

BSL-01c Autoclaves in Room 8-320 and 9-321

1. Scope:

This SOP applies to all those who will be using Autoclave #1 in room 4-211 to ensure that it is used safely and properly. This SOP relates only how to use the equipment not how to load it.

2. Responsibilities:

Principal Investigators, Research Associates, students

3. Materials:

- Autoclave
- Autoclavable safe trays, equipment
- Autoclave indicator tape*
- Autoclave indicators*
- SOP BSL-11 Autoclaving 101 (Refer to this SOP for loading tips)
- Required PPE: use of heat-insulating gloves, long pants, lab coat and closed-toe shoes when loading and unloading the autoclave

*It is recommended that you use autoclave tape or indicators in every load to ensure that items have been successfully sterilized. Remember, this just indicates that the tape or indicator has been exposed to minimum sterilization temperature/times and may not reflect the status of the items you sterilized. To ensure your load is sterilized follow the safety precautions below.

4. Safety:

- Risk of burns, cross contamination or injury
- Autoclaves work using high temperatures (> 121°C) and extreme pressure (> 15 PSI) to effectively kill microorganisms or render a bio hazardous material inactive.
- The potential risks of using an autoclave are heat and steam burns, hot fluid scalds, injuries to hands and arms from the door, or bodily injury in the event of an explosion. Additional injury or exposure to biohazardous material may be incurred if the contents of the biohazardous waste are packaged improperly.
- Before opening the door ensure that the cycle is completed and pressure in the autoclave is zero before opening the door at the end of a cycle.
- Make sure that no personnel, including you, are not directly in front of the door
- Crack the door open slowly at first to release any residual pressure/steam that may be in the chamber to prevent burns
- Turn off the autoclave to allow it to cool before cleaning up any spills. (Spills must be cleaned up immediately after the cycle has been run). You may need to contact facilities to have the autoclave shut off before cleaning.
- Never put volatile chemicals or solvents (alcohols, chloroform), or corrosive chemicals (bleach, acetic acid, formalin, fixed tissues etc.), or radioactive materials in an autoclave
- Use extreme caution when moving hot liquids, and glassware as these could easily shatter
- Do not autoclave sealed containers as they pose an explosion risk

5. Procedure:

CYCLES:

	Dry (Gravity) Cycles			Liquid Cycles 8-320	Liquid Cycles 9-321
Cycle	Cycle Parameters	Drying Time	Cycle	Cycle Parameters	Cycle Parameters
P1	15 minute exposure	30 minutes	P4	15 minute liquid cycle	5 minute liquid cycle
P2	30 minute exposure	30 minutes	P5	20 minute liquid cycle	15 minute liquid cycle
P3	45 minute exposure	30 minutes	P6	30 minute liquid cycle	30 minute liquid cycle
			P7	40 minute liquid cycle	

RUNNING A CYCLE:

1. Turn on the sterilizer.
 - a. If the on/off button is not illuminated press it to turn the sterilizer 'on'.
 - b. If the button is illuminated but the display is 'off', touch the screen to turn it 'on'
- 2.
3. Load the sterilizer.
 - a. Include a chemical indicator such as indicator tape or a biological indicator.
4. Manually lift the door up to the closed position.
5. Press the cycles button on the display to display the list of available cycles.
6. Tap the button labeled with the correct cycle for your load.
7. Check that the 'Start' button is enable (green). If not, correct any failure conditions and close all doors.
8. Tap the 'start' button.
 - a. The 'In process' indicator displays in the status area while the cycle runs.
9. Once the cycle is complete, the green "Process complete" status indicator is displayed.
 - a. To silence the completion alert sound, tap the button.
10. The door is automatically unsealed but remains closed.
 - a. Open the door
 - b. Remove the load wearing appropriate PPE.
11. RECORD your use on the sign in Sheet.

FAILED CYCLES:

If at the end of a cycle the "Process failure" LED lights - the load should not be considered sterile and needs to be re-run.

- a. A diagnostic message/error code should be displayed.
- b. Press the "clear alarm" button, to clear the message and silence the alarm.
- c. If the alarm

TO ABORT/CANCEL A CYCLE:

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1. If necessary, you can CANCEL any cycle at any time.
2. Press the 'stop' button.
3. In the More screen, tap the 'abort' button.
 - a. The sterilizer ceases all processing activity and begins an exhaust phase.
4. Ensure the chamber gauge reads "0"
5. Press the 'open door' to remove load

6. **Records:**

Each autoclave load ran must be recorded on the appropriate log sheet. When you use the autoclave record the date, your name, what time you started and ended the load and what cycle you used.

The Biosafety Officer runs monthly safety checks using indicators on the autoclave to ensure they are functioning properly. These indicators are also run after any repairs have been done.

7. **List of attachments:**

8. **History:**

Created by Lydia Troc on Oct 24, 2016

9. **Approval:**

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Basic Inventory of infectious Material and Toxins

Name:

Contact:

Infectious material (genus species)	Risk Group	Location	#/volume	Form (lyophilized/suspension/stab)	Notes/Comments (subtype)