MATERIAL SAFETY DATA SHEET

Product Name: Pancuronium Bromide Injection

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
Pancuronium Bromide Injection

Synonyms
None

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient Name
Pancuronium Bromide

Chemical Formula
C_{33}H_{60}Br_{2}N_{2}O_{4}

<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>Pancuronium Bromide</td>
<td>0.1-0.2</td>
<td>15500-66-0</td>
<td>TN4930000</td>
</tr>
<tr>
<td>Benzyl Alcohol</td>
<td>1</td>
<td>100-51-6</td>
<td>DN3150000</td>
</tr>
<tr>
<td>Sodium Acetate</td>
<td>0.1</td>
<td>127-09-3</td>
<td>AJ4300010</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 is a neuromuscular blocking agent used to aid general anesthesia and intratracheal intubation. Possible target organs include the central nervous system, respiratory system, muscular system and cardiovascular system.

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: fast heart rate, increased blood pressure, increased salivation, rash, respiratory distress.

Medical Conditions Aggravated by Exposure
Hypersensitivity to the material and/or similar materials. Pre-existing ailments in the following organs: central nervous system, muscles, respiratory system, kidneys.
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: No special handling required.

Storage: No special storage required for hazard control. For product protection store at controlled room temperature of 2-8°C (36-46°F).

Special Precautions: Protect from freezing and extreme heat.

8. EXPOSURE CONTROLS/PERSOAL PROTECTION

<table>
<thead>
<tr>
<th>Component</th>
<th>OSHA-PEL</th>
<th>ACGIH-TLV</th>
<th>Hospira EEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pancuronium Bromide</td>
<td>8 hr TWA: Not Established</td>
<td>8 hr TWA: Not Established</td>
<td>8 hr TWA: 5 mcg/m3 STEL: 40 mcg/m3</td>
</tr>
<tr>
<td>Benzy1 Alcohol</td>
<td>8 hr TWA: Not Established</td>
<td>8 hr TWA: Not Established</td>
<td>8 hr TWA: Not Established STEL: Not Established</td>
</tr>
<tr>
<td>Sodium Acetate</td>
<td>8 hr TWA: Not Established</td>
<td>8 hr TWA: Not Established</td>
<td>8 hr TWA: Not Established STEL: 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: Pancuronium Bromide Injection

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>Appearance/Physical</th>
<th>Clear, colorless solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</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>1.005-1.006 g/mL</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>Approximately that of water (1.0)</td>
</tr>
<tr>
<td>Solubility</td>
<td>Water</td>
</tr>
<tr>
<td>pH</td>
<td>3.8-4.2</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Chemical Stability  Stable under standard use and storage conditions.

Incompatibilities  Not Determined

Hazardous  Not Determined

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>Pancuronium Bromide</td>
<td>100</td>
<td>LD50</td>
<td>21.2-202</td>
<td>mg/kg</td>
<td>Mice, Rats</td>
</tr>
<tr>
<td>Benzyl Alcohol</td>
<td>100</td>
<td>LD50</td>
<td>1040-3100</td>
<td>mg/kg</td>
<td>Animals</td>
</tr>
<tr>
<td>Sodium Acetate</td>
<td>100</td>
<td>LD50</td>
<td>3500</td>
<td>mg/kg</td>
<td>Rats, Mice</td>
</tr>
</tbody>
</table>

LD50 is dosage producing 50% mortality.

Product contains approximately 0.2% Pancuronium Bromide.

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>Benzyl Alcohol</td>
<td>100</td>
<td>LD50(sc)</td>
<td>2000</td>
<td>mg/kg</td>
<td>Rabbits</td>
</tr>
<tr>
<td>Sodium Acetate</td>
<td>100</td>
<td>LD50(sc)</td>
<td>10,000</td>
<td>mg/kg</td>
<td>Rabbits</td>
</tr>
</tbody>
</table>

LD50 (sc) is the value for skin contact.
Product Name: Pancuronium Bromide Injection

Acute Toxicity – Inhalation:

<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>Benzyl Alcohol</td>
<td>100</td>
<td>LC50</td>
<td>2000</td>
<td>ppm</td>
<td>Rats</td>
</tr>
</tbody>
</table>

LC50 is the concentration in air that produces 50% mortality.

Mutagenicity: Not Determined.

Target Organ Effects: In clinical use target organ effects include the respiratory system, cardiovascular system, muscle, and central nervous 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: Not Regulated

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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