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

Product Identifier

Material Name: Vecuronium Bromide for Injection (Hospira Inc)

Trade Name: Not applicable
Chemical Family: Not determined

Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Intended Use: Pharmaceutical product used for skeletal muscle relaxation

Details of the Supplier of the Safety Data Sheet

Hospira, A Pfizer Company
275 North Field Drive
Lake Forest, Illinois 60045
1-800-879-3477

Hospira UK Limited
Horizon
Honey Lane
Hurley
Maidenhead, SL6 6RJ
United Kingdom

Emergency telephone number: CHEMTREC (24 hours): 1-800-424-9300
Contact E-Mail: pfizer-MSDS@pfizer.com

2. HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

GHS - Classification: Not classified as hazardous

Label Elements

Hazard Statements: Not classified in accordance with international standards for workplace safety.

Other Hazards

An Occupational Exposure Value has been established for one or more of the ingredients (see Section 8).

Note:

This document has been prepared in accordance with standards for workplace safety, which requires the inclusion of all known hazards of the product or its ingredients regardless of the potential risk. The precautionary statements and warning included may not apply in all cases. Your needs may vary depending upon the potential for exposure in your workplace.

3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
<th>EU EINECS/ELINCS List</th>
<th>GHS Classification</th>
<th>%</th>
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<tr>
<td>PZ03166</td>
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3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
<th>EU EINECS/ELINCS List</th>
<th>GHS Classification</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vecuronium bromide</td>
<td>50700-72-6</td>
<td>256-723-9</td>
<td>Acute Tox. 4 (H302)</td>
<td>1 - 5</td>
</tr>
<tr>
<td>SODIUM HYDROXIDE</td>
<td>1310-73-2</td>
<td>215-185-5</td>
<td>Skin Corr. 1A (H314)</td>
<td>**</td>
</tr>
<tr>
<td>Phosphoric acid</td>
<td>7664-38-2</td>
<td>231-633-2</td>
<td>Skin Corr. 1B (H314)</td>
<td>**</td>
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<tr>
<td>Mannitol</td>
<td>69-65-8</td>
<td>200-711-8</td>
<td>Not Listed</td>
<td>*</td>
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<tr>
<td>Citric Acid</td>
<td>77-92-9</td>
<td>201-069-1</td>
<td>Not Listed</td>
<td>*</td>
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<tr>
<td>Sodium phosphate, dibasic</td>
<td>7558-79-4</td>
<td>231-448-7</td>
<td>Not Listed</td>
<td>*</td>
</tr>
<tr>
<td>Water for injection</td>
<td>7732-18-5</td>
<td>231-791-2</td>
<td>Not Listed</td>
<td>*</td>
</tr>
</tbody>
</table>

Additional Information:
* Proprietary
** to adjust pH
Ingredient(s) indicated as hazardous have been assessed under standards for workplace safety. In accordance with 29 CFR 1910.1200, the exact percentage composition of this mixture has been withheld as a trade secret.

For the full text of the CLP/GHS abbreviations mentioned in this Section, see Section 16

4. FIRST AID MEASURES

Description of First Aid Measures
Eye Contact: Flush with water while holding eyelids open for at least 15 minutes. Seek medical attention immediately.

Skin Contact: Remove contaminated clothing. Flush area with large amounts of water. Use soap. Seek medical attention.

Ingestion: Never give anything by mouth to an unconscious person. Wash out mouth with water. Do not induce vomiting unless directed by medical personnel. Seek medical attention immediately.

Inhalation: Remove to fresh air and keep patient at rest. Seek medical attention immediately.

Most Important Symptoms and Effects, Both Acute and Delayed
Symptoms and Effects of Exposure: For information on potential signs and symptoms of exposure, See Section 2 - Hazards Identification and/or Section 11 - Toxicological Information.
Medical Conditions Aggravated by Exposure: None known

Indication of the Immediate Medical Attention and Special Treatment Needed
Notes to Physician: None

5. FIRE FIGHTING MEASURES

Extinguishing Media: Extinguish fires with CO2, extinguishing powder, foam, or water.

Special Hazards Arising from the Substance or Mixture
Hazardous Combustion Products:
Formation of toxic gases is possible during heating or fire.

Fire / Explosion Hazards: Fine particles (such as mists) may fuel fires/explosions.

Advice for Fire-Fighters
During all fire fighting activities, wear appropriate protective equipment, including self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
Personnel involved in clean-up should wear appropriate personal protective equipment (see Section 8). Minimize exposure.

Environmental Precautions
Place waste in an appropriately labeled, sealed container for disposal. Care should be taken to avoid environmental release.

Methods and Material for Containment and Cleaning Up
Methods for Cleaning / Collecting:
- Contain the source of spill if it is safe to do so. Collect spill with absorbent material. Clean spill area thoroughly.

Additional Consideration for Large Spills:
- Non-essential personnel should be evacuated from affected area. Report emergency situations immediately. Clean up operations should only be undertaken by trained personnel.

7. HANDLING AND STORAGE

Precautions for Safe Handling
Minimize dust generation and accumulation. Avoid breathing dust. Avoid contact with eyes, skin and clothing. When handling, use appropriate personal protective equipment (see Section 8). Wash thoroughly after handling. Releases to the environment should be avoided. Review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure or environmental releases. Potential points of process emissions of this material to the atmosphere should be controlled with dust collectors, HEPA filtration systems or other equivalent controls.

Conditions for Safe Storage, Including any Incompatibilities
- Storage Conditions: Store as directed by product packaging.
- Specific end use(s): Pharmaceutical product used for skeletal muscle relaxation

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters
Refer to available public information for specific member state Occupational Exposure Limits.

SODIUM HYDROXIDE
- ACGIH Ceiling Threshold Limit: 2 mg/m³
- Australia PEAK 2 mg/m³
- Austria OEL - MAKs 2 mg/m³
- Bulgaria OEL - TWA 2.0 mg/m³
- Czech Republic OEL - TWA 1 mg/m³
- Estonia OEL - TWA 1 mg/m³
- France OEL - TWA 2 mg/m³
- Greece OEL - TWA 2 mg/m³
- Hungary OEL - TWA 2 mg/m³
- Japan - OELs - Ceilings 2 mg/m³
- Latvia OEL - TWA 0.5 mg/m³
- OSHA - Final PELs - TWAs: 2 mg/m³
- Poland OEL - TWA 0.5 mg/m³
- Slovakia OEL - TWA 2 mg/m³
- Slovenia OEL - TWA 2 mg/m³
- Sweden OEL - TWAs 1 mg/m³
- Switzerland OEL - TWAs 2 mg/m³
8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Phosphoric acid

- ACGIH Threshold Limit Value (TWA): 1 mg/m³
- ACGIH Threshold Limit Value (STEL): 3 mg/m³
- Australia STEL: 3 mg/m³
- Australia TWA: 1 mg/m³
- Austria OEL - MAKs: 1 mg/m³
- Belgium OEL - TWA: 1 mg/m³
- Bulgaria OEL - TWA: 1.0 mg/m³
- Cyprus OEL - TWA: 1 mg/m³
- Czech Republic OEL - TWA: 1 mg/m³
- Denmark OEL - TWA: 1 mg/m³
- Estonia OEL - TWA: 1 mg/m³
- Finland OEL - TWA: 1 mg/m³
- France OEL - TWA: 0.2 ppm
- Germany - TRGS 900 - TWAs: 2 mg/m³
- Germany (DFG) - MAK: 2 mg/m³
- Greece OEL - TWA: 1 mg/m³
- Hungary OEL - TWA: 1 mg/m³
- Ireland OEL - TWAs: 1 mg/m³
- Italy OEL - TWA: 1 mg/m³
- Latvia OEL - TWA: 1 mg/m³
- Lithuania OEL - TWA: 1 mg/m³
- Luxembourg OEL - TWA: 1 mg/m³
- Malta OEL - TWA: 1 mg/m³
- Netherlands OEL - TWA: 1 mg/m³
- OSHA - Final PELs - TWAs: 1 mg/m³
- Poland OEL - TWA: 1 mg/m³
- Portugal OEL - TWA: 1 mg/m³
- Romania OEL - TWA: 1 mg/m³
- Slovakia OEL - TWA: 1 mg/m³
- Slovenia OEL - TWA: 1 mg/m³
- Spain OEL - TWA: 1 mg/m³
- Sweden OEL - TWAs: 1 mg/m³
- Switzerland OEL - TWAs: 1 mg/m³
- Vietnam OEL - TWAs: 1 mg/m³

The purpose of the Occupational Exposure Band (OEB) classification system is to separate substances into different Hazard categories when the available data are sufficient to do so, but inadequate to establish an Occupational Exposure Limit (OEL). The OEB given is based upon an analysis of all currently available data; as such, this value may be subject to revision when new information becomes available.

Vecuronium bromide

- Pfizer Occupational Exposure Band (OEB): OEB 3 (control exposure to the range of 10ug/m³ to < 100ug/m³)

Sodium phosphate, dibasic

- Pfizer Occupational Exposure Band (OEB): OEB 1 (control exposure to the range of 1000ug/m³ to 3000ug/m³)

Exposure Controls
8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Engineering controls should be used as the primary means to control exposures. General room ventilation is adequate unless the process generates dust, mist or fumes. Keep airborne contamination levels below the exposure limits listed above in this section.

Personal Protective Equipment: Refer to applicable national standards and regulations in the selection and use of personal protective equipment (PPE).

Hands: Impervious gloves (e.g. Nitrile, etc.) are recommended if skin contact with drug product is possible and for bulk processing operations. (Protective gloves must meet the standards in accordance with EN374, ASTM F1001 or international equivalent.)

Eyes: Wear safety glasses or goggles if eye contact is possible. (Eye protection must meet the standards in accordance with EN166, ANSI Z87.1 or international equivalent.)

Skin: Impervious protective clothing is recommended if skin contact with drug product is possible and for bulk processing operations. (Protective clothing must meet the standards in accordance with EN13982, ANSI 103 or international equivalent.)

Respiratory protection: Under normal conditions of use, if the applicable Occupational Exposure Band (OEB) is exceeded, wear an appropriate respirator with a protection factor sufficient to control exposures to below the OEB (e.g. particulate respirator with a half mask, P3 filter). (Respirators must meet the standards in accordance with EN140, EN143, ASTM F2704-10 or international equivalent.)

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Physical State:</th>
<th>Powder</th>
<th>Color:</th>
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<tbody>
<tr>
<td>Odor:</td>
<td>No data available.</td>
<td>Odor Threshold:</td>
<td>No data available.</td>
</tr>
<tr>
<td>Molecular Formula:</td>
<td>Mixture</td>
<td>Molecular Weight:</td>
<td>Mixture</td>
</tr>
</tbody>
</table>

| Solvent Solubility:              | No data available. |
| Water Solubility:                | No data available. |
| pH:                              | No data available. |
| Melting/Freezing Point (°C):     | No data available. |
| Boiling Point (°C):              | No data available. |
| Partition Coefficient; (Method, pH, Endpoint, Value) | Vecuronium bromide | No data available |

Vecuronium bromide

Mannitol
No data available

Citric Acid
No data available

Sodium phosphate, dibasic
No data available

Water for injection
No data available

SODIUM HYDROXIDE
No data available

Phosphoric acid
No data available

Decomposition Temperature (°C): No data available.

Evaporation Rate (Gram/s): No data available
Vapor Pressure (kPa): No data available
Vapor Density (g/ml): No data available
Relative Density: No data available
Viscosity: No data available
SAFETY DATA SHEET

Material Name: Vecuronium Bromide for Injection (Hospira Inc)
Revision date: 28-Mar-2017

10. STABILITY AND REACTIVITY

Reactivity: No data available
Chemical Stability: Stable under normal conditions of use.
 Possibility of Hazardous Reactions
 Oxidizing Properties: No data available
 Conditions to Avoid: Fine particles (such as dust and mists) may fuel fires/explosions.
 Incompatible Materials: As a precautionary measure, keep away from strong oxidizers
 Hazardous Decomposition Products: No data available

11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects
General Information: The information included in this section describes the potential hazards of the individual ingredients.
 Short Term: Active ingredient may be harmful if swallowed.
 Long Term: Repeated or prolonged exposure may cause effects similar to those seen in clinical use.
 Known Clinical Effects: Drugs of this class may cause muscle weakness, respiritory depression.

Acute Toxicity: (Species, Route, End Point, Dose)

Vecuronium bromide
- Rat Oral LD50 455 mg/kg
- Mouse Oral LD50 41mg/kg
- Rat Intravenous LD50 0.20mg/kg
- Mouse Intravenous LD50 0.05mg/kg
- Rat Oral LD50 13500 mg/kg
- Mouse Oral LD50 22 g/kg

Mannitol
- Rat Oral LD50 13500 mg/kg
- Mouse Oral LD50 22 g/kg

Phosphoric acid
- Rat Oral LD50 1530 mg/kg
- Rabbit Dermal LD50 2730mg/kg

Irritation / Sensitization: (Study Type, Species, Severity)

Citric Acid
- Eye Irritation Rabbit Irritant
- Skin Irritation Rabbit Non-irritating

Phosphoric acid
- Eye Irritation Rabbit Severe
11. TOXICOLOGICAL INFORMATION

Skin Irritation: Rabbit Severe

Carcinogen Status: None of the components of this formulation are listed as a carcinogen by IARC, NTP or OSHA.

12. ECOLOGICAL INFORMATION

Environmental Overview: Environmental properties have not been investigated. Releases to the environment should be avoided.

Toxicity:

Aquatic Toxicity: (Species, Method, End Point, Duration, Result)

<table>
<thead>
<tr>
<th>Species/Marine Organism</th>
<th>Method</th>
<th>End Point</th>
<th>Duration</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gambusia affinis (Mosquitofish)</td>
<td>LC50</td>
<td>96 Hours</td>
<td>3-3.5 mg/L</td>
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<tr>
<td>Daphnia magna (Water Flea)</td>
<td>EC-50</td>
<td>12 Hours</td>
<td>4.6 mg/L</td>
<td></td>
</tr>
</tbody>
</table>

Persistence and Degradability: No data available

Bio-accumulative Potential: No data available

Mobility in Soil: No data available

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods: Dispose of waste in accordance with all applicable laws and regulations. Member State specific and Community specific provisions must be considered. Considering the relevant known environmental and human health hazards of the material, review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure and environmental release. It is recommended that waste minimization be practiced. The best available technology should be utilized to prevent environmental releases. This may include destructive techniques for waste and wastewater.

14. TRANSPORT INFORMATION

The following refers to all modes of transportation unless specified below.

Not regulated for transport under USDOT, EUADR, IATA, or IMDG regulations.

15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

PZ03166
15. REGULATORY INFORMATION

Vecuronium bromide

| CERCLA/SARA 313 Emission reporting | Not Listed |
| California Proposition 65          | Not Listed |
| Standard for the Uniform Scheduling for Drugs and Poisons: | Schedule 4 |
| EU EINECS/ELINCS List             | 256-723-9 |

Mannitol

| CERCLA/SARA 313 Emission reporting | Not Listed |
| California Proposition 65          | Not Listed |
| Inventory - United States TSCA - Sect. 8(b) | Present |
| Australia (AICS):                 | Present |
| REACH - Annex IV - Exemptions from the obligations of Register: | Present |
| EU EINECS/ELINCS List             | 200-711-8 |

Citric Acid

| CERCLA/SARA 313 Emission reporting | Not Listed |
| California Proposition 65          | Not Listed |
| Inventory - United States TSCA - Sect. 8(b) | Present |
| Australia (AICS):                 | Present |
| EU EINECS/ELINCS List             | 201-069-1 |

Sodium phosphate, dibasic

| CERCLA/SARA 313 Emission reporting | Not Listed |
| CERCLA/SARA Hazardous Substances and their Reportable Quantities: | 5000 lb 2270 kg |
| California Proposition 65          | Not Listed |
| Inventory - United States TSCA - Sect. 8(b) | Present |
| Australia (AICS):                 | Present |
| EU EINECS/ELINCS List             | 231-448-7 |

SODIUM HYDROXIDE

| CERCLA/SARA 313 Emission reporting | Not Listed |
| CERCLA/SARA Hazardous Substances and their Reportable Quantities: | 1000 lb 454 kg |
| California Proposition 65          | Not Listed |
| Inventory - United States TSCA - Sect. 8(b) | Present |
| Australia (AICS):                 | Present |
| Standard for the Uniform Scheduling for Drugs and Poisons: | Schedule 5 Schedule 6 |
| EU EINECS/ELINCS List             | 215-185-5 |

Phosphoric acid

| CERCLA/SARA 313 Emission reporting | Not Listed |
| CERCLA/SARA Hazardous Substances and their Reportable Quantities: | 5000 lb 2270 kg |
15. REGULATORY INFORMATION

<table>
<thead>
<tr>
<th>Policy</th>
<th>Status</th>
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<tbody>
<tr>
<td>California Proposition 65</td>
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<td>Schedule 5</td>
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Water for injection

<table>
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<td>California Proposition 65</td>
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<td>REACH - Annex IV - Exemptions from the obligations of Register:</td>
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<tr>
<td>EU EINECS/ELINCS List</td>
<td>231-791-2</td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION

Text of CLP/GHS Classification abbreviations mentioned in Section 3

Acute toxicity, oral-Cat.4; H302 - Harmful if swallowed
Skin corrosion/irritation-Cat.1A; Skin corrosion/irritation-Cat.1B; H314 - Causes severe skin burns and eye damage

Data Sources: Pfizer proprietary drug development information. Publicly available toxicity information.

Revision date: 28-Mar-2017


Pfizer Inc believes that the information contained in this Material Safety Data Sheet is accurate, and while it is provided in good faith, it is without warranty of any kind, expressed or implied. If data for a hazard are not included in this document there is no known information at this time.

End of Safety Data Sheet