Section 1. Identification

GHS product identifier : Polyguard epoxy Base- Part A
Other means of identification : Not available.
Product type : Solid.

Identified uses
Protection of pipeline field joints, girth welds, valves, fittings and a holiday repair material on FBE coated pipe and for pipeline coating rehabilitation.

Manufacturer : Polyguard Products Inc.
3801 South Interstate 45
Ennis, TX 75119
Tel: (800)541-4994

Supplier's details : Crossroads & C&I
11104 180 Street NW
Edmonton, Alberta
Canada T5S 2X5

Emergency telephone number (with hours of operation) : CHEMTREC, U.S. : 1-800-424-9300 International: +1-703-527-3887 (24/7)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN CORROSION/IRRITATION - Category 1C
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
SKIN SENSITIZATION - Category 1
GERM CELL MUTAGENICITY - Category 2
CARCINOGENICITY - Category 1A
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1
AQUATIC HAZARD (ACUTE) - Category 3
AQUATIC HAZARD (LONG-TERM) - Category 2

GHS label elements

Hazard pictograms : 

Signal word : Danger

Hazard statements : H314 - Causes severe skin burns and eye damage.
H317 - May cause an allergic skin reaction.
H350 - May cause cancer.
H341 - Suspected of causing genetic defects.
H372 - Causes damage to organs through prolonged or repeated exposure.
H411 - Toxic to aquatic life with long lasting effects.
Section 2. Hazards identification

Precautionary statements

Prevention:
- P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P281 - Use personal protective equipment as required.
- P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.
- P273 - Avoid release to the environment.
- P260 - Do not breathe dust.
- P270 - Do not eat, drink or smoke when using this product.
- P264 - Wash hands thoroughly after handling.
- P272 - Contaminated work clothing should not be allowed out of the workplace.

Response:
- P391 - Collect spillage.
- P314 - Get medical attention if you feel unwell.
- P308 + P313 - IF exposed or concerned: Get medical attention.
- P304 + P340 + P310 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician.
- P301 + P310 + P330 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician.
- P303 + P361 + P353 + P363 + P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician.
- P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
- P333 + P313 - If skin irritation or rash occurs: Get medical attention.
- P305 + P351 + P338 + P310 - 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 physician.

Storage:
- P405 - Store locked up.

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

Hazards not otherwise classified (HNOC)

Physical hazards not otherwise classified (PHNOC):
- None known.

Health hazards not otherwise classified (HHNOC):
- None known.

Section 3. Composition/information on ingredients

Substance/mixture:
- Mixture

Other means of identification:
- Not available.

CAS number/other identifiers

CAS number:
- Not applicable.

Product code:
- Not available.

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaction product: Bisphenol A-(epichlorhydrin)</td>
<td>10 - 30</td>
<td>25068-38-6</td>
</tr>
<tr>
<td>Phenol, polymer with formaldehyde, glycidyl ether</td>
<td>10 - 30</td>
<td>28064-14-4</td>
</tr>
<tr>
<td>Oxirane, 2,2’-[1-methylethylidene]bis(4,1-phenyleneoxymethylene)]bis-, homopolymer</td>
<td>5 - 10</td>
<td>25085-99-8</td>
</tr>
<tr>
<td>1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with (chloromethyl)oxirane</td>
<td>5 - 10</td>
<td>30499-70-8</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>5 - 10</td>
<td>13463-67-7</td>
</tr>
<tr>
<td>Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.</td>
<td>1 - 5</td>
<td>68609-97-2</td>
</tr>
<tr>
<td>Crystalline silica, quartz</td>
<td>1 - 5</td>
<td>14808-60-7</td>
</tr>
</tbody>
</table>

Any concentration shown as a range is to protect confidentiality or is due to batch variation.
Section 3. Composition/information on ingredients

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.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact: Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Chemical burns must be treated promptly by a physician.

Inhalation: Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Skin contact: Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion: Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact: Causes serious eye damage.

Inhalation: May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.

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

Ingestion: May cause burns to mouth, throat and stomach.

Over-exposure signs/symptoms

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

Inhalation: No known significant effects or critical hazards.

Skin contact: Adverse symptoms may include the following: pain or irritation, redness, blistering may occur.

Ingestion: Adverse symptoms may include the following: stomach pains.
Section 4. First aid measures

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

**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. 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**

**Suitable extinguishing media**
Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media**
None known.

**Specific hazards arising from the chemical**
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 dioxide
- carbon monoxide
- halogenated compounds
- metal oxide/oxides

**Special protective actions for fire-fighters**
No special measures are required.

**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**

**For non-emergency personnel**
No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders**
If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**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**
Section 6. Accidental release measures

**Spill**
- Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

**Precautions for safe handling**

**Protective measures**
- 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 ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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.

**Advice on general occupational hygiene**
- Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities**
- 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.

Section 8. Exposure controls/personal protection

**Control parameters**

**United States**

**Occupational exposure limits**

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
</table>
| Titanium dioxide         | OSHA PEL (United States, 2/2013).
|                          | TWA: 15 mg/m³ 8 hours. Form: Total dust                                         |
|                          | ACGIH TLV (United States, 4/2014).                                              |
|                          | TWA: 10 mg/m³ 8 hours.                                                          |
| Crystalline silica, quartz | OSHA PEL Z3 (United States, 2/2013).                                            |
|                          | TWA: 10 mg/m³ 8 hours. Form: Respirable                                          |
|                          | NIOSH REL (United States, 10/2013).                                             |
|                          | TWA: 0.05 mg/m³ 10 hours. Form: Respirable dust                                 |
|                          | ACGIH TLV (United States, 4/2014).                                              |
|                          | TWA: 0.025 mg/m³ 8 hours. Form: Respirable fraction                             |

**Canada**
Section 8. Exposure controls/personal protection

### Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>List name</th>
<th>ppm</th>
<th>mg/m³</th>
<th>Other</th>
<th>ppm</th>
<th>mg/m³</th>
<th>Other</th>
<th>ppm</th>
<th>mg/m³</th>
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<td>Limestone</td>
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</tr>
<tr>
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<td>BC 4/2012</td>
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<td>3</td>
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<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
</tr>
<tr>
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<td>BC 4/2012</td>
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<td>10</td>
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<tr>
<td></td>
<td>BC 4/2012</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>20</td>
<td>-</td>
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<td>-</td>
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</tr>
<tr>
<td>Titanium dioxide</td>
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<td>-</td>
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<td>10</td>
<td>-</td>
<td>-</td>
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<td>-</td>
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<td>-</td>
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</tr>
<tr>
<td>Zinc oxide</td>
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<td>-</td>
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</tr>
<tr>
<td></td>
<td>ON 1/2013</td>
<td>-</td>
<td>10</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td></td>
<td>ON 1/2013</td>
<td>-</td>
<td>10</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Crystalline silica, quartz</td>
<td>US ACGIH 4/2014</td>
<td>-</td>
<td>0.025</td>
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<td>-</td>
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</tr>
<tr>
<td></td>
<td>AB 4/2009</td>
<td>-</td>
<td>0.025</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
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<td>BC 7/2013</td>
<td>-</td>
<td>0.025</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td></td>
<td>ON 1/2013</td>
<td>-</td>
<td>0.1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
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<td>QC 1/2014</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td>Wollastonite</td>
<td>US ACGIH</td>
<td>-</td>
<td>10</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td></td>
<td>QC 12/2012</td>
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<td>10</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Individual protection measures

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

#### Eye/face protection
- Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

#### Skin 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.

### Environmental exposure controls
- Appropriate engineering controls: If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

### Form:
- [a] Respirable dust
- [b] Total dust
- [c] Respirable fraction
- [d] Respirable
- [e] fume
- [f] Respirable particulate.
Section 8. Exposure controls/personal protection

**Body protection**: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection**: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection**: Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. 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.

Section 9. Physical and chemical properties

**Appearance**

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid. [Thick paste.]</td>
</tr>
<tr>
<td>Color</td>
<td>White.</td>
</tr>
<tr>
<td>Odor</td>
<td>Sweet epoxy odor.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Lower and upper explosive (flammable) limits</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not available.</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.6</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Dynamic (room temperature): 87000 to 88000 mPa·s (87000 to 88000 cP)</td>
</tr>
<tr>
<td>Volatility</td>
<td>Not available.</td>
</tr>
<tr>
<td>VOC (w/w)</td>
<td>25.8 % (w/w)</td>
</tr>
</tbody>
</table>

Section 10. Stability and reactivity

**Reactivity**: No specific test data related to reactivity available for this product or its ingredients.

**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**: No specific data.
Section 10. Stability and reactivity

**Incompatible materials**: Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis.

**Hazardous decomposition products**: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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>Reaction product: Bisphenol A-(epichlorhydrin)</td>
<td>LC50 Oral</td>
<td>Rat</td>
<td>11.4 g/kg</td>
<td>-</td>
</tr>
<tr>
<td>Phenol, polymer with formaldehyde, glycidyl ether</td>
<td>LC50 Dermal</td>
<td>Rat</td>
<td>&gt;2000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.</td>
<td>LC50 Oral</td>
<td>Rat</td>
<td>&gt;2000 mg/kg</td>
<td>17100 mg/kg</td>
</tr>
</tbody>
</table>

**Irritation/Corrosion**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaction product: Bisphenol A-(epichlorhydrin)</td>
<td>Skin - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 µL</td>
<td>-</td>
</tr>
<tr>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td></td>
<td>100 mg</td>
<td>-</td>
</tr>
<tr>
<td>Skin - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td></td>
<td>24 hours 2 mg</td>
<td>-</td>
</tr>
<tr>
<td>Skin - Mild irritant</td>
<td>Human</td>
<td>-</td>
<td></td>
<td>72 hours 300 µg Intermittent</td>
<td>-</td>
</tr>
<tr>
<td>Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.</td>
<td>Skin - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 µL</td>
<td>-</td>
</tr>
</tbody>
</table>

**Sensitization**

There is no data available.

**Carcinogenicity**

**Classification**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>OSHA</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>EPA</th>
<th>NIOSH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wollastonite</td>
<td>-</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>-</td>
<td>2B</td>
<td>-</td>
<td>A4</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Crystalline silica, quartz</td>
<td>-</td>
<td>1</td>
<td>Known to be a human carcinogen.</td>
<td>-</td>
<td>A2</td>
<td>-</td>
</tr>
</tbody>
</table>

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

There is no data available.

**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>Crystalline silica, quartz</td>
<td>Category 1</td>
<td>Inhalation</td>
<td>kidneys, respiratory tract and testes</td>
</tr>
</tbody>
</table>

**Aspiration hazard**

There is no data available.

**Information on the likely routes of exposure**

**Potential acute health effects**

**Eye contact**: Causes serious eye damage.
Section 11. Toxicological information

**Inhalation**: May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.

**Skin contact**: Causes severe burns. May cause an allergic skin reaction.

**Ingestion**: May cause burns to mouth, throat and stomach.

**Symptoms related to the physical, chemical and toxicological characteristics**

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

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

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

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

**Potential chronic health effects**

- **General**: Causes damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- **Carcinogenicity**: May cause cancer. Risk of cancer depends on duration and level of exposure.
- **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.

**Numerical measures of toxicity**

**Acute toxicity estimates**
There is no data available.

Section 12. Ecological information

Toxicity
### Section 12. Ecological information

#### Product/ingredient name

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium dioxide</td>
<td>Acute EC50 5.83 mg/L Fresh water</td>
<td>Algae - Pseudokirchneriella subcapitata</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 3 mg/L Fresh water</td>
<td>Exponential growth phase</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 5.5 ppm Fresh water</td>
<td>Exopodita - Ceriodaphnia dubia -</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 1000 mg/L Fresh water</td>
<td>Neocopea magna - Juvenile (Fledgling, Hatchling, Weanling)</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 0.984 mg/L Fresh water</td>
<td>Algae - Pseudokirchneriella subcapitata - Exponential growth phase</td>
<td>72 hours</td>
</tr>
</tbody>
</table>

#### Persistence and degradability

There is no data available.

#### 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)</td>
<td>-</td>
<td>31</td>
<td>low</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>3.77</td>
<td>352</td>
<td>low</td>
</tr>
<tr>
<td>Oxirane, monoo[(C12-14-alkyloxy) methyl] derivs.</td>
<td>3.77</td>
<td>160 to 263</td>
<td>low</td>
</tr>
</tbody>
</table>

#### Mobility in soil

**Soil/water partition coefficient (K<sub>OCP</sub>)**: There is no data 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 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 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 empty 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>UN number</th>
<th>DOT</th>
<th>TDG</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN3077</td>
<td>UN3077</td>
<td>UN3077</td>
<td>UN3077</td>
<td>UN3077</td>
</tr>
</tbody>
</table>

**UN proper shipping name**: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Oxirane, 2,2'-[(1-methylethylidene)bis(4, 1-phenyleneoxyxymethylene)]bis-, homopolymer). Marine pollutant (Phenol, polymer with formaldehyde, glycidyl ether, Oxirane, 2,2'-(1-methylethylidene)bis(4, 1-phenyleneoxyxymethylene)]bis-, homopolymer).

**UN proper shipping name**: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Oxirane, 2,2'-(1-methylethylidene)bis(4, 1-phenyleneoxyxymethylene)]bis-, homopolymer). Marine pollutant (Phenol, polymer with formaldehyde, glycidyl ether, Oxirane, 2,2'-(1-methylethylidene)bis(4, 1-phenyleneoxyxymethylene)]bis-, homopolymer).

**UN proper shipping name**: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Oxirane, 2,2'-(1-methylethylidene)bis(4, 1-phenyleneoxyxymethylene)]bis-, homopolymer). Marine pollutant (Phenol, polymer with formaldehyde, glycidyl ether, Oxirane, 2,2'-(1-methylethylidene)bis(4, 1-phenyleneoxyxymethylene)]bis-, homopolymer).

**UN proper shipping name**: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Oxirane, 2,2'-[(1-methylethylidene)bis(4, 1-phenyleneoxyxymethylene)]bis-, homopolymer).
Section 14. Transport information

<table>
<thead>
<tr>
<th>Transport hazard class(es)</th>
<th>9</th>
<th>9</th>
<th>9</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packing group</td>
<td>III</td>
<td>III</td>
<td>III</td>
<td>III</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>Yes.</td>
<td>Yes.</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Additional information</td>
<td>Non-bulk packages of this product are not regulated as hazardous materials unless transported by inland waterway. The marine pollutant mark is not required when transported on inland waterways in sizes of ≤5 L or ≤5 kg. The product is not regulated as a dangerous good when transported by road or rail.</td>
<td>The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.</td>
<td>The environmentaly hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.</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.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not available.

Section 15. Regulatory information


Clean Water Act (CWA) 307: Zinc oxide; Toluene
Clean Water Act (CWA) 311: Propionic acid; Toluene

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs): Not listed
Clean Air Act Section 602 Class I Substances: Not listed
Clean Air Act Section 602 Class II Substances: Not listed

DEA List I Chemicals (Precursor Chemicals): Not listed
DEA List I Chemicals (Precursor Chemicals): Not listed

SARA 302/304 Composition/information on ingredients: No products were found.

SARA 304 RQ: Not applicable.
SARA 311/312 Classification: Immediate (acute) health hazard Delayed (chronic) health hazard

AERG: 171
## Section 15. Regulatory information

### Composition/information on ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>Fire hazard</th>
<th>Sudden release of pressure</th>
<th>Reactive</th>
<th>Immediate (acute) health hazard</th>
<th>Delayed (chronic) health hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>OXirane, 2,2'[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis-, homopolymer 1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with (chloromethyl)oxirane</td>
<td>5 - 10</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>5 - 10</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Crystalline silica, quartz</td>
<td>1 - 5</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
</tbody>
</table>

### SARA 313

No products were found.

### State regulations

- **Massachusetts**: The following components are listed: Limestone; Crystalline silica, quartz; Titanium dioxide
- **New York**: None of the components are listed.
- **New Jersey**: The following components are listed: Limestone; Crystalline silica, quartz; Titanium dioxide
- **Pennsylvania**: The following components are listed: Limestone; Crystalline silica, quartz; Titanium dioxide

### California Prop. 65

**WARNING**: This product contains a chemical known to the State of California to cause cancer.

**WARNING**: This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Cancer</th>
<th>Reproductive</th>
<th>No significant risk level</th>
<th>Maximum acceptable dosage level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium dioxide</td>
<td>Yes.</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td>Crystalline silica, quartz</td>
<td>Yes.</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td>Toluene</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
<td>7000 µg/day (ingestion)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>13000 µg/day (inhalation)</td>
</tr>
</tbody>
</table>

### Canada

#### Canadian lists

- **Canadian NPRI**: None of the components are listed.
- **CEPA Toxic substances**: None of the components are listed.
- **Canada inventory**: Not determined.

### International lists

#### National inventory

- **Australia**: Not determined.
- **China**: Not determined.
- **Europe**: Not determined.
- **Japan**: Not determined.
- **Malaysia**: Not determined.
- **New Zealand**: Not determined.
- **Philippines**: Not determined.
Section 15. Regulatory information

Republic of Korea : Not determined.
Taiwan : Not determined.

Section 16. Other information

History

Date of issue mm/dd/yyyy : 06/15/2015
Version : 1
Prepared by : KMK Regulatory Services Inc.

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