MATERIAL SAFETY DATA

1. PRODUCT IDENTIFICATION

<table>
<thead>
<tr>
<th>Product Name</th>
<th>PENTRA-BARK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synonyms</td>
<td>Polyalkyleneoxide modified heptamethyltrisiloxane</td>
</tr>
<tr>
<td>Chemical Family</td>
<td>Silicone-Polyether Copolymer</td>
</tr>
<tr>
<td>General Description</td>
<td>Silicone Based Surfactant</td>
</tr>
</tbody>
</table>

2. HAZARDOUS INGREDIENTS

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>CAS. NO</th>
<th>WT%</th>
<th>EXPOSURE LIMITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyalkyleneoxide modified heptamethyltrisiloxane</td>
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<td></td>
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</tbody>
</table>

3. EFFECTS OF OVEREXPOSURE

- **IF IN EYES:** Severely irritating.
- **IF ON SKIN:** Slightly irritating. This material could increase dermatitis conditions.
- **IF INGESTED:** Not expected to cause adverse effects unless swallowed in large amounts.
- **IF INHALED:** Not expected to cause adverse conditions.

4. EMERGENCY FIRST AID

- **IF IN EYES:** Hold eyelids open and flush with a steady stream of water for at least 15 minutes.
  GET MEDICAL ATTENTION.
- **IF ON SKIN:** Wash affected area with plenty of soap and water. Remove contaminated clothing. Launder contaminated clothing separately.
- **IF INGESTED:** If large amounts are accidentally ingested, call a physician or poison control center.
- **IF INHALED:** Remove to fresh air. Apply artificial respiration if necessary.

5. REACTIVITY DATA

- **STABILITY:** Stable under normal conditions.
- **CONDITIONS TO AVOID:** None known.
- **MATERIALS TO AVOID:** None known.
- **POLYMERIZATION:** Will not occur.
- **DECOMPOSITION PRODUCTS:** Silicon dioxide, carbon dioxide, and traces of incompletely burned carbon products.

6. PHYSICAL PROPERTIES

- **APPEARANCE AND ODOR:** Clear to amber liquid. Slight polyether odor.
- **BOILING POINT:** 760 mm Hg >150° C (copolymer)
- **FREEZING POINT:** Not determined
- **PH:** 7.4
- **SPECIFIC GRAVITY:** 1.046
- **VAPOR PRESSURE:** At 20° C <1 mm Hg
- **% VOLATILE (by weight %):** <1
- **EVAPORATION RATE (Ether=1):** <1
- **SOLUBILITY IN WATER:** Soluble
7. NFPA HAZARD RATING (National Fire Protection Association)

<table>
<thead>
<tr>
<th>FIRE</th>
<th>HEALTH</th>
<th>REACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

**FIRE:** Materials that must be preheated before ignition can occur.

**HEALTH:** Materials which on exposure should cause irritation but only minor residual injury even if no treatment is given.

**REACTIVITY:** Materials which in themselves are normally stable, even under fire exposure conditions, and which are not reactive with water.

8. FIRE AND EXPLOSION HAZARD INFORMATION

- **FLASHPOINT:** 240° F (PMCC)
- **FLAMMABLE LIMITS IN AIR:** Not determined
- **AUTOIGNITION TEMPERATURE:** Not determined
- **EXTINGUISHING MEDIA:** Use carbon dioxide or dry chemical for small fires and water fog or foam (alcohol, polymer, or ordinary) for large fires. Water stream may spread flames.
- **SPECIAL FIRE FIGHTING PROCEDURES:** Fire fighters should use self-contained breathing apparatus and full turnout gear. Prevent runoff of firewater. Avoid exposure to smoke.
- **UNUSUAL FIRE HAZARD:** Do not use water or foam directly on the fire.

9. SPECIAL PRECAUTIONS

**HANDLING AND STORAGE:** Store in a cool, dry area away from sources of heat or ignition.

10. SPECIAL PROTECTION INFORMATION

- **RESPIRATORY PROTECTION:** Not required under normal use conditions. If required, use NIOSH/MSHA approved respirator for organic vapors.
- **VENTILATION:** Local exhaust.
- **PROTECTIVE GLOVES:** Chemical resistant gloves.
- **EYE PROTECTION:** Safety glasses.
- **OTHER PROTECTION:** Chemical resistant coveralls or apron.
- **USER SAFETY RECOMMENDATIONS:** Safety showers and eyewash should be easily accessible.

11. SPILL OR LEAK PROCEDURES

**SPILLS OR RELEASES:** Dike the area using absorbent or materials such as sand or clay. Recover and contain as much product as possible using absorbent. Clean spill area using a solution of water and detergent. Collect and contain wash water and all contaminated absorbent for disposal. If spilled on the ground, the affected area should be excavated to a depth of 1 – 2 inches. Prevent the spilled product or washings from reaching public sewers or waterways. Wear appropriate protective equipment during the cleanup. Ensure that tools and equipment are adequately decontaminated.

**WASTE & CONTAINER DISPOSAL:** Dispose of in accordance with Federal, State, and Local regulations.

**CONTAINER DISPOSAL:** Dispose of in an approved facility according to Federal, State and Local regulations.
12. REGULATORY INFORMATION

COMPOUNDS WHICH REQUIRE REPORTING UNDER SARA TITLE III

<table>
<thead>
<tr>
<th>A. Sara regulated compounds</th>
<th>Section</th>
<th>CAS No.</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Listed</td>
<td>302-304</td>
<td>Not Applicable</td>
<td>312</td>
</tr>
</tbody>
</table>

The recommendation for safe handling and protection procedures are believed to be generally suitable for the standard uses of this compound. However, each user should identify his intended uses of this material and determine whether they are appropriate. All data included in this document is released as typical values and should not be utilized to determine the suitability of this material for a particular use or purpose. No warranty, either expressed or implied, is hereby made, nor do we give permission, inducement, or recommendations to practice any patented invention without license. All data is offered for consideration, investigation and verification purposes only.

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