## Materials Sterilization and Biohazardous Waste Decontamination Guidelines

### User Precautions
- **Record** each use of the autoclave
- **Wear** eye protection, lab coat, gloves and heat resistant gloves
- **Plastics** used for autoclaving MUST be autoclavable
- **Loosely** pack waste bags no more than 2/3 full
- **Sharps** must not be placed directly into an autoclave bag; use a rigid container
- **Avoid** overloading an autoclave or allowing a load to contact the chamber walls
- **Avoid** transferring waste contents from an overfilled bag to another bag
- **Do not** leave an autoclave operating unattended for long periods of time; periodically monitor in case of failure
- **Never** autoclave solvents or combustible, volatile, flammable, radioactive or corrosive materials
- **Remove** extraneous items and combustible materials from the autoclave area

### Preparation
- **Dirty/Soiled Items**: Place in autoclavable pans on side or inverted
- **Clean Items**: Wash, Rinse, Wrap (if needed)
- **Fabrics**: Wrap
- **Instruments**: Clean and Dry, Lay in Pan Wrap
- **Liquids**: Loosen caps or use vented closure. Fill to no more than 75% capacity. *Use type I borosilicate glass*.
- **Biohazard Bags**: Loosely bag.

### Placement in Autoclave
- **On side or inverted in pan with water**
- **On side or inverted**
- **Separated on edge**
- **Flat**
- **Upright in pan**
- **In Pan**

### Cycle Time in Minutes (minimum)
- **45-60**
- **15-20**
- **15-20 (clean)**
- **15-20 (dirty)**
- **15-20 (clean)**
- **15-20 (dirty)**
- **45-60 (dirty)**

### Routine Maintenance and Efficacy Testing
- **Follow** the manufacturer’s loading instructions for your autoclave model
- **Transport** loads on a cart and in secondary containers or trays to reduce spills
- **Item/container sterilization**: Loosen lids to avoid dangerous pressure build-up during cycle
- **Place** containers in a tray and load the tray into the autoclave. Do not place items directly on the autoclave chamber floor
- **Improve** heat distribution around containers, by adding 1-2 cm of water to autoclave trays
- **Refrain** from placing liquid items above non-liquid items on an autoclave rack
- **Contaminated bagged waste materials**: Always handle waste bags from top
- **Load** bags of waste on a tray; do not load directly onto a rack or the autoclave chamber floor
- **Loosen** bag tops; add water to bags if needed to assist steam generation

### Spills and accidental breakage
- Notify a supervisor or department safety officer and follow departmental procedures for a spill or exposure event or injury incident
- Post signs warning others in area of spill during clean up, or while allowing area to cool prior to clean up
- **For liquid spills**:
  - If inside a hot autoclave, allow autoclave to cool sufficiently prior to cleanup.
  - If possible, clean up immediately with appropriate absorbent and disinfectant/cleanser for material. Take care if material is hot from autoclave.
- **For solid material spill or breakage**:
  - Allow autoclaved items to cool sufficiently prior to cleanup.
  - Clean up immediately using appropriate means for material and disinfectant if necessary.
  - Do not pick up broken glass with hands; use dustbin or cut resistant gloves and dispose in proper receptacle

The UW-Madison Institutional Biosafety Committee (IBC) requires that Principal Investigators report all potential exposures to or releases of *organisms* or *biological toxins* within 24 hours of the event by completing a **FIRST REPORT** of Exposure/Release Form

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### Unloading
- **Wear** eye protection, lab coat, gloves and heat resistant gloves
- **Open** the autoclave door ONLY after the cycle is finished
- **Open** door a few inches to allow steam to vent for a few minutes before fully opening
- **Keep** hands and face away from escaping steam
- **Slowly** remove items from the autoclave; take care to not touch hot surfaces or spill liquid from pans or containers
- **Place** items on a heat tolerant surface and allow to air-cool for 15 minutes (liquids may take up to an hour to cool)
- **Notify** others in area verbally or through the use of signage to avoid touching hot items

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