Biological Agent Reference Sheet (BARS)

This content of this document is for Emory University USE ONLY.

The information and contents of this Biological Agent Reference Sheet (including all text and graphics), whether available in print or electronic format (including any digital format, e-mail transmissions, or download from the website), shall be known hereinafter as “Reference Sheet Content”. The Reference Sheet Content is provided as a courtesy and is not intended as a sole source of guidance in the evaluation of Biological Agents. The Reference Sheet Content is not intended to substitute for medical advice, medical care, diagnosis or treatment obtained from a physician or health care provider. Please seek the advice of a physician or other qualified health provider with any questions you may have regarding a medical condition. Do not rely on the Reference Sheet Content for diagnosis, treatment, or medical advice. This Reference Sheet Content is for informational purposes and does not provide individualized medical care or treatment. No endorsement of any specific tests, products, or procedures is made by Reference Sheet Content or affiliated party, member, agent or employee of the Emory University Environmental Health and Safety Office.
**CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Laboratory Source</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Source</td>
<td>Neurotoxic venom naturally produced by the Conus genus of gastropod mollusks</td>
</tr>
<tr>
<td>Laboratory Source</td>
<td>Isolated toxin</td>
</tr>
<tr>
<td>Characteristics</td>
<td>Conotoxins are polypeptides comprised of 10-30 amino acids and stabilized by distinct patterns of disulfide bonds. Mechanisms of action for five conotoxins have been determined so far: α-conotoxin: Acetylcholine nicotinic receptor inhibitor μ-conotoxin: Voltage-gated sodium channel inhibitor δ-conotoxin: Inhibitor of the inactivation of voltage-gated sodium channels ω-conotoxin: N-type voltage-gated calcium channel inhibitor κ-conotoxin: Potassium channel inhibitor</td>
</tr>
</tbody>
</table>

**SPILL PROCEDURES**

- **Small**
- **Large**

**EXPOSURE PROCEDURES**

- **Other Exposure**
  - Wash area with soap and water for 15 minutes.

**VIABILITY**

- **Decontamination**
  - Use a reactive disinfectant such as glutaraldehyde and formaldehyde.

- **Inactivation**
  - Autoclaving is not an effective method of physical inactivation of conotoxins.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

- **Minimum PPE Requirements**
  - At minimum, personnel are required to don gloves, closed toed shoes, lab coat, and appropriate face and eye protection prior to working with conotoxin. Additional PPE may be required depending on lab specific SOPs.

- **Additional Precautions**
  - Depending on the risk assessment, respirators may be required when working with conotoxins. Fit testing and training is required annually per Emory’s Respiratory Program:
    - [http://www.ehso.emory.edu/content-manuals/RespiratoryProtectionProgram.pdf](http://www.ehso.emory.edu/content-manuals/RespiratoryProtectionProgram.pdf)

**ADDITIONAL REQUIREMENTS**

- **Regulatory Requirements**
  - Conotoxins are select agents and are regulated under the federal regulation 42 CFR Part 73. Conotoxins are not regulated if the amount under the control of a principal investigator, treating physician or veterinarian, or commercial manufacturer or distributor does not exceed 100 mg, at any time. Possession of select agent toxins above the maximum amount without CDC registration is a criminal offense and punishable by up to five years in prison and/or $500,000 in fines. Please contact your Biosafety Officer if you do not have biosafety approval for working with Conotoxin.