Section 1: Identification

Product Name: Hydroxyethyl Starch
Product Nos.: HETA; HETABR; HETALKIT; HETAMKIT; HETAHKIT; HETAUHKIT
Supplier/Manufacture: American Polymer Standards Corporation, 8680 Tyler Blvd., Mentor, OH 44060
Phone: 440-255-2211 * Fax: 440-255-8397 * Email: apsc@ampolymer.com

Section 2: Hazardous Identification

Hazard Classification: None classified
Signal Word: No signal word
GHS: Not a dangerous substance according to GHS
HMIS Classification:
- Health Hazard: 0
- Flammability: 0
- Physical Hazards: 0
NFPA Rating:
- Health Hazard: 0
- Fire: 0
- Reactivity Hazards: 0

Potential Health Effects:
- Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.
- Skin: May be harmful if absorbed through skin. May cause skin irritation.
- Eyes: May cause eye irritation.
- Ingestion: May be harmful if swallowed.

Section 3: Composition/Information on Ingredients

Substance/Mixture: Substance
Chemical Name: : Hydroxyethyl Starch
CAS No.: 9005-27-0
Synonyms: Pentastarch, Polysaccharide, Glucose Polymer

Section 4: First-Aid Measures

Description of Necessary First-Aid Measures
- Inhalation: Move person to fresh air; if effects occur, consult a physician
- Skin: Wash skin with plenty of water. Seek first-aid or medical attentions as needed. If molten material comes in contact with skin, do not apply ice but cool under ice water of running stream of eater. DO NOT attempt to remove the material from skin. Removal could result in severe tissue damage. Seek medical attention immediately. Suitable emergency safety shower facility should be immediately available.
- Eyes: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.
- Ingestion: If swallowed, seek medical attention. May cause gastrointestinal blockage. Do not give laxatives. Do not induce vomiting unless directed to do so by medical personnel.

Description of Symptoms/Effects (both acute and delayed) & Symptoms of Overexposure:
- Inhalation: No known significant effects of critical hazards. No specific data regarding symptoms of overexposure.
- Skin: No known significant effects of critical hazards. No specific data regarding symptoms of overexposure.
- Eyes: No known significant effects of critical hazards. No specific data regarding symptoms of overexposure.
- Ingestion: No known significant effects of critical hazards. No specific data regarding symptoms of overexposure.

Indication of Immediate Medical Attention & Special Treatment Needed, If Necessary:
- Note 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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
Section 5: Fire-Fighting Measures

Suitable Extinguishing Media: Use dry chemical powder, water spray (fog), foam or CO2

Unsuitable Extinguishing Media: Do not use water jet.

Specific Hazards Arising from the Chemical: No Known Hazards

Hazardous Thermal Decomposition Products: No Known Hazards

Special Protective Actions for Fire-Fighters: 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.

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 & Emergency Procedures:
Spilled material may cause a slipping hazard. Avoid dust formation. Keep unnecessary and unprotected personnel from entering the area. Use appropriate safety equipment. For additional information, refer to Section 8: Exposure Controls & Personal Protection.

Environmental Precautions:
Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. For additional information, refer to Section 12: Ecological Information.

Methods & Materials for Containment & Clean Up:
Contain spilled material if possible. Sweep up. Collect in suitable and properly labeled containers. For additional information, refer to Section 13: Disposal Considerations.

Section 7: Handling & Storage

Precautions for Safe Handling:
No smoking, open flames or sources of ignition in handling and storage areas. Wear appropriate personal protective equipment (refer to Section 8). Avoid inhalation. Avoid contact with eyes, skin and clothing. Avoid creation of dust. Ensure adequate ventilation.

Conditions for Safe Storage:
Keep container tightly closed in a dry and well ventilated place.

Section 8: Exposure Controls & Personal Protection

Exposure Limits:
Contains no substances with occupational exposure limit values.

Engineering Controls:
Safety shower and eye bath. Mechanical exhaust required.

Personal Protective Measures:

**Respiratory:** 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 (SU) or CEN (EU).

**Hand:** Protective gloves

**Eye:** Chemical safety goggles

**Skin:** Personal protective equipment for the body should be selected based on the task being performed and the risk involved.

**Hygiene Measures:** Wash thoroughly after handling.
**Section 9: Physical & Chemical Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance: Physical State &amp; Color</td>
<td>Solid</td>
</tr>
<tr>
<td>Odor:</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor Threshold:</td>
<td>Not Available</td>
</tr>
<tr>
<td>pH:</td>
<td>Not Available</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 &amp; Upper Flammability/Explosive 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>Not Available</td>
</tr>
<tr>
<td>Solubility:</td>
<td>Not Available</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>Not Available</td>
</tr>
</tbody>
</table>

**Section 10: Stability & 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:**
  
  None known

- **Incompatible materials:**
  
  None known

- **Hazardous Decomposition Products:**
  
  Strong oxidizing agents

**Section 11: Toxicology Information**

- **Acute Toxicity:**
  
  - Oral LD50: Rat - > 50,000mg/kg
  - Inhalation LC50: No Data Available
  - Dermal LD50: No Data Available
  
- **Skin Corrosion/Irritation:**
  
  Prolonged contact is essentially nonirritating to skin. Repeated contact may cause flaking and softening of skin

- **Serious Eye Damage/Irritation:**
  
  May cause slight temporary eye irritation. Corneal injury is unlikely.

- **Respiratory or Skin Sensitization:**
  
  No Data Available

- **Germ Cell Mutagenicity:**
  
  No Data Available

- **Reproductive Toxicity:**
  
  No Data Available

- **Teratogenicity:**
  
  No Data Available

- **Specific Target Organ Toxicity-Single Exposure:**
  
  No Data Available

- **Specific Target Organ Toxicity-Repeated Exposure:**
  
  No Data Available

- **Aspiration Hazard:**
  
  No Data Available
Section 11: Toxicology Information (continued)

Carcinogenicity:
- IARC: No component of this product, present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- ACGIH: No component of this product, present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH.
- NTP: No component of this product, present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by NTP.
- OSHA: No component of this product, present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.

Potential Health Effects:
- Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.
- Ingestion: May be harmful if swallowed.
- Skin: May be harmful if absorbed through skin. May cause skin irritation.
- Eyes: May cause eye irritation.

Section 12: Ecological Information

Toxicity: No Data Available
Persistence & Degradability: No Data Available
Bio-accumulative Potential: No Data Available
Mobility in Soil: No Data Available

Section 13: Disposal Considerations

Disposal Methods: Disposal practices must be in compliance with all Federal, State and Local laws and regulations. DO NOT DUMP INTO ANY SEWERS, ON THE GROUND OR INTO ANY BODY OF WATER. Contact a licensed professional waste disposal service to ensure proper disposal.

Section 14: Transport Information

DOT (US): Not Regulated
IMDG: Not Regulated
IATA: Not Regulated

Section 15: Regulatory Information

OSHA Hazards: No known hazards
SARA 302 Components: No chemical in this material are subject to reporting requirements of SARA Title III, Section 302.
SARA 311/312 Components: No SARA Hazards
SARA 313 Components: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Right To Know Components:
- Massachusetts: No components of the material are subject to Massachusetts Right to Know Act.
- New Jersey: Hydroxyethyl starch CAS # 9005-27-0
- Pennsylvania: Hydroxyethyl starch CAS # 9005-27-0
- California Prop 65: No components found.

Canada Inventory: This material is listed or exempted.

Section 16: Other Information

Date of Issue: April 18, 2014
Date of Last Revision/Review: April 19, 2017

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