1. IDENTIFICATION OF MATERIAL AND SUPPLIER

Material/Trade Name  Pioneer Plus Five Epoxy
Material Type       Epoxy Adhesive
Company             Republic Chemical Industries, Inc.
Address             731 Aurora Boulevard, Quezon City, 1112 Philippines
Telephone          +63 2 721 5781 to  86
Fax                +63 2 727 5095
Website            www.repchem.com

2. HAZARDS IDENTIFICATION

Inhalation          May be harmful if inhaled in large amounts or for prolonged periods. Can cause irritation of respiratory tract. Overexposure to fumes or vapor may cause delayed lung damage and chemical pneumonia.

Skin Contact        May cause severe irritation or burns; may be corrosive on prolonged contact.

Skin Absorption     Slightly toxic. May cause skin irritation on prolonged or repeated exposure.

Eye contact         Can be corrosive to eye tissue leading to permanent damage and even blindness.

Ingestion           May be harmful. May cause fatigue, muscular weakness, labored breathing and gastrointestinal irritation.

Chronic Effects     Component B may cause dermatitis, lung injury or chemical pneumonia. May aggravate existing skin, eye or lung conditions.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Proportion</th>
<th>CAS No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid epoxy resin based on epichlorohydrin and Bisphenol A</td>
<td>50</td>
<td>25085-99-8</td>
</tr>
<tr>
<td>Mercaptan-terminated polymer</td>
<td>45</td>
<td>33007-83-9</td>
</tr>
<tr>
<td>2, 4, 6 Tri (Dimethylaminomethyl) Phenol</td>
<td>5</td>
<td>907-2-2</td>
</tr>
</tbody>
</table>
### 4. FIRST AID MEASURES

<table>
<thead>
<tr>
<th>Eye/Skin Contact</th>
<th>Eye/Skin Contact</th>
<th>Flush thoroughly with plenty of water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>Inhalation</td>
<td>Move to fresh air; if there are adverse reactions, call a physician</td>
</tr>
<tr>
<td>Oral ingestion</td>
<td>Oral ingestion</td>
<td>Immediately drink large quantities of milk or water and call a physician</td>
</tr>
</tbody>
</table>

### 5. FIRE FIGHTING MEASURES

<table>
<thead>
<tr>
<th>Extinguishing Media</th>
<th>Extinguishing Media</th>
<th>Component A - water fog or fine spray, foam, carbon dioxide, dry chemical, alcohol resistant foam</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Component B - water spray</td>
</tr>
<tr>
<td>Unsuitable Extinguishing</td>
<td>Unsuitable Extinguishing</td>
<td>Component A - direct water stream</td>
</tr>
<tr>
<td>Hazardous Decomposition</td>
<td>Hazardous Decomposition</td>
<td>Carbon dioxide, carbon monoxide, and oxides of nitrogen</td>
</tr>
<tr>
<td>Special Procedures</td>
<td>Special Procedures</td>
<td>Wear full protective equipment including self-contained breathing apparatus</td>
</tr>
</tbody>
</table>

### 6. ACCIDENTAL RELEASE MEASURES

<table>
<thead>
<tr>
<th>Spills/Leaks</th>
<th>Spills/Leaks</th>
<th>Soak up in absorbent material such as sand and collect in suitable container. Flush area with plenty of water. Wear adequate personal protective clothing and equipment. Keep out of irrigation ditches, sewers and water supplies.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disposal Method</td>
<td>Disposal Method</td>
<td>Do not dump into any sewers, on the ground or into any Body of water. Dispose in an approved chemical waste landfill. Disposable method must be in compliance with all Federal, state/Provincial and local laws and regulations.</td>
</tr>
</tbody>
</table>

### 7. HANDLING AND STORAGE

<table>
<thead>
<tr>
<th>Handling</th>
<th>Handling</th>
<th>Avoid use of electric band heaters. Application of direct flame to a container of Component A can also cause explosion and/or fire.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage</td>
<td>Storage</td>
<td>Recommended pumping and storage temperature is 60°C (140°F).</td>
</tr>
</tbody>
</table>

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Ventilation Requirement</th>
<th>Ventilation Requirement</th>
<th>Local exhaust</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye/Face Protection</td>
<td>Eye/Face Protection</td>
<td>Use safety glasses</td>
</tr>
<tr>
<td>Skin Protection</td>
<td>Skin Protection</td>
<td>Use long-sleeved protective clothing, face shield, gloves,</td>
</tr>
</tbody>
</table>
boots. Remove contaminated clothing immediately, wash skin with soap and water, and launder clothing before use.

Respiratory Protection  Respirator with organic vapor cartridge.

9. PHYSICAL AND CHEMICAL PROPERTIES

A. UNCURED STATE
   Form  Epoxy
   Color  Part A - Clear; slight yellow
          Part B - Clear; light amber
   Consistency  Flowy
   Solids Content  100%
   Pot Life  3 to 5 minutes
   Curing Time  Perfect bond in 5 minutes
                Maximum strength within 24 hours
   Shelf Life  Very stable; indefinite

B. CURED STATE
   Tensile Strength  3,683 psi
   Compressive Strength  9,773 psi
   Flexural Strength  15,000 psi
   Hardness (Shore D)  95 psi
   Shrinkage  Nil

*** The physical data represented above are typical values and should not be construed as a specification. For additional physical data and details on use, please obtain a data sheet for this product.

10. STABILITY AND REACTIVITY

Stable under recommended storage condition. See storage, section 7.
Potentially violent decomposition can occur above 350°C (662°F).
Generation of gas during decomposition can cause pressure in closed systems.
Avoid contact with oxidizing materials, acids and bases, and amines.

11. TOXICOLOGICAL INFORMATION

Repeated skin contact may possibly cause dermatitis. May be harmful or cause irritation of respiratory tract if inhaled in large amount or for prolonged periods.
Overexposure to fumes and vapor may cause lung damage and chemical pneumonia.

12. ECOLOGICAL CONSIDERATION

Component A – Bio concentration potential is moderate. Potential for mobility in soil is low.
Moderately toxic to aquatic organisms on an acute basis.
Component B – not determined.

13. DISPOSAL CONSIDERATIONS

Do not dump into any sewers, on the ground or into any body of water.
Dispose in an approved chemical waste landfill.
Disposable method must be in compliance with all Federal, state/Provincial and local laws and regulations.

14. TRANSPORT INFORMATION

Non-narcotic, non-toxic does not contain solvents that may cause transport hazards.

15. REGULATORY INFORMATION

| SARA 313 Information | To the best of our knowledge, this product contains no chemical subject to SARA Title III Section 313 supplier notification requirements |

16. OTHER INFORMATION

None