MATERIAL SAFETY DATA SHEET

Product Name: Phenylephrine Hydrochloride Injection, USP
(Neo-Synephrine® Hydrochloride)

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Manufacturer Name: Hospira, Inc.
And Address: 275 North Field Drive
Lake Forest, Illinois 60045
USA
Emergency Telephone: CHEMTREC: 800 424-9300
Hospira, Inc.: 224 212-2055
Product Name: Phenylephrine Hydrochloride Injection, USP
(Neo-Synephrine® Hydrochloride)
Synonyms: Neo-Synephrine® Hydrochloride

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient Name: Phenylephrine Hydrochloride
Chemical Formula: C₂₉H₄₂ClNO₂

<table>
<thead>
<tr>
<th>Component</th>
<th>Approximate Percent by Weight</th>
<th>CAS Number</th>
<th>RTECS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenylephrine Hydrochloride</td>
<td>1</td>
<td>61-76-7</td>
<td>DO7525000</td>
</tr>
<tr>
<td>Water</td>
<td>99</td>
<td>7732-18-5</td>
<td>ZC0110000</td>
</tr>
</tbody>
</table>

3. HAZARD INFORMATION

Emergency Overview: In clinical use, this material constricts blood vessels and increases blood pressure. Possible target organs include the cardiovascular system and the eyes.

Occupational Exposure Potential: Information on the absorption of this compound via ingestion, inhalation or skin contact is not available. Avoid liquid aerosol generation and skin contact.

Signs and Symptoms: No signs or symptoms from occupational exposure are known. Clinical data suggest the following: headaches, slow heart rate, psychiatric changes. Overdose may cause variable cardiovascular system effects. Direct contact with eyes may cause dilated pupils.

Medical Conditions Aggravated by Exposure: Hypersensitivity to the material and/or similar materials. Pre-existing ailments in the following organs: eyes, central nervous system, cardiovascular system, thyroid.
Product Name: Phenylephrine Hydrochloride Injection, USP
(Neo-Synephrine® Hydrochloride)

4. FIRST AID MEASURES

Eye Contact: Remove from source of exposure. Flush with copious amounts of water. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

Skin Contact: Remove from source of exposure. Flush with copious amounts of water. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

Inhalation: Remove from source of exposure. If signs of toxicity occur, seek medical attention. Provide symptomatic / supportive care as necessary.

Ingestion: Remove from source of exposure. If signs of toxicity occur, seek medical attention. Provide symptomatic / supportive care as necessary.

5. FIRE FIGHTING MEASURES

Flammability: Non-flammable

Fire & Explosion Hazard: None

Extinguishing Media: Use extinguishing media appropriate for primary cause of fire.

Special Fire Fighting Procedures: No special provisions required beyond normal fire fighting equipment such as flame and chemical resistant clothing and self contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Spill Cleanup and Disposal: Absorb with suitable material and clean affected area with soap and water. Dispose of materials according to the applicable federal, state, or local regulations.

7. HANDLING AND STORAGE

Handling: Protect from light by retaining in carton until contents have been used.

Storage: No special storage required for hazard control. For product protection store at controlled room temperature of 15-30°C (59-86°F).

Special Precautions: Protect from freezing, light and extreme heat.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

<table>
<thead>
<tr>
<th>Component</th>
<th>OSHA-PEL</th>
<th>ACGIH-TLV</th>
<th>Hospira EEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenylephrine Hydrochloride</td>
<td>8 hr TWA: Not Established</td>
<td>8 hr TWA: Not Established</td>
<td>8 hr TWA: Not Established</td>
</tr>
</tbody>
</table>

Notes:
OSHA PEL: US Occupational Safety and Health Administration – Permissible Exposure Limit
ACGIH TLV: American Conference of Governmental Industrial Hygienists – Threshold Limit Value.
EEL: Employee Exposure Limit.
TWA: 8 hour Time Weighted Average.
STEL: 15-minute Short Term Exposure Limit.
Product Name: Phenylephrine Hydrochloride Injection, USP  
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Respiratory Protection  
Respiratory protection is not needed during normal product use.

Skin Protection  
If solution contact with unprotected skin is likely, use of impervious gloves is a prudent practice.

Eye Protection  
Eye protection is not required during expected product use conditions but may be warranted should a splash potential exist.

Engineering Controls  
Engineering controls are not needed during normal product use conditions.

9. PHYSICAL/CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance/Physical State</td>
<td>Clear, colorless liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>None</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Approximately that of water (100 °C, 212 °F).</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>Approximately that of water (0 °C, 32 °F).</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Approximately that of water (17.5 mm Hg at 20 °C).</td>
</tr>
<tr>
<td>Vapor Density (Air=1)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.006-1.008</td>
</tr>
<tr>
<td>Solubility</td>
<td>Water</td>
</tr>
<tr>
<td>pH</td>
<td>3.0 – 6.5</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Chemical Stability  
Stable under standard use and storage conditions.

Incompatibilities  
Not Determined

Hazardous  
Toxic fumes of HCl.

Decomposition Products  
Not Determined.

Polymerization  
Not Determined.

11. TOXICOLOGICAL INFORMATION:

Acute Toxicity – Oral:

<table>
<thead>
<tr>
<th>Ingredient(s)</th>
<th>Percent</th>
<th>Test Type</th>
<th>Value</th>
<th>Units</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenylephrine Hydrochloride</td>
<td>100</td>
<td>LD50</td>
<td>350</td>
<td>mg/kg</td>
<td>Rats</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>120</td>
<td></td>
<td>Mice</td>
</tr>
</tbody>
</table>

LD50 is the dosage producing 50% mortality.
Product contains 1% Phenylephrine Hydrochloride.

Acute Toxicity – Dermal:

<table>
<thead>
<tr>
<th>Ingredient(s)</th>
<th>Percent</th>
<th>Test Type</th>
<th>Value</th>
<th>Units</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenylephrine Hydrochloride</td>
<td>100</td>
<td>LD50(sc)</td>
<td>27</td>
<td>mg/kg</td>
<td>Rats</td>
</tr>
</tbody>
</table>

LD50 (sc) is the value for skin contact.
Product Name: Phenylephrine Hydrochloride Injection, USP
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Mutagenicity
Negative in the Ames test. Induced sister chromatid exchanges in cultured cells.
Negative in the chromosomal aberration assay.

Target Organ Effects
In clinical use target organ effects include cardiovascular system, eyes and respiratory system.

12. ECOLOGICAL INFORMATION:

Aquatic Toxicity
Not Available

13. DISPOSAL CONSIDERATIONS:

Waste Disposal
Disposal should be performed in accordance with the federal, state or local regulatory requirements.

Container Handling and Disposal
Dispose of container and unused contents in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

DOT
Not Regulated

Notes: DOT - US Department of Transportation Regulations

15. REGULATORY INFORMATION

TSCA Status
Phenylephrine Hydrochloride is listed on the TSCA inventory.

CERCLA Status
Not Regulated

SARA Status
Not Regulated

RCRA Status
Not Regulated

PROP 65 (Calif.)
Not Regulated

Notes: TSCA  Toxic Substance Control Act
CERCLA, US EPA law, Comprehensive Environmental Response, Compensation, and Liability Act
SARA  Superfund Amendments and Reauthorization Act
RCRA  US EPA, Resource Conservation and Recovery Act
Prop 65, California Proposition 65

16. OTHER INFORMATION:

MSDS Coordinator
Global Occupational Toxicology

Date Prepared
September 15, 2005

Date Revised
October 21 2008

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