

American Polymer Standards Corporation

Safety Data Sheet

| Section 1: Identification | | |
|---|---------------------------------|------------------------------|
| Product Name: Hydroxyethyl Starch | EC Number: Not Available | CAS Number: 9005-27-0 |
| <p>Product Nos.: HETA6K; HETA9K; HETA11K; HETA18K; HETA21K; HETA23K; HETA27K; HETA40K; HETA47K; HETA55K; HETA60K; HETA75K; HETA82K; HETA88K; HETA92K; HETA95K; HETA100K; HETA108K; HETA115K; HETA120K; HETA130K; HETA136K; HETA143K; HETA155K; HETA160K; HETA169K; HETA185K; HETA206K; HETA220K; HETA237K; HETA250K; HETA262K; HETA293K; HETA337K; HETA360K; HETA380K; HETA395K; HETA460K; HETA600K; HETA666K; HETA726K; HETA750K; HETA865K; HETA900K; HETA930K; HETA1000K; HETA1060K; HETA1175K; HETA1240K; HETA1300K; HETA1340K; HETA1500K; HETA1700K; HETA1790K; HETA1870K; HETA2050K; HETA2300K; HETA2360K; HETA2500K; HETA2800K; HETABR264K; HETABR485K; HETABR685K</p> <p>Relevant Identified Uses of the Substance or mixture and uses advised against: Identified Uses: Laboratory Use</p> <p>Supplier/Manufacture: American Polymer Standards Corporation, 8680 Tyler Blvd., Mentor, OH 44060 Phone: 440-255-2211 * Fax: 440-255-8397 * Email: apsc@ampolymer.com</p> <p>In Case of Emergency: (440) 255-2211</p> | | |

| Section 2: Hazardous Identification | | | | | | | | |
|---|------------------------------|---------------------|--------------------------|-------------------------|------------------------|----------------|----------------------------|------------------------------|
| <p>Signal Word: None</p> <p>GHS: Not classified as hazardous per GHS; not listed in Table 3.1 Annex VI of regulation 1272/2008/EU, as amended. The product is not hazardous in the form in which it is placed on the market and under the normal and recommended conditions of storage and use. The product is not dangerous according to the criteria set by the EU.</p> <p>OHSA: While this material is not considered hazardous by OSHA Hazard Communications Standards (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained for employees and other users of this product.</p> | | | | | | | | |
| <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px;">HMIS Classification:</td> <td style="border: 1px solid black; padding: 2px;">NFPA Rating:</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">Health Hazards: 0</td> <td style="border: 1px solid black; padding: 2px;">Health Hazard: 0</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">Flammability: 0</td> <td style="border: 1px solid black; padding: 2px;">Fire: 0</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">Physical Hazards: 0</td> <td style="border: 1px solid black; padding: 2px;">Reactivity Hazards: 0</td> </tr> </table> | HMIS Classification: | NFPA Rating: | Health Hazards: 0 | Health Hazard: 0 | Flammability: 0 | Fire: 0 | Physical Hazards: 0 | Reactivity Hazards: 0 |
| HMIS Classification: | NFPA Rating: | | | | | | | |
| Health Hazards: 0 | Health Hazard: 0 | | | | | | | |
| Flammability: 0 | Fire: 0 | | | | | | | |
| Physical Hazards: 0 | Reactivity Hazards: 0 | | | | | | | |
| <p>Potential Health Effects:</p> <p>Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.</p> <p>Skin: May be harmful if absorbed through skin. May cause skin irritation.</p> <p>Eyes: May cause eye irritation.</p> <p>Ingestion: May be harmful if swallowed.</p> <p>Low hazard in normal laboratory use. The small quantities supplied in our products are unlikely to cause server or immediate health effects. Use only as directed and in accordance with safe laboratory practices.</p> | | | | | | | | |

| Section 3: Composition/Information on Ingredients | |
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| <p>Substance/Mixture: Substance</p> <p>Chemical Name: Hydroxyethyl Starch</p> | <p>Synonyms: Pentastarch, Polysaccharide, Glucose Polymer</p> |

| Section 4: First-Aid Measures | |
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| 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. |

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Section 5: Fire-Fighting Measures

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| 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

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| Personal Precautions, Protective Equipment & Emergency Procedures: | Spilled material may cause a slipping hazard. 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. |
| Reference to other sections: | See Section 1 for emergency contact information See Section 8 for information on appropriate personal protective equipment See Section 13 for additional waste treatment information |

Section 7: Handling & Storage

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| 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. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming in contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. |
| Protective Measures: | 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. Remove contaminated clothing and protective equipment before entering eating areas. See Sections 8 for additional information on hygiene measures. |
| Advice on General Occupational Hygiene: | |
| Conditions for Safe Storage: | Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight. Keep container tightly closed in a dry and well-ventilated place, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. 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

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| 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. |

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Section 9: Physical & Chemical Properties

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| Appearance: Physical State & Color: | Solid | Lower & Upper Flammability/Explosive Limits: | Not Available |
| Odor: | Odorless | Vapor Pressure: | Not Available |
| Odor Threshold: | Not Available | Vapor Density: | Not Available |
| pH: | Not Available | Relative Density: | Not Available |
| Melting Point: | Not Available | Solubility: | Not Available |
| Boiling Point: | Not Available | Partition coefficient: n-octanol/water: | Not Available |
| Flash Point: | Not Available | Auto-ignition Temperature: | Not Available |
| Evaporation Rate: | Not Available | Decomposition Temperature: | Not Available |
| Flammability (solid, gas): | Not Available | Viscosity: | Not Available |

Section 10: Stability & Reactivity

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| 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:

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| Oral LD50: | Rat – 50,000 mg/kg |
| Inhalation LC50: | No Data Available |
| Dermal LD50: | No Data Available |

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| 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 |

Carcinogenicity:

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|---------------|---|
| 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: | Cause eye irritation. |

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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

Results of PET & vPvB assessment: **PET:** No Data Available
vPvB: No Data Available

Other Adverse Effects: No known significant effect or critical hazards

Section 13: Disposal Considerations

Product:

Disposal Methods: The generation of waste should be avoided or minimized whenever possible. 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.

Hazardous Waste: Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC

Packaging:

Disposal Methods: The generation of waste should be avoided or minimized whenever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special Precautions: This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersals of split material and runoff and contact with soil, waterways, drains and sewers.

Section 14: Transport Information

DOT (US): Not Regulated

IMDG: Not Regulated

IATA: Not Regulated

ADR/RID: Not Regulated

Transport in bulk according to Annex II of Marpol and IBC Code: Not Available

Section 15: Regulatory Information

U.S. Toxic Substances Control Act: All components of this product are either listed on the U.S. Toxic Substances Control Act (TSCA) inventory of chemicals or are otherwise compliant with TSCA regulations.

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.

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV – List of substance authorization:

Annex XIV None of the components are listed

Substances of very high concern: None of the components are listed

Annex XVII Restrictions on the manufacture placing on the market and use of certain dangerous substances, mixtures and articles: Not Applicable

Other EU Regulations:

Ozone depleting substance (1005/2009/EU): Not Listed

Prior Informed Consent (PIC) (649/2012/EU): Not Listed

Seveso Directive: This product is not controlled under the Seveso Directive

International Regulations:

Chemical Weapon Convention List Schedules I, II & III Chemicals: Not Listed

Montreal Protocol (Annexes A, B, C, E): Not Listed

Stockholm Convention on Persistent Organic Pollutants: Not Listed

Rotterdam Convention of Prior Informed Consent (PIC): Not Listed

UNECE Aarhus Protocol on POPs and Heavy Metals: Not Listed

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Section 15: Regulatory Information

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.

Inventory List:

- Australia** This material is listed or exempted.
- Canada** This material is listed or exempted.
- China** This material is listed or exempted.
- Europe** This material is listed or exempted.

Inventory List continued:

- Japan** **Japan inventory (ENCS):** This material is listed or exempted.
Japan inventory (ISHL): This material is listed or exempted.
- New Zealand** This material is listed or exempted.
- Philippines** This material is listed or exempted.
- Republic of Korea** This material is listed or exempted.
- Taiwan** This material is listed or exempted.
- Turkey** This material is listed or exempted.
- United States** This material is listed or exempted.

Section 16: Other Information

Date of Issue: April 18, 2014

Last Revision Date: March 8, 2019

DISCLAIMER: For R&D use only. Not for use in Food, Drugs or Cosmetics. The information contained in this MSDS is the most accurate and complete information available to us. APSC expresses or implies no warranty to the information provided and assumes no liability. The material covered in this MSDS is provided in 1-gram quantities or less and is not expected to pose any health or environmental risks based on these quantities.