## Safe Handling of Lipopolysaccharide (LPS)
( endotoxins, bacterial lipopolysaccharides)

### Hazard

#### Potential Hazards
- 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.
- Can exacerbate asthmatic symptoms in susceptible individuals
- Sharps, splashes, ingestion, and chronic inhalation are all potential hazards

### Hazard Controls

#### Medical Screening
- None required

#### Transport
- Primary container placed in a clean, sealed, leak-proof secondary container

#### Work Practice Controls
- Wash hands immediately after removing gloves and before leaving the work area.
- No eating, drinking or applying cosmetics (including lip balm) in the work area.
- Aerosol-generating procedures should be done in a biosafety cabinet.
- If centrifuging, refer to Centrifugation Safety (linked here).

#### Personal Protective Equipment (PPE)
- 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 when working with tubing, valves, connection points, or liquids under pressure and cleaning up spills.
- Remove PPE prior to leaving the lab area. Wash hands.

#### Cleaning & Disinfection
- Use a 1:10 bleach:water solution (at least 0.5% sodium hypochlorite).

#### Other

#### Waste
- See Duke’s Medical Waste Management policy (linked here)
- Liquid waste (no incompatible chemicals): 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.
- Solid waste: Contain material in a leak-proof bag and transport it in a secondary container to dispose in the buildings outside trash dumpster.
- Sharps: 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.
- Animal carcasses: Freeze animal carcasses and contact Duke Lab Animal Resources (919-684-5567 or dlarfixit@duke.edu for pickup)

#### Spills
- Wear full PPE, including a lab coat, disposable gloves, and full face protection.
- Cover spill with paper towel or other absorbent materials.
- Decontaminate area with freshly-prepared 1:10 dilution of bleach:water (at least 0.5% sodium hypochlorite) or use an approved hospital disinfectant.
- Pour disinfectant on spill, first around the outer edges and working in. Let sit for 20 minutes.
- Pick up sharp items with mechanical device and place into biohazard sharps container.
- Dispose of materials in a plastic leak-proof bag or medical waste container.
- Repeat disinfection of area following the above steps.
- Refer to the Emergency Response Guide posted in your work area for more information.

#### Exposures
- Remove contaminated clothing.
- 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.
- Employees call the EOHW exposure hotline at 919-684-8115 or 115 from a Duke phone.
- Report incident to supervisor and complete the Report a Work-Related Accident, Injury, or Illness form (linked here).

#### Training
- Complete minimum safety training requirements for your job.
- All personnel shall read and fully adhere to the requirements in this document.

#### Questions
- Contact OESO - Biological Safety Division at 919-684-8822 or biosafety@duke.edu