MATERIAL SAFETY DATA SHEET

Section 1. Company Identification and Product Information

Product Name or Identity: Phosphate Buffered Saline (PBS), pH 7.4
Manufacturer’s Name: Neogen Corporation
Emergency Phone No.: 517/372-9200
620 Lesher Place
Lansing, MI 48912
Fax No.: 517/372-0108
e-mail: foodsafety@neogen.com
Date Prepared or Revised: September 2013
Chemtrec: (800) 424-9300
Outside US and Canada: (703) 527-3887

Section 2. Composition / Information on Hazardous Ingredients

This product is a mixture of the substances listed below with the addition of nonhazardous materials.

<table>
<thead>
<tr>
<th>Hazardous Components</th>
<th>CAS-No.</th>
<th>%</th>
<th>Hazard Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Chloride</td>
<td>7447-40-7</td>
<td>1 – 5%</td>
<td>Xi (Irritant)</td>
</tr>
</tbody>
</table>

Section 3. Health Hazard Identification

Health Hazards: (Acute and Chronic)
Information pertaining to particular dangers for man and environment.
R 36 / 37 / 38, Irritating to eyes, respiratory system, and skin.

Section 4. First Aid Measures

Emergency / First Aid Procedures:
- **Ingestion**: Never give anything by mouth to an unconscious person. Rinse mouth with water. Seek medical attention.
- **Inhalation**: If inhaled, supply fresh air or oxygen. Seek medical attention immediately. If not breathing, apply artificial respiration. If breathing is difficult, give oxygen.
- **Eye Contact**: Rinse opened eye for at least 15 minutes under running water, lifting lower and upper eyelids occasionally. Seek medical attention immediately.
- **Skin Contact**: Remove contaminated clothing. Immediately wash with plenty of soap and water for at least 15 minutes. Seek medical attention. Wash clothing before reuse.

Section 5. Fire and Explosion Hazard Data

Flash Point (Method Used): Closed Cup N/A
Flammable Limits: LEL – N/A
UEL – N/A
Extinguishing Media: Use water spray, alcohol resistant foam, dry chemical, or carbon dioxide.
Protective Equipment: Firefighters should wear protective equipment and self-contained breathing apparatus.
Unusual Fire and Explosion Hazards: During heating or in case of fire, poisonous gases may be produced.

Section 6. Accidental Release Measures

Personal Precautions: Wear suitable protective clothing, gloves, and eye protection. Wear self-containing breathing apparatus, rubber boots, and heavy rubber gloves. Place contaminated material in a chemical waste container.
Environmental Precautions: Prevent dispersion of material. Wipe up with damp sponge or mop.
Clean-up Methods: Contact safety officer if questions arise and ventilate area.
## Section 7. Handling and Storage

**Handling:** Protect against physical damage. Ensure good ventilation / exhaustion and do not breathe vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Do not use if skin is cut or scratched.

**Storage:** Keep container tightly closed. Storage area should be cool, dry, and away from incompatible materials. Store 2-30°C.

**Other Precautions:** Keep respiratory protective device available.

## Section 8. Exposure Controls / Personal Protection

### Components with limit values that require monitoring:

<table>
<thead>
<tr>
<th>OSHA–PEL</th>
<th>TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Additional Information:** Personal Protection listed below are general requirements for laboratory personnel. Follow the usual precautionary measures for handling chemicals / powder. Avoid contact with eyes, skin, and clothing. In the event of use above flash point, use in closed systems. Do not use compressed air by filling, discharging or handling the product. Proper ventilation required. Safety shower and eye bath. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

**Personal Protective Equipment:**

- Keep away from food, beverages, and feed.
- Wash hands before and after entering laboratory.

**Breathing Equipment:** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

**Hand Protection:** Use chemical resistant gloves.

**Eye Protection:** Wear safety glasses.

**Body Protection:** Wear lab coat or other protective work clothing.

## Section 9. Physical and Chemical Properties

**Appearance and Odor:** Powder

**Boiling Point:** Not determined

**Melting Point:** Not determined

**Density:** Not determined

## Section 10. Stability and Reactivity

**Stability:**

<table>
<thead>
<tr>
<th>Unstable</th>
<th>Stable</th>
<th>X</th>
</tr>
</thead>
</table>

**Conditions to Avoid:** Stable under normal storage conditions.

**Incompatibility (Materials to Avoid):** Incompatible with strong oxidizing agents and strong acids.

**Hazardous Decomposition or Byproducts:** oxides of phosphorus, hydrogen chloride gas, potassium oxides, sodium oxides

**Hazardous Polymerization:**

<table>
<thead>
<tr>
<th>May Occur</th>
<th>Conditions to Avoid: Incompatible materials.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will Not Occur</td>
<td>X</td>
</tr>
</tbody>
</table>
Section 11. Toxicological Information

<table>
<thead>
<tr>
<th>LD/LC50 values that are relevant:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute Toxicity:</strong> Not Applicable</td>
<td></td>
</tr>
<tr>
<td><strong>Carcinogenicity Classification:</strong> Not Applicable</td>
<td></td>
</tr>
<tr>
<td>IARC (International Agency for Research on Cancer) – Not Listed</td>
<td></td>
</tr>
<tr>
<td>NTP (National Toxicology Program)</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

**Eye:** Produces irritation.

**Ingestion:** May cause gastrointestinal irritation.

**Inhalation:** Irritant if inhaled, coughing possible and breathing difficulties may be observed.

**Chronic:** Prolonged or repeated skin contact may cause dermatitis.

Section 12. Ecological Information

**Ecotoxicity Tests:** The ecological effects have not been thoroughly investigated, but currently none have been identified.

Section 13. Disposal Considerations

**Waste Disposal Method:** Dispose in accordance with all applicable federal (40 CFR 261.3), state, and local environmental regulations.

**RCRA P-Series:** None listed.

Contact a licensed professional waste disposal service to dispose of this material if questions arise.

**Container Information:** Do not remove labels from containers until they have been cleaned.

Section 14. Transport Information

**DOT Regulations:** Not Regulated

**Land Transport ADR/ RID (cross-border)**
Not Regulated

**Maritime Transport IMDG:**
Not Regulated

**Air Transport ICAO-TI and IATA-DGR:**
Not Regulated
Section 15. Regulatory Information

<table>
<thead>
<tr>
<th>EU Regulations, Hazard Symbol(s):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Chloride: Xi (Irritant)</td>
</tr>
<tr>
<td><strong>Risk Phrases:</strong></td>
</tr>
<tr>
<td>R 36 / 37 / 38, Irritating to eyes, respiratory system, and skin.</td>
</tr>
</tbody>
</table>

**SARA 311/312 Hazards**

Chronic Health Hazard

**State Right-to-Know**

**Massachusetts**
- Disodium hydrogenorthophosphate CAS No. 7558-79-4

**Pennsylvania**
- Sodium Chloride CAS No. 7647-14-5
- Disodium hydrogenorthophosphate CAS No. 7558-79-4

**New Jersey**
- Sodium Chloride CAS No. 7647-14-5
- Disodium hydrogenorthophosphate CAS No. 7558-79-4
- Potassium Chloride CAS No. 7447-77-0
- Potassium dihydrogenorthophosphate CAS No. 7778-77-0

Section 16. Other Information

This document is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. Neogen Corporation shall not be held liable for any damage resulting from handling or from contact with the above product. These suggestions should not be confused with state, municipal or insurance requirements, and constitute NO WARRANTY.