

Purpose

The purpose of this SOP is to provide basic instruction in the proper operation of the autoclaves located on the 2nd, 3rd, and 4th floors of the Pharmaceutical and Biomedical Sciences Building.

Materials

1. Printer paper
2. Damp cloth
3. Autoclave pouch or non-woven wrapping material
4. Tray
5. PPE (lab coat, eye protection, heat-insulated gloves, closed-toe shoes)

Safety Precautions

1. NEVER autoclave flammable, reactive, corrosive, toxic, or radioactive materials.
2. Do NOT firmly seal caps of liquids. Pressure can build up and glassware may explode in the autoclave or upon opening the autoclave.
3. ALWAYS place materials in a tray. This will prevent spills from reaching the drain.
4. ALWAYS wear PPE when working with the autoclave.
5. Do NOT attempt to open the door until the cycle is complete and the temperature and pressure have returned to a safe range.
6. Stand behind the door and carefully open it no more than 1 inch. This will release residual steam and allow pressure within liquids and containers to normalize.
7. Allow the autoclaved load to stand for 10 minutes before removing. This will allow steam to clear and trapped air to escape from hot liquids, reducing burn risk.
8. Do not agitate containers of super-heated liquids or remove caps before unloading.
9. Allow autoclaved materials to cool before transporting.
10. In the event of a spill, allow the autoclave and materials to cool before attempting cleanup.

Cycles

The autoclave has three cycles (gravity, vacuum, liquid). Each cycle has three programs.

Table 1

Cycle	Description	Load Type
Gravity	This is the most basic sterilization cycle. Steam displaces air in the chamber by gravity (i.e., without mechanical assistance) through a drain port.	Glassware, unwrapped goods, utensils
Vacuum	Air is mechanically removed from the chamber and the load through a series of vacuum and pressure pulses. This allows the steam to penetrate porous areas of the load that could not otherwise be reached with simple gravity displacement.	Wrapped goods, packs, porous material, autoclavable lab waste
Liquids	A gravity cycle with a slower exhaust to minimize boil-over	Media, LB broth, water, other liquids

The programs loaded in the autoclave have been validated. Any changes to the programs must be validated prior to use to ensure sterilization is achieved.

Methods

1. Check the printer paper. If needed, replace with a new roll.
2. Clean the door gasket with a damp cloth.
3. Make sure that the chamber drain strainer is clean and free of debris. The chamber drain strainer is located inside the drain chamber near the door. This must be done before every cycle. A clean drain strainer is essential for proper operation of the autoclave.
4. Load the sterilizer chamber and close the door. Make sure the door handles are hand tight.
 - A. All packages must be positioned in the chamber to allow free circulation and penetration of steam, enhance air elimination, and prevent entrapment of air or water. Do NOT overpack.
 - B. All items must be placed in a tray capable of holding liquid.
 - C. Items capable of holding liquids should be oriented in the same direction and arranged so that any condensation will drain out.
 - D. When using non-porous wrap, ensure there are no low spots that might hold condensate.
5. At the bottom of the Cycle Select screen, there is a key that reads "Jacket Power On." The jacket must be on in order for the autoclave to operate.
6. Touch the Cycle Select key on the touch screen to enter the Cycle Select menu.

7. From the Main Menu, touch the Cycle Select key in the lower right-hand corner of the screen.
8. Select the appropriate cycle type (Gravity, Vacuum, Liquid).
9. Select the appropriate cycle length.
10. The autoclave will ask to confirm that the cycle selected is correct. Review the cycle name, chamber temperature, sterilizer time, and dry time.
11. If the information is NOT correct, touch the “No” key.
12. If the information is correct, touch the “Yes” key. The cycle will automatically begin.
13. Once the cycle is complete, then end-of-cycle buzzer will sound. Open the door slowly to avoid burns from the steam. Use appropriate gloves to remove the contents.
14. Place autoclavable waste bags in the appropriate container. Custodial staff will remove the bags.

In the event of a problem, contact Lab Services group (spok.labservices@wsu.edu or 509-358-7621).