MATERIAL SAFETY DATA SHEET

Product Name: Carbocaine (mepivacaine hydrochloride) Injection Solution

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Manufacturer Name And Address
Hospira Inc.
275 North Field Drive
Lake Forest, Illinois USA
60045

Emergency Telephone
CHEMTREC: North America: 800-424-9300;
International 1-703-527-3887; Australia (02) 8014 4880

Hospira, Inc., Non-Emergency 224-212-2000

Product Name
Carbocaine (mepivacaine hydrochloride) Injection Solution

Synonyms
1-methyl-2’,6’-pipeloxyldide monohydrochloride

2. COMPOSITION/INFORMATION ON INGREDIENTS

Active Ingredient Name
Mepivacaine Hydrochloride

Chemical Formula
C₁₅H₂₂N₂O • HCl

Preparation
Non-hazardous ingredients include Water for Injection. Hazardous ingredients present at less than 1% may include sodium chloride, calcium chloride, potassium chloride, and methylparaben. Sodium hydroxide and/or hydrochloric acid are used to adjust the pH.

<table>
<thead>
<tr>
<th>Component</th>
<th>Approximate Percent by Weight</th>
<th>CAS Number</th>
<th>RTECS Number</th>
</tr>
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<tbody>
<tr>
<td>Mepivacaine Hydrochloride</td>
<td>≤2</td>
<td>1722-62-9</td>
<td>TK6475000</td>
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</table>

3. HAZARD INFORMATION

Carcinogen List

<table>
<thead>
<tr>
<th>Substance</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
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<tbody>
<tr>
<td>Mepivacaine Hydrochloride</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

Emergency Overview
Carbocaine (mepivacaine hydrochloride) Injection Solution contains mepivacaine hydrochloride, an amide-type local anesthetic used as a local anesthetic for pain management. In the workplace, this material should be considered potentially irritating to the skin, eyes and respiratory tract. Possible target organs include the nervous system and cardiovascular system.

Occupational Exposure Potential
Information on the absorption of this product via inhalation or skin contact is not available. Published reports have indicated that similar local anesthetics have some potential to be absorbed through intact skin. Avoid liquid aerosol generation and skin contact.

Signs and Symptoms
Inadvertent contact with this product may cause irritation, followed by numbness. Ingestion may cause numbness of the tongue and anesthetic effects on the stomach. In clinical use, this product produces numbness when injected. In normal clinical use, adverse effects may include fever, headaches, agitation, tingling of extremities, general hypotension, bradycardia, dizziness, nausea, vomiting, anemia, back pain, post-operative pain and fetal distress. Systemic absorption
Product Name: Carbocaine (mepivacaine hydrochloride) Injection Solution
can produce central nervous system (CNS) stimulation and/or CNS depression. CNS depression may progress to coma and cardio-respiratory arrest. Signs of cardiovascular toxicity may include changes in cardiac conduction, excitability, refractoriness, contractility, and peripheral vascular resistance. Toxic blood levels may cause atrioventricular block, ventricular arrhythmias, cardiac arrest, and sometimes death. In addition, decreased cardiac output and arterial blood pressure may occur. Allergic-type reactions are rare and may occur as a result of sensitivity to the local anesthetic or to other formulation ingredients. These reactions are characterized by signs such as urticaria, pruritus, erythema, angioneurotic edema (including laryngeal edema), tachycardia, sneezing, nausea, vomiting, dizziness, syncope, excessive sweating, elevated temperature, and possibly, anaphylactic-like symptoms (including severe hypotension). Cross sensitivity with other amide-type local anesthetics has been reported.

Medical Conditions Aggravated by Exposure  Pre-existing hypersensitivity to mepivacaine or related amide-type anesthetics. Pre-existing nervous system or cardiovascular ailments.

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
None anticipated for this aqueous product.

Fire & Explosion Hazard
None anticipated for this aqueous product.

Extinguishing media
As with any fire, 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
Isolate area around spill. Put on suitable protective clothing and equipment as specified by site spill procedures. Absorb the liquid with suitable material and clean affected area with soap and water. Dispose of spill materials according to the applicable federal, state, or local regulations.
Product Name: Carbocaine (mepivacaine hydrochloride) Injection Solution

7. HANDLING AND STORAGE

Handling
No special handling required under conditions of normal product use.

Storage
No special storage required for hazard control. For product protection, follow storage recommendations noted on the product case label, the primary container label, or the product insert.

Special Precautions
No special precautions are required for hazard controls.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

<table>
<thead>
<tr>
<th>Component</th>
<th>Type</th>
<th>mg/m³</th>
<th>ppm</th>
<th>µg/m³</th>
<th>Note</th>
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</thead>
<tbody>
<tr>
<td>Mepivacaine Hydrochloride</td>
<td>Hospira EEL</td>
<td>N/A</td>
<td>N/A</td>
<td>300</td>
<td>8hr TWA</td>
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<tr>
<td>Mepivacaine Hydrochloride</td>
<td>Hospira STEL</td>
<td>N/A</td>
<td>N/A</td>
<td>3000</td>
<td>Short term exposure limit</td>
</tr>
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</table>

Respiratory protection
Respiratory protection is normally not needed during intended product use. However, if the generation of aerosols is likely, and engineering controls are not considered adequate to control potential airborne exposures, the use of an approved air-purifying respirator with a HEPA cartridge (N95 or equivalent) is recommended under conditions where airborne aerosol concentrations are not expected to be excessive. For uncontrolled release events, or if exposure levels are not known, provide respirators that offer a high protection factor such as a powered air purifying respirator or supplied air. A respiratory protection program that meets OSHA’s 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions require respirator use. Personnel who wear respirators should be fit tested and approved for respirator use as required.

Skin protection
If skin contact with the product formulation is likely, the use of latex or nitrile gloves is recommended.

Eye protection
Eye protection is normally not required during intended product use. However, if eye contact is likely to occur, the use of chemical safety goggles (as a minimum) is recommended.

Engineering Controls
Engineering controls are normally not needed during the normal use of this product.

9. PHYSICAL/CHEMICAL PROPERTIES

Appearance/Physical State
Liquid

Color
Sterile, isotonic, clear, colorless

Odor
NA

Odor Threshold:
NA

pH:
Between 4.5 and 6.8

Melting point/Freezing point:
NA

Initial Boiling Point/Boiling Point Range:
NA

Evaporation Rate:
NA

Flammability (solid, gas):
NA

Upper/Lower Flammability or Explosive Limits:
NA

Vapor Pressure:
NA
Product Name: Carbocaine (mepivacaine hydrochloride) Injection Solution

Vapor Density: NA
Specific Gravity: NA
Solubility: Soluble in water
Partition coefficient: n-octanol/water: NA
Auto-ignition temperature: NA
Decomposition temperature: NA

**10. STABILITY AND REACTIVITY**

Reactivity Not determined.

Chemical Stability Stable under standard use and storage conditions.

Hazardous Reactions Not determined.

Conditions to avoid Not determined.

Incompatibilities Strongly alkaline conditions. Methyl vinyl ether; zinc.

Hazardous decomposition products Not determined. During thermal decomposition, it may be possible to generate irritating vapors and/or toxic fumes of carbon oxides and nitrogen oxides (NOx), and hydrogen chloride.

Hazardous Polymerization Not anticipated to occur with this product.

**11. TOXICOLOGICAL INFORMATION**

Acute Toxicity
Not determined for the product formulation. Information for the ingredients is as follows:

<table>
<thead>
<tr>
<th>Ingredient(s)</th>
<th>Percent</th>
<th>Test Type</th>
<th>Route of Administration</th>
<th>Value</th>
<th>Units</th>
<th>Species</th>
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<tr>
<td>Mepivacaine Hydrochloride</td>
<td>100</td>
<td>LD50</td>
<td>Intravenous</td>
<td>32</td>
<td>mg/kg</td>
<td>Mouse</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>22</td>
<td>mg/kg</td>
<td>Rabbit</td>
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<tr>
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<td></td>
<td></td>
<td>20</td>
<td>mg/kg</td>
<td>Guinea Pig</td>
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<tr>
<td>Mepivacaine Hydrochloride</td>
<td>100</td>
<td>LD50</td>
<td>Subcutaneous</td>
<td>260</td>
<td>mg/kg</td>
<td>Mouse</td>
</tr>
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<td></td>
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<td></td>
<td></td>
<td>110</td>
<td>mg/kg</td>
<td>Rabbit</td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td>94</td>
<td>mg/kg</td>
<td>Guinea Pig</td>
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<td>Mepivacaine</td>
<td>100</td>
<td>LD50</td>
<td>Oral</td>
<td>&gt;5000</td>
<td>mg/kg</td>
<td>Rat</td>
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<td></td>
<td></td>
<td>&gt;5000</td>
<td>mg/kg</td>
<td>Mouse</td>
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<td>Mepivacaine</td>
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<td>LD50</td>
<td>Intravenous</td>
<td>30</td>
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<td>Rat</td>
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<td></td>
<td>35</td>
<td>mg/kg</td>
<td>Mouse</td>
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<tr>
<td>Mepivacaine</td>
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<td>LD50</td>
<td>Subcutaneous</td>
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<td>Rat</td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td>270</td>
<td>mg/kg</td>
<td>Mouse</td>
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</table>

Aspiration Hazard None anticipated from normal handling of this product. However, inadvertent contact of this product with the respiratory system may produce irritation and numbness.

Dermal Irritation/Corrosion None anticipated from normal handling of this product. However, inadvertent contact with this product may be irritating to broken skin and mucous membranes, and may produce numbness.
Product Name: Carbocaine (mepivacaine hydrochloride) Injection Solution

Ocular Irritation/Corrosion
None anticipated from normal handling of this product. However, inadvertent contact of this product with eyes may produce irritation, numbness, and blurred vision.

Dermal or Respiratory Sensitization
None anticipated from normal handling of this product. Rarely, allergic-type reactions have been reported during the clinical use of mepivacaine.

Reproductive Effects
Animal reproductive toxicity studies have not been conducted with mepivacaine.

Mutagenicity
The mutagenic potential of mepivacaine has not been evaluated.

Carcinogenicity
Long-term studies in animals to evaluate the carcinogenic potential of most local anesthetics, including mepivacaine hydrochloride, have not been conducted.

Target Organ Effects
Based on clinical use, possible target organs include the nervous system and the cardiovascular system.

12. ECOLOGICAL INFORMATION

Aquatic Toxicity
Not determined for product.

Persistence/Biodegradability
Not determined for product.

Bioaccumulation
Not determined for product.

Mobility in Soil
Not determined for product.

13. DISPOSAL CONSIDERATIONS

Waste Disposal
All waste materials must be properly characterized. 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

ADR/ADG/ DOT STATUS:
Not regulated

IMDG STATUS:
Not regulated

ICAO/IATA STATUS:
Not regulated

Transport Comments:
None
15. REGULATORY INFORMATION

USA Regulations

<table>
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<tr>
<th>Substance</th>
<th>TSCA Status</th>
<th>CERCLA Status</th>
<th>SARA 302 Status</th>
<th>SARA 313 Status</th>
<th>PROP 65 Status</th>
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<td>Mepivacaine Hydrochloride</td>
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<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

RCRA Status: Not Listed

U.S. OSHA Classification: Target Organ Toxin

GHS Classification: Possible Irritant

*In the EU, classification under GHS/CLP does not apply to certain substances and mixtures, such as medicinal products as defined in Directive 2001/83/EC, which are in the finished state, intended for the final user:

Hazard Class: Not Applicable

Hazard Category: Not Applicable

Signal Word: Not Applicable

Symbol: Not Applicable


Hazard Statement: Not Applicable

Response: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical attention. Wash hands after handling.

Get medical attention if you feel unwell.

EU Classification*

*Medicinal products are exempt from the requirements of the EU Dangerous Preparations Directive. Information provided below is for the pure drug substance Mepivacaine Hydrochloride.

Classification(s): Not Applicable

Symbol: Not Applicable

Indication of Danger: Not Applicable

Risk Phrases: Not Applicable

Safety Phrases: S23 - Do not breathe vapor.

S24/25 - Avoid contact with skin and eyes.

S37/39 - Wear suitable gloves and eye/face protection.
16. OTHER INFORMATION:

Notes:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>ACGIH TLV</td>
<td>American Conference of Governmental Industrial Hygienists – Threshold Limit Value</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstracts Service Number</td>
</tr>
<tr>
<td>CERCLA</td>
<td>US EPA law, Comprehensive Environmental Response, Compensation, and Liability Act</td>
</tr>
<tr>
<td>DOT</td>
<td>US Department of Transportation Regulations</td>
</tr>
<tr>
<td>EEL</td>
<td>Employee Exposure Limit</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>LD50</td>
<td>Dosage producing 50% mortality</td>
</tr>
<tr>
<td>NA</td>
<td>Not applicable/Not available</td>
</tr>
<tr>
<td>NE</td>
<td>Not established</td>
</tr>
<tr>
<td>NIOSH</td>
<td>National Institute for Occupational Safety and Health</td>
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<tr>
<td>OSHA PEL</td>
<td>US Occupational Safety and Health Administration – Permissible Exposure Limit</td>
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<tr>
<td>Prop 65</td>
<td>California Proposition 65</td>
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<tr>
<td>RCRA</td>
<td>US EPA, Resource Conservation and Recovery Act</td>
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<td>RTECS</td>
<td>Registry of Toxic Effects of Chemical Substances</td>
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<tr>
<td>SARA</td>
<td>Superfund Amendments and Reauthorization Act</td>
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<td>STEL</td>
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<tr>
<td>TSCA</td>
<td>Toxic Substance Control Act</td>
</tr>
<tr>
<td>TWA</td>
<td>8-hour Time Weighted Average</td>
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MSDS Coordinator: Hospira GEHS
Date Prepared: 10/17/2011
Obsolete Date: 10/21/2008

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