

Biological Agent Reference Sheet (BARS)

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BIOLOGICAL AGENT REFERENCE SHEET

Lipopolysaccharide (LPS)

CHARACTERISTICS	
<i>Natural Source</i>	Lipopolysaccharide (LPS), also known as endotoxin, is a structural component of the cell wall of gram-negative bacteria.
<i>Laboratory Source</i>	Lyophilized powder
<i>Characteristics</i>	It is a chemical that is considered a pyrogen and induces a strong immune response, including inhalation airway inflammation, the progression of asthma, and other forms of airway disease. Humans are the most susceptible species for immune response.

HEALTH HAZARDS	
<i>Route of Entry</i>	Nasopharyngeal and subcutaneous
<i>Toxicity Dose Data</i>	No data available

MEDICAL PRECAUTIONS / TREATMENT	
<i>Treatment</i>	None available.
<i>Emory Requirements</i>	Report all exposures. Personnel must cover open wounds, scratches and breaks in skin before working with LPS.

LABORATORY CONTAINMENT REQUIREMENTS	
<i>BSL-2</i>	Conduct all work with LPS inside a biological safety cabinet or chemical fume hood.
<i>Work Practices</i>	Work should be done over absorbent pads. When using sharps: dispose of used sharps in a sharps-safe container. When transporting LPS, vials should be placed in secondary, sealed, plastic, labeled, non-breakable containers.

ANIMAL FACILITY CONTAINMENT REQUIREMENTS	
<i>ABSL-1</i>	Conduct all work with LPS inside a biological safety cabinet or chemical fume hood.
<i>Work Practices</i>	When administering biological materials to animals, consider using needle-safe devices and restraining the animal using chemical or mechanical methods. Have a sharps container in close vicinity.
<i>Animal Housing</i>	Use a filter top cage on either a ventilated or non-ventilated cage rack.

SUPPLEMENTAL REFERENCES	
<i>SDS</i>	https://msdsmanagement.msdsonline.com/670aba42-ade4-4cf6-bb7a-58f602787579/ebinder/34966813/
<i>BMBL: 5th Edition</i>	https://www.cdc.gov/labs/BMBL.html

SPILL PROCEDURES	
<i>Small</i>	Notify others working in the lab or animal facility. Rinse gloves with decontamination solution and don new gloves. Cover area of the spill with paper towels and apply decontamination solution, working from the perimeter towards the center. Exit and keep others from entering the laboratory or animal facility. Allow 1 hour of contact time before entering the laboratory without respiratory protection. Cleanup and dispose of spill materials.

<i>Large</i>	Contact Emory's Biosafety Officer (404-727-8863), the EHSO Office (404-727-5922), or The Spill Response Team (404-727-2888).
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EXPOSURE PROCEDURES			
<i>Mucous membrane</i>	Flush eyes, mouth or nose for 15 minutes at eyewash station.		
<i>Other Exposure</i>	Wash area with soap and water for 15 minutes.		
<i>Reporting</i>	Immediately report incident to supervisor. Exposures are reported in HOME via PeopleSoft. Emory HR website > Self-Service > Workplace Health> Login > Report initial work injury/exp		
<i>Medical Follow-up</i>	<table border="1" style="width: 100%;"> <tr> <td style="width: 60%;">Occupational Injury Management (OIM) 7:30am-4:00pm: 404-686-8587 After Hours, Weekends & Holidays: OIM NP On Call 404-686-5500 PIC# 50464</td> <td style="width: 40%;">Yerkes: Maureen Thompson Office (404-727-8012) Cell (404-275-0963)</td> </tr> </table>	Occupational Injury Management (OIM) 7:30am-4:00pm: 404-686-8587 After Hours, Weekends & Holidays: OIM NP On Call 404-686-5500 PIC# 50464	Yerkes: Maureen Thompson Office (404-727-8012) Cell (404-275-0963)
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DECONTAMINATION / WASTE	
<i>Decontamination</i>	Decontaminate work areas with 10% bleach or 70% ethanol, as appropriate. When using bleach, follow-up with water to avoid damaging stainless steel materials.
<i>Waste</i>	Full strength unused LPS, mixtures containing LPS, and grossly contaminated spill clean-up debris must be collected by EHSO.
<i>Animal Waste Management</i>	Once LPS is injected, animals, animal waste and bedding are neither hazardous nor infectious. Dispose of carcasses following standard DAR procedures.

PERSONAL PROTECTIVE EQUIPMENT (PPE)	
<i>Minimum Laboratory PPE Requirements</i>	Personnel are required to don nitrile gloves, closed toed shoes, lab coat, and appropriate face and eye protection prior to working with LPS. Additional PPE may be required depending on lab specific SOPs.
<i>Animal Facility PPE Requirements</i>	Personnel are required to don nitrile gloves, reusable gown, toed shoes, and appropriate face and eye protection prior to working with LPS.
<i>Additional Precautions</i>	When conducting procedures with a risk of toxin aerosol generation, respirators may be required. Fit testing and training are required annually per Emory's Respiratory Program, available at ehso.emory.edu