1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION:
Product Name: Polyvinylpyrrolidone
Date of Prep: May 23, 2012

2. COMPOSITION/INFORMATION ON INGREDIENTS:

<table>
<thead>
<tr>
<th>CHEMICAL INGREDIENT NAME</th>
<th>CAS NUMBER</th>
<th>EC NUMBER</th>
<th>% BY WT.</th>
<th>OSHA</th>
<th>ACGIH</th>
<th>HAZARD SYMBOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyvinylpyrrolidone (C6H9NO)x</td>
<td>9003-39-8</td>
<td></td>
<td>100</td>
<td>NA</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

3. HAZARDS IDENTIFICATION: No known OSHA hazards.

4. FIRST AID MEASURES:
Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration.
Skin Contact: Wash off with soap and plenty of water.
Eye Contact: Flush eyes with water as a precaution.
Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water.

Note to physician:

5. FIRE-FIGHTING MEASURES:
Flammable Properties: Not flammable or combustible.
Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unique Aspects Contributing To a Fire: NE
Special Fire Fighting Procedures: Wear self contained breathing apparatus for fire fighting if necessary.
   Note: Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx)


7. HANDLING AND STORAGE: Provide appropriate exhaust ventilation at places where dust is formed. Sweep up and shovel. Keep in a dry and well-ventilated place. Hygroscopic. Keep in a dry place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:
Contains no substances with occupational exposure limit values.

Handle in accordance with good laboratory practices.

Respiratory Protection: Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Eye Protection: Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH(US) or EN 166(EU).
Skin Protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Engineering Controls:
9. PHYSICAL AND CHEMICAL PROPERTIES:

- Appearance: Beige
- Physical State: Powder
- Flash Point: NE
- Odor: Ne
- pH: 5-8 @ 10 g/l at 20°C
- Specific Gravity: NE
- Vapor Pressure: NE
- Explosion Limits: NE
- Bombing Point: NE
- Solubility in Water: NE
- Melting Point: NE
- Other:

10. STABILITY AND REACTIVITY:
- Hazardous Polymerization: Will Not Occur
- Stability: Stable.
- Carbon oxides, nitrogen oxides (NOx).
- Strong oxidizing agents.

11. TOXICOLOGICAL INFORMATION:
- Primary Route(s) of Exposure Under Normal Use: NE
- Target Organ(s): NE
- Acute Effects: NE
- Chronic Effects: NE
- Other Information: Oral LDO – rat – 100,000 mg/kg. IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (1-Ethenyl-2-pyrrolidinonehomopolymer). No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH, NTP, or OSHA.

12. ECOLOGICAL INFORMATION: NE

13. DISPOSAL CONSIDERATIONS: Offer surplus and non-recyclable solutions to a licensed disposal company.

14. TRANSPORT INFORMATION:
- U.S. DOT: Not dangerous goods.
- IATA/ICAO: Not dangerous goods.

15. REGULATORY INFORMATION:
- EU Risk/Safety Phrases: NE
- U.S. TOSCA: NE
- Canada: NE

16. OTHER INFORMATION:

<table>
<thead>
<tr>
<th>U.S. EPA SARA</th>
<th>National Fire Protection Association Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>313 Chemicals</td>
<td>CERCLA RQ</td>
</tr>
<tr>
<td>Not required.</td>
<td>HEALTH 0</td>
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<tr>
<td></td>
<td>FLAMMABILITY 0</td>
</tr>
<tr>
<td></td>
<td>REACTIVITY 0</td>
</tr>
<tr>
<td></td>
<td>OTHER</td>
</tr>
</tbody>
</table>

Notes: Not Established (NE) means a value has not been set or there is no information available. Not Applicable (NA) means that the topic is not pertinent.

The information contained herein has been compiled from data presented in various technical sources believed to be accurate. Waters makes no warranties and assumes no liability in connection with the use of this information. It is the user’s responsibility to determine the suitability of this information and to assure the adoption of necessary precautions.