




Safe Handling of

# Lipopolysaccharide (LPS)

(endotoxins, bacterial lipopolysaccharides)

<b>Hazard</b>	<b>Potential Hazards</b>	<ul style="list-style-type: none"> <li>Is a component of the cell wall of gram-negative bacteria, and occurs naturally in the environment in agricultural settings and in the home, particularly if there are household pets.</li> <li>Can exacerbate asthmatic symptoms in susceptible individuals</li> <li>Sharps, splashes, ingestion, and chronic inhalation are all potential hazards</li> </ul>
	<b>Medical Screening</b>	<ul style="list-style-type: none"> <li>None required</li> </ul>
<b>Hazard Controls</b>	<b>Transport</b>	<ul style="list-style-type: none"> <li>Primary container placed in a clean, sealed, leak-proof secondary container</li> </ul>
	<b>Work Practice Controls</b>	<ul style="list-style-type: none"> <li>Wash hands immediately after removing gloves and before leaving the work area.</li> <li>No mouth pipetting.</li> <li>No eating, drinking or applying cosmetics (including lip balm) in the work area.</li> <li>Use safe sharps practices (ex., safer sharps, no recapping, immediate disposal). See <b>Sharps Management Plan</b> (<a href="#">link here</a>).</li> <li>Aerosol-generating procedures should be done in a biosafety cabinet.</li> <li>If centrifuging, refer to Centrifugation Safety (<a href="#">linked here</a>).</li> </ul> 
	<b>Personal Protective Equipment (PPE)</b>	<ul style="list-style-type: none"> <li>Lab coat (or gown/tyvek, etc.) and gloves required. Mucous membrane protection (e.g. safety glasses/mask or face shield) must be used if there is a potential for splash or spray, or aerosol-generating procedures outside the BSC, such as such as when working with tubing, valves, connection points, or liquids under pressure and cleaning up spills.</li> <li>Remove PPE prior to leaving the lab area. Wash hands.</li> </ul>
<b>Other</b>	<b>Cleaning &amp; Disinfection</b>	<ul style="list-style-type: none"> <li>Use a 1:10 bleach:water solution (at least 0.5% sodium hypochlorite).</li> </ul>
	<b>Waste</b>	<ul style="list-style-type: none"> <li>See <b>Duke's Medical Waste Management policy</b> (<a href="#">linked here</a>)</li> <li><b>Liquid waste (no incompatible chemicals):</b> Treat with at least 1:10 (bleach:liquid waste) for 30 minutes before being carefully poured down the drain (while wearing full face protection), followed by a copious amount of water to prevent corrosion of the drain pipes.</li> <li><b>Solid waste:</b> Contain material in a leak-proof bag and transport it in a secondary container to dispose in the buildings outside trash dumpster.</li> <li><b>Sharps:</b> Activate safety device (if available) and place sharps immediately in puncture resistant sharps container (needle box); close when container is two-thirds filled or sooner. DO NOT attempt to jam needles into a full container. Follow solid disposal guidelines.</li> <li><b>Animal carcasses:</b> Freeze animal carcasses and contact Duke Lab Animal Resources (919-684-5567 or <a href="mailto:dlarfixit@duke.edu">dlarfixit@duke.edu</a> for pickup)</li> </ul>
	<b>Spills</b>	<ul style="list-style-type: none"> <li>Wear full PPE, including a lab coat, disposable gloves, and full face protection.</li> <li>Cover spill with paper towel or other absorbent materials.</li> <li>Decontaminate area with <b>freshly-prepared</b> 1:10 dilution of bleach:water (<i>at least 0.5% sodium hypochlorite</i>) or use an approved hospital disinfectant.</li> <li>Pour disinfectant on spill, first around the outer edges and working in. Let sit for 20 minutes.</li> <li>Pick up sharp items <u>with mechanical device</u> and place into biohazard sharps container.</li> <li>Dispose of materials in a plastic leak-proof bag or medical waste container.</li> <li>Repeat disinfection of area following the above steps.</li> <li>Refer to the Emergency Response Guide posted in your work area for more information.</li> </ul>
	<b>Exposures</b>	<ul style="list-style-type: none"> <li>Remove contaminated clothing.</li> <li>Wash skin exposures with soap and water for 1 minute. For eye exposures, flood eyes with water from eyewash station or sink. Obtain medical attention, if necessary.</li> <li>Employees call the EOHW exposure hotline at 919-684-8115 or 115 from a Duke phone.</li> <li>Report incident to supervisor and complete the <b>Report a Work-Related Accident, Injury, or Illness form</b> (<a href="#">linked here</a>).</li> </ul>
	<b>Training</b>	<ul style="list-style-type: none"> <li>Complete minimum safety training requirements for your job.</li> <li>All personnel shall read and fully adhere to the requirements in this document.</li> </ul>
	<b>Questions</b>	Contact OESO - Biological Safety Division at 919-684-8822 or <a href="mailto:biosafety@duke.edu">biosafety@duke.edu</a>