1 Identification

· Product identifier
  · Trade name: Phosphorus
  · Article number: IC-KP

· Details of the supplier of the safety data sheet
  · Manufacturer/Supplier:
    High-Purity Standards
    Address PO Box 41727 Charleston, SC 29423 United States
    Telephone +1-843-767-7900
    Fax +1-843-767-7906
    Website highpuritystandards.com
    Email info@highpuritystandards.com

· Information department: Product safety department
· Emergency telephone number:
  INFOTRAC
  Emergency telephone numbers 1-800-535-5053
  Other emergency telephone numbers 1-352-323-3500

2 Hazard(s) identification

· Classification of the substance or mixture
  The product is not classified, according to the Globally Harmonized System (GHS).

· Label elements
  · GHS label elements Void
  · Hazard pictograms Void
  · Signal word Void
  · Hazard statements Void
  · Classification system:
    · NFPA ratings (scale 0 - 4)
      Health = 0
      Fire = 0
      Reactivity = 0
    · HMIS-ratings (scale 0 - 4)
      HEALTH Health = 0
      FIRE Fire = 0
      REACTIVITY Reactivity = 0

· Other hazards
  · Results of PBT and vPvB assessment
    · PBT: Not applicable.
    · vPvB: Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Mixtures
· Description: Mixture of the substances listed below with nonhazardous additions.
Trade name: Phosphorus

· Dangerous components: Void

· Chemical identification of the substance/preparation
  | 7732-18-5 water, distilled, conductivity or of similar purity | 99.99%
  | 7778-77-0 potassium dihydrogenorthophosphate | 0.01%

4 First-aid measures

· Description of first aid measures
  · General information: No special measures required.
  · After inhalation: Supply fresh air; consult doctor in case of complaints.
  · After skin contact: Generally the product does not irritate the skin.
  · After eye contact: Rinse opened eye for several minutes under running water.
  · After swallowing: If symptoms persist consult doctor.
  · Information for doctor:
    · Most important symptoms and effects, both acute and delayed No further relevant information available.
    · Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

· Extinguishing media
  · Suitable extinguishing agents: Use fire fighting measures that suit the environment.
  · Special hazards arising from the substance or mixture No further relevant information available.
  · Advice for firefighters
  · Protective equipment: No special measures required.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures Not required.
· Environmental precautions: No special measures required.
· Methods and material for containment and cleaning up:
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
· Reference to other sections
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
  See Section 13 for disposal information.
· Protective Action Criteria for Chemicals
  · PAC-1:
    | 7778-77-0 potassium dihydrogenorthophosphate | 9.6 mg/m³
  · PAC-2:
    | 7778-77-0 potassium dihydrogenorthophosphate | 110 mg/m³
  · PAC-3:
    | 7778-77-0 potassium dihydrogenorthophosphate | 630 mg/m³
7 Handling and storage

- Handling:
  - Precautions for safe handling: No special measures required.
  - Information about protection against explosions and fires: No special measures required.
- Conditions for safe storage, including any incompatibilities
- Storage:
  - Requirements to be met by storerooms and receptacles: No special requirements.
  - Information about storage in one common storage facility: Not required.
  - Further information about storage conditions: None.
- Specific end use(s): No further relevant information available.

8 Exposure controls/personal protection

- Additional information about design of technical systems: No further data; see item 7.
- Control parameters
  - Components with limit values that require monitoring at the workplace: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
  - Additional information: The lists that were valid during the creation were used as basis.
- Exposure controls
  - Personal protective equipment:
    - General protective and hygienic measures: The usual precautionary measures for handling chemicals should be followed.
    - Breathing equipment: Not required.
    - Protection of hands: The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
  - Material of gloves: The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- Penetration time of glove material: The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- Eye protection: Goggles recommended during refilling.

9 Physical and chemical properties

- Information on basic physical and chemical properties
  - General Information
  - Appearance:
    - Form: Liquid
    - Color: colorless
Trade name: Phosphorus

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor</td>
<td>Characteristic</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not determined.</td>
</tr>
<tr>
<td>pH-value</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Change in condition</td>
<td></td>
</tr>
<tr>
<td>Melting point/Melting range</td>
<td>Undetermined.</td>
</tr>
<tr>
<td>Boiling point/Boiling range</td>
<td>ER 100 °C (212 °F)</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Flammability (solid, gaseous)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Auto igniting</td>
<td>Product is not selfigniting.</td>
</tr>
<tr>
<td>Danger of explosion</td>
<td>Product does not present an explosion hazard.</td>
</tr>
<tr>
<td>Explosion limits</td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Upper</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapor pressure at 20 °C (68 °F)</td>
<td>23 hPa (17.3 mm Hg)</td>
</tr>
<tr>
<td>Density at 20 °C (68 °F)</td>
<td>1 g/cm³ (8.345 lbs/gal)</td>
</tr>
<tr>
<td>Bulk density</td>
<td>1,000 kg/m³</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Solubility in / Miscibility with Water</td>
<td>Not miscible or difficult to mix.</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Dynamic</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Kinematic</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Solvent content</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>100.0 %</td>
</tr>
<tr>
<td>VOC content</td>
<td>0.00 %</td>
</tr>
<tr>
<td>Solid content</td>
<td>0.0 g/l / 0.00 lb/gal</td>
</tr>
<tr>
<td>Other information</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

10 Stability and reactivity

- Reactivity: No further relevant information available.
- Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- Possibility of hazardous reactions: No dangerous reactions known.
- Conditions to avoid: No further relevant information available.
- Incompatible materials: No further relevant information available.
Trade name: Phosphorus

· **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

· **Information on toxicological effects**
  · **Acute toxicity:**
  · **Primary irritant effect:**
    · **on the skin:** No irritant effect.
    · **on the eye:** No irritating effect.
  · **Sensitization:** No sensitizing effects known.
  · **Additional toxicological information:**
    The product is not subject to classification according to internally approved calculation methods for preparations:
    When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

· **Carcinogenic categories**
  · **IARC (International Agency for Research on Cancer)**
    None of the ingredients is listed.
  · **NTP (National Toxicology Program)**
    None of the ingredients is listed.
  · **OSHA-Ca (Occupational Safety & Health Administration)**
    None of the ingredients is listed.

## 12 Ecological information

· **Toxicity**
  · **Aquatic toxicity:** No further relevant information available.
  · **Persistence and degradability** No further relevant information available.
  · **Behavior in environmental systems:**
  · **Bioaccumulative potential** No further relevant information available.
  · **Mobility in soil** No further relevant information available.
  · **Additional ecological information:**
    · **General notes:** Not hazardous for water.
  · **Results of PBT and vPvB assessment**
    · **PBT:** Not applicable.
    · **vPvB:** Not applicable.
    · **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

· **Waste treatment methods**
  · **Recommendation:** Smaller quantities can be disposed of with household waste.
Trade name: Phosphorus

· Uncleaned packagings:
· Recommendation: Disposal must be made according to official regulations.

14 Transport information

· UN-Number
  · DOT, ADR, IMDG, IATA: not regulated

· UN proper shipping name
  · DOT, ADR, IMDG, IATA: not regulated

· Transport hazard class(es)
  · DOT, ADR, ADN, IMDG, IATA
    · Class: not regulated

· Packing group
  · DOT, ADR, IMDG, IATA: not regulated

· Environmental hazards:
  · Not applicable.

· Special precautions for user
  · Not applicable.

· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:
  · Not applicable.

· UN "Model Regulation": not regulated

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture
  · Sara
    · Section 355 (extremely hazardous substances):
      None of the ingredients is listed.
    · Section 313 (Specific toxic chemical listings):
      None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):
  · All components have the value ACTIVE.

· Hazardous Air Pollutants
  · None of the ingredients is listed.

· Proposition 65
  · Chemicals known to cause cancer:
    · None of the ingredients is listed.
  · Chemicals known to cause reproductive toxicity for females:
    · None of the ingredients is listed.
  · Chemicals known to cause reproductive toxicity for males:
    · None of the ingredients is listed.
Trade name: Phosphorus

- **Chemicals known to cause developmental toxicity:**
  None of the ingredients is listed.

- **Carcinogenic categories**
  - **EPA (Environmental Protection Agency)**
    None of the ingredients is listed.
  - **TLV (Threshold Limit Value established by ACGIH)**
    None of the ingredients is listed.
  - **NIOSH-Ca (National Institute for Occupational Safety and Health)**
    None of the ingredients is listed.

- **GHS label elements** Void
  - **Hazard pictograms** Void
  - **Signal word** Void
  - **Hazard statements** Void
  - **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Environment protection department.
- **Contact:**
  High-Purity Standards  
  Tel: 843-767-7900  
  Fax: 843-767-7906
- **Date of preparation / last revision** 08/07/2019 / -
- **Abbreviations and acronyms:**
  ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
  IMDG: International Maritime Code for Dangerous Goods  
  DOT: US Department of Transportation  
  IATA: International Air Transport Association  
  ACGIH: American Conference of Governmental Industrial Hygienists  
  EINECS: European Inventory of Existing Commercial Chemical Substances  
  ELINCS: European List of Notified Chemical Substances  
  CAS: Chemical Abstracts Service (division of the American Chemical Society)  
  NFPA: National Fire Protection Association (USA)  
  HMIS: Hazardous Materials Identification System (USA)  
  VOC: Volatile Organic Compounds (USA, EU)  
  PBT: Persistent, Bioaccumulative and Toxic  
  vPvB: very Persistent and very Bioaccumulative  
  NIOSH: National Institute for Occupational Safety  
  OSHA: Occupational Safety & Health  
  TLV: Threshold Limit Value  
  PEL: Permissible Exposure Limit  
  REL: Recommended Exposure Limit