**Autoclaves**

**Health Science Building and South Skaggs Building**

Last Reviewed: January 26, 2024

**I. Purpose**

The purpose of this standard operating procedure is to instruct all LAR staff on the proper use of the LAR-owned autoclaves located in Health Science Building and South Skaggs Building. These autoclaves are used to sterilize bedding, instruments, food, caging, enrichment items, etc. by using high heat, steam, and pressure.

**II. Responsibility**

The LAR staff and authorized, trained users are responsible for following proper autoclave procedures when sterilizing items for animal care and use. Both autoclaves are 400LS/500LS series steam sterilizers from Getinge, and both have a closed boiler system that provides their own steam.

**III. Procedure**

1. Choose a cycle that is appropriate for the load; reference the table below and the  
   following steps as outlined:

|  |  |  |
| --- | --- | --- |
| **Cycle** |  | **Load** |
| PO1 | VAC | Bedding/Instruments |
| PO2 | VAC | Flash/ Bio |
| PO3 | VAC | Caging |
| PO4 | VAC | Burn |
| PO5 | LIQUID | Liquid |
| PO6 | VAC | Food |
| PO7 | VAC | Smart Pack |

1. Select cycle → choose cycle according to table above → enter → OK
2. Pull the door down to open
3. Insert items to be autoclaved
   1. Make sure the autoclave is not over-packed, but try to have a full load to run
   2. Examples of a full load:
      1. 2 bags of Sanichips (taped & dated) and 1 box of enrichment
      2. 3 bags of Tek-fresh (dated) and 1 box of enrichment
      3. 3 boxes of enrichment and 1 bag of Tek-fresh (dated) laid on top
   3. If autoclaving a biohazard load, make sure to place the biohazard bag into an autoclavable tub beforehand.
4. Quality control of autoclave function: Apply a Getinge steam integrator strip (monitors  
   temperature and steam) with a piece of autoclave tape to one item in each load.
5. Additional quality control devices for monitoring autoclave function include:
   1. [SMART Pack (SOP):](https://www.umt.edu/research/LAR/sops/SOPsmartpacksystem.php) vacuum indicator; use one (1) once a month and record  
      results in the appropriate notebooks
   2. [Getinge Assure AccuFast Biological Test Pack (SOP)](https://www.umt.edu/research/LAR/sops/SOPassurebiotestpack.php): biological indicator and  
      temperature indicator; use once a month and record results in the appropriate  
      notebooks
6. Push the door up to close the door
7. Once the door is sealed, the green “Start” light will flash and the monitor will display  
   “Standby”
8. Review the monitor screen to ensure that the correct cycle is chosen and press “Start”
9. Record cycle and items being autoclaved in the Autoclave Binder

Example:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Date** | **Cycle** | **Pass/Fail** | **Items** | **Initals** |
| 8/26/20 | PO1 | Pass | 2x Sanichips  T.P. Rolls | KD |

1. When the cycle is complete, an alarm will sound. To turn off the alarm, press the “alarm off” button, or open the autoclave door
2. Wear heat-resistant gloves when removing items from the chamber! All  
   items will be HOT!
3. Push the door up to close after unloading
4. Record the results of the autoclave tape and steam integrator strip into the Autoclave  
   Binder (“Pass/Fail”)
   1. If the indicator strip has not changed color/configuration once the autoclave  
      cycle has been completed, then the load is not considered to be sterile.
   2. Repeat the autoclave cycle and/or call maintenance personnel to service the  
      autoclave
5. Record results of SMART Pack and AccuFast indicators when used.
6. Remove autoclave loads promptly
   1. Enrichment items: Put away in the clean cage storage room in the Health Science Building. Make sure that all boxes of enrichment have a cage cardholder with the appropriate enrichment card indicating the autoclave date and the user’s initials.
      1. If there are multiple boxes of the same type of enrichment, always use the oldest ones first. Autoclaved items that haven’t been opened/used after 6 months will need to be autoclaved again before using in order to be considered “sterile”
   2. Bedding bags: Put bags away in the loading dock area of HSB on their designated rack, with the newest-dated bags on the bottom of the stacks to rotate the autoclaved bedding (use the oldest-dated bags first)
   3. Biohazard bags: Place the whole tub containing the biohazard waste in the dirty side of the HSB cage wash room to cool down before placing in a black garbage bag to be taken out to the dumpster at the end of the day