Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine</td>
<td>POLYAMIDE</td>
<td>68082-29-1</td>
<td>SKIN CORROSION/IRRITATION - Category 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SKIN SENSITIZATION - Category 1</td>
</tr>
</tbody>
</table>
### Section 11. Toxicological information

<table>
<thead>
<tr>
<th>Substance</th>
<th>Product code</th>
<th>Toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvent naphtha (petroleum), light aromatic</td>
<td>64742-95-6</td>
<td>AQUATIC HAZARD (LONG-TERM) - Category 2, FLAMMABLE LIQUIDS - Category 3</td>
</tr>
<tr>
<td>Nonylphenols</td>
<td>84852-15-3</td>
<td>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3, SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3, ASPIRATION HAZARD - Category 1, AQUATIC HAZARD (LONG-TERM) - Category 2, CORROSIVE TO METALS - Category 1, ACUTE TOXICITY (oral) - Category 4, SKIN CORROSION/IRRITATION - Category 1, SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2, TOXIC TO REPRODUCTION - Category 2, AQUATIC HAZARD (ACUTE) - Category 1, AQUATIC HAZARD (LONG-TERM) - Category 1.</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), heavy arom.</td>
<td>64742-94-5</td>
<td>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3, ASPIRATION HAZARD - Category 1, AQUATIC HAZARD (LONG-TERM) - Category 2.</td>
</tr>
<tr>
<td>1,2,4-trimethylbenzene</td>
<td>95-63-6</td>
<td>ACUTE TOXICITY (inhalation) - Category 4, SKIN CORROSION/IRRITATION - Category 2, SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2, SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3, AQUATIC HAZARD (LONG-TERM) - Category 2,</td>
</tr>
<tr>
<td>titanium dioxide</td>
<td>13463-67-7</td>
<td>CARCINOGENICITY - Category 2, CORROSIVE TO METALS - Category 1, ACUTE TOXICITY (oral) - Category 4, SKIN CORROSION/IRRITATION - Category 1, SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1, TOXIC TO REPRODUCTION - Category 2, AQUATIC HAZARD (ACUTE) - Category 1, AQUATIC HAZARD (LONG-TERM) - Category 1.</td>
</tr>
<tr>
<td>Nonylphenols Phenol, 2-nonyl-, branched</td>
<td>91672-41-2</td>
<td>ACUTE TOXICITY (oral) - Category 4, SKIN CORROSION/IRRITATION - Category 1, SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1, TOXIC TO REPRODUCTION - Category 2, AQUATIC HAZARD (ACUTE) - Category 1, AQUATIC HAZARD (LONG-TERM) - Category 1.</td>
</tr>
<tr>
<td>naphthalene</td>
<td>91-20-3</td>
<td>FLAMMABLE SOLIDS - Category 2, ACUTE TOXICITY (oral) - Category 4.</td>
</tr>
</tbody>
</table>
Section 11. Toxicological information

ethylbenzene | ETHYLBENZENE | 100-41-4 | CARCINOGENICITY - Category 2
| | | | FLAMMABLE LIQUIDS - Category 2
| | | | ACUTE TOXICITY (inhalation) - Category 4
| | | | CANCER - Category 2

cumene | CUMENE | 98-82-8 | ACUTE TOXICITY (oral) - Category 4
| | | | CANCER - Category 2

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>Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine</td>
<td>EC10 1.78 mg/l</td>
<td>Algae</td>
<td>72 hours</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), light aromatic</td>
<td>Acute LC50 8.2 mg/l</td>
<td>Fish</td>
<td>96 hours</td>
</tr>
<tr>
<td>Nonylphenols</td>
<td>Acute LC50 0.221 mg/l</td>
<td>Fish</td>
<td>96 hours</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), heavy arom. titanium dioxide</td>
<td>NOEL 0.48 mg/l Fresh water</td>
<td>Daphnia</td>
<td>21 days</td>
</tr>
<tr>
<td>Nonylphenols</td>
<td>Acute LC50 &gt;100 mg/l Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>Acute LC50 150 to 200 mg/l Fresh water</td>
<td>Fish - Pleuronectes americanus</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fish</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

B. 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>Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine ethylbenzene</td>
<td>-</td>
<td>-</td>
<td>Not readily</td>
</tr>
</tbody>
</table>

C. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogPow</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonylphenols</td>
<td>-</td>
<td>251.19</td>
<td>low</td>
</tr>
<tr>
<td>1,2,4- trimethylbenzene</td>
<td>3.63</td>
<td>120.23</td>
<td>low</td>
</tr>
<tr>
<td>naphthalene</td>
<td>3.3</td>
<td>85.11</td>
<td>low</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>3.15</td>
<td>79.43</td>
<td>low</td>
</tr>
<tr>
<td>cumene</td>
<td>3.66</td>
<td>35.48</td>
<td>low</td>
</tr>
</tbody>
</table>

D. Mobility in soil

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

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. 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.

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>UN3469</td>
<td>UN3469</td>
<td>UN3469</td>
</tr>
<tr>
<td>B. UN proper shipping name</td>
<td>PAINT, FLAMMABLE, CORROSIVE</td>
<td>PAINT, FLAMMABLE, CORROSIVE</td>
<td>PAINT, FLAMMABLE, CORROSIVE</td>
</tr>
<tr>
<td>C. Transport hazard class(es)</td>
<td>3 (8)</td>
<td>3 (8)</td>
<td>3 (8)</td>
</tr>
<tr>
<td>D. Packing group</td>
<td>III</td>
<td>III</td>
<td>III</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>E. Marine pollutant substances</td>
<td>Not applicable.</td>
<td>(4-nonylphenol, branched)</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

Additional information

UN: None identified.
IMDG: The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
IATA: The environmentally hazardous substance mark may appear if required by other transportation regulations.

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

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:
- Aluminium oxide
- Talc, not containing asbestiform fibres
- 1,2,4-trimethylbenzene
- Titanium dioxide
- Naphthalene
- Ethylbenzene
- Cumene

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 compounds (Fume), as Al; Preparations containing material at weight ratio more than 1%, Talc, non-asbestos form/Soap stone less than 1% crystalline silica; (Mineral dust)

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) : The following components are listed: Nonylphenol, Nonylphenol

CCA Article 11 (TRI) : The following components are listed: Aluminium and its compounds, Branched 4-nonylphenol

Korea inventory : All components are listed or exempted.
Section 15. Regulatory information

### CCA Article 39 (Accident Precaution Chemicals)

None of the components are listed.

### Dangerous Materials

**Safety Management Act**

- **Class**: Class 4 - Flammable Liquid
- **Item**: 4. Class 2 petroleums - Water-insoluble liquid
- **Threshold**: 1000 L
- **Danger category**: III
- **Signal word**: Contact with sources of ignition prohibited

### Wastes regulation

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

### 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 : 4/21/2020

### C. Version : 6

### D. Prepared by : EHS

#### Procedure used to derive the classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not supported</td>
<td>On basis of test data</td>
</tr>
<tr>
<td>Not supported</td>
<td>SKIN CORROSION/IRRITATION</td>
</tr>
<tr>
<td>Not supported</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Not supported</td>
<td>Calculation method</td>
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<tr>
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<td>Calculation method</td>
</tr>
</tbody>
</table>

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.