1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY/UNDERTAKING

Product Name: Phosphate Buffered Saline (PBS 1X, Sterile)
Product Code(s): K812
Recommended Use: For Further Manufacturing Use Only
Not for Human or Animal Drug Use

Company:
AMRESCO, LLC
6681 Cochran Road
Solon, Ohio 44139

Emergency Telephone Number: Chemtrec 1-800-424-9300
Company Phone Number: 1-800-448-4442
E-mail Address: info@amresco-inc.com

2. HAZARDS IDENTIFICATION

GHS - Classification

Classification: Not classified as a hazard

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EC No.</th>
<th>REACH Reg. No.</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Hazardous Ingredients</td>
<td>-</td>
<td>Not available</td>
<td>NONE</td>
<td>95-100</td>
<td></td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Eye Contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin Contact: Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.

Inhalation: Move to fresh air. If breathing becomes difficult, give oxygen.
Ingestion
Clean mouth with water and afterwards drink plenty of water.

Notes to Physician
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable Properties
Not flammable.

Flash Point
Not determined

Suitable Extinguishing Media
Dry chemical, CO₂, water spray or regular foam.

Hazardous Combustion Products
Carbon oxides.

Explosion Data
Sensitivity to Mechanical Impact
Not sensitive.

Sensitivity to Static Discharge
Not sensitive.

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Avoid contact with skin, eyes and clothing. Use personal protective equipment. Ensure adequate ventilation.

Methods for Containment
Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up
Cover with dry lime or soda ash. Pick up and transfer to properly labeled containers. Ventilate area and wash spill site after material pickup is complete.

7. HANDLING AND STORAGE

Handling
Handle in accordance with good industrial hygiene and safety practice.

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Products
Strong oxidizing agents.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Measures
Showers
Eyewash stations
Ventilation systems.

Personal Protective Equipment
Eye/Face Protection
Tightly fitting safety goggles.

Skin and Body Protection
Wear protective gloves/clothing.

Respiratory Protection
If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>Decomposition Temperature °C</td>
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</tr>
<tr>
<td>Freezing Point</td>
<td>No information available</td>
</tr>
<tr>
<td>Initial Boiling Point</td>
<td>No information available</td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquid</td>
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<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not determined</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
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<tr>
<td>Boiling Point/Range</td>
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<tr>
<td>Melting Point/Range</td>
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<tr>
<td>Flammability Limits in Air</td>
<td>Upper No data available</td>
</tr>
<tr>
<td>Lower No data available</td>
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<tr>
<td>Explosive Properties</td>
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</tr>
<tr>
<td>Oxidizing Properties</td>
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</tr>
<tr>
<td>Evaporation Rate</td>
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<tr>
<td>MMHG @ 37.8 °C</td>
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</tr>
<tr>
<td>Vapor Density</td>
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<tr>
<td>Specific Gravity</td>
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<tr>
<td>Solubility</td>
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</tr>
<tr>
<td>Partition Coefficient (n-octanol/water)</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No information available</td>
</tr>
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</table>

10. STABILITY AND REACTIVITY

Stability
Stable under recommended storage conditions.

Incompatible Products
Strong oxidizing agents.

Conditions to Avoid
None known based on information supplied.

Hazardous Decomposition Products
Carbon oxides.

Hazardous Polymerization
Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity
Product Information
Product does not present an acute toxicity hazard based on known or supplied information.

Chronic Toxicity
Chronic Toxicity
No known effect based on information supplied.

Target Organ Effects
None known.
12. ECOLOGICAL INFORMATION

Ecotoxicity
The environmental impact of this product has not been fully investigated.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method Dispose of material in accordance with all federal, state, and local regulations.
Contaminated Packaging Dispose of in accordance with all federal, state and local regulations.

14. TRANSPORT INFORMATION

IATA Not regulated
DOT Not regulated

15. REGULATORY INFORMATION

REACH Title VII Restrictions No information available.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Dangerous Substances</th>
<th>Organic Solvents</th>
<th>Harmful Substances Whose Names Are to be Indicated on the Label</th>
<th>Pollution Release and Transfer Registry (Class II):</th>
<th>Pollution Release and Transfer Registry (Class I):</th>
<th>Poison and Deleterious Substances Control Law:</th>
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</thead>
<tbody>
<tr>
<td>Non-Hazardous Ingredients</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Component</td>
<td>ISHA - Harmful Substances Prohibited for Manufacturing, Importing, Transferring, or Supplying</td>
<td>ISHA - Harmful Substances Requiring Permission</td>
<td>Toxic Chemical Classification Listing (TCCL) - Toxic Chemicals</td>
<td>Toxic Release Inventory (TRI) - Group I</td>
<td>Toxic Release Inventory (TRI) - Group II</td>
<td></td>
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<tr>
<td>Non-Hazardous Ingredients NONE (95-100)</td>
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<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td></td>
</tr>
</tbody>
</table>

International Inventories

TSCA Does not Comply
EINECS/ELINCS Does not Comply
ENCS Does not Comply
IECSC Does not Comply
KECL Does not Comply
U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories
- Acute Health Hazard: No
- Chronic Health Hazard: No
- Fire Hazard: No
- Sudden Release of Pressure Hazard: No
- Reactive Hazard: No

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)
This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

CERCLA

U.S. State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

International Regulations

Mexico - Grade
No information available.

Canada

WHMIS Hazard Class
Not determined

16. OTHER INFORMATION

Issuing Date 07-Jul-2009
Revision Date 12-Dec-2011
Revision Note No information available
Recommended Restrictions  No information available

Disclaimer
The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS