Autoclave Use & Safety	Identifier: BPR - 0001 Revisions: 1 Page: 1 of 3

ISU Biological Sciences	Stockroom Procedure	Effective Date: 03/18/2021

1. INTRODUCTION

This procedure provides guidance in proper operation, limitations, and safeguards for sterilization by autoclaving

2. PRECAUTIONS AND LIMITATIONS

2.1. All operators must receive training on the safe operation of the autoclave prior to using the equipment -- training may be delegated to a stockroom lab technician if supervisor is unavailable

2.2 Wear proper personal protective equipment (PPE)

2.3 Use caution when loading and unload the chamber

2.4 Keep hands and face away from opening to avoid bodily injury

3. APARATUS AND MATERIALS

3.1 Autoclave gloves

3.2 Polypropylene bins

3.3 Metal trays & bins

3.4 Cap baskets & lids

4. REAGENTS – N/A

5. INSTRUCTIONS

Basic Cycles	Description	Typical Application or Load Type
Gravity	1 – 15 min 3 – 40 min 2 – 20 min 4 – 8 min	Glassware, (un)wrapped goods, utensils, red bags
Liquids	1 – 15 min 3 – 30 min 2 – 25 min 4 – 45 min	Media, water, etc.
Decontamination	DECON – 60 min	Waste
Pre or Post Vacuum	N/A at this time	Animal cage bedding, porous materials

***All cycles run at 121 ° C & 15 p.s.i.**

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NOTES FROM SUPERVISOR:

- **Always** wear autoclave gloves
- All items must have a label with contents, date, lab, and initials as well as a sterilization indicator, i.e. tape or chemical indicator vial
- **Never** autoclave flammable, reactive, corrosive, toxic or radioactive materials, liquids in sealed containers, paraffin-embedded tissues, etc -- ask supervisor if unsure
- Do not turn the door wheel until it has been unlocked, the door mechanism will need to be recalibrated each time
- If autoclaving liquids, place into a polypropylene bin and loosen caps
  - If boil over dose occur, the user is responsible for cleaning the spill, see section 6.2
- Bins are available for use in the stockroom
  - Do not remove without prior arrangements
  - Return in a timely manner
- Machine does not need to be turned off, it will automatically resume idle mode
- If the cycle failed, contact supervisor immediately, a report will be printed off

5.1 **Turn on the autoclave** by pressing black touch screen and waiting until the door unlocks, indicated by a clicking sound

5.2 **Loading the chamber** – Don autoclave gloves, open door by turning counter clock wise, align the loading cart, and pull the rolling shelves out onto the loading cart into the locked position

5.2.1 Check items before loading – loosen caps, remove stir bars, add DI water to bin, check for label/sterilization indicator, etc..

5.2.2 Add items (do not overload) and unlock rolling shelves by lifting up the lever located at the end of the loading cart

5.2.3 Once shelf is pushed into the chamber, close the chamber but do not lock the door fully

5.3 **Changing the cycles** – to see list of cycles, press circle containing a number in the top left corner

5.3.1 Select desired cycle and turn door wheel clockwise as tight as possible to lock

5.3.2 Press green run button on the bottom right > press yes

5.3.3 Fill out autoclave log

5.3.4 Wait 5 minutes once cycle has started to check for steam leaks

5.3.5 If a steam leak occurs, tighten the door wheel until no steam can be seen or heard

5.3.6 If steam leak persists, leave the room and contact the stockroom supervisor

5.4 **Unloading the chamber** – Press blue C button in the bottom right corner, wait until you hear a click, and close window covering computer screen fully

5.4.1 Open door 2" to vent steam and wait 1 minute

5.4.2 Once steam has dissipated, use autoclave gloves and unloading cart to remove items

5.4.3 Close autoclave door after use, do not lock

6. CLEANUP

6.1 Broken glass – If broken glass is discovered, the autoclave should be left to cool completely before cleaning broken glass debris

6.1.1 The operator of the equipment is responsible for removing the broken glass and placing it in the designated broken glass container

6.2 Spills – spills may occur from boil over or breakage of containers. Do not attempt to operate the autoclave until the spill has been cleaned up

6.2.1 If a spill occurs, prevent the spill from spreading and wait until both the autoclave and the material inside have cooled to room temperature. Do not attempt to clean a spill when it is hot. Clean affected area and dispose of waste appropriately

6.2.2 The operator of the equipment is responsible for spill cleanup

6.2.3 Record the spill in the autoclave log book

7. Additional Information

7.1 **Compatible materials**

Compatible	Incompatible
▪ Polypropylene ▪ Glassware (Pyrex® or Type I borosilicate) ▪ Stainless Steel ▪ Pipette tips ▪ Waste ▪ Media solutions (Fill up to 2/3 of thecontainer and loosen caps) ▪ Tissue Culture Flasks ▪ Animal Bedding and Food	▪ Chlorine, Hypochlorite, Bleach ▪ Acids, Bases and Organic Solvents ▪ Chlorides ▪ Sulfates ▪ Seawater ▪ Polystyrene ▪ Polyethylene ▪ Polyurethane