


STANDARD OPERATING PROCEDURE				
	Autoclave Operation		SOP#	RIO-SOP-005
	Originated by:	Amruta Samant	Date:	21 January 2019
	Reviewed By:	Alicja Trocha	Pages:	1 of 3
	Approved by:	EH&S		

I. PURPOSE:

The purpose of this procedure is to establish and outline the general guidelines for operation of Consolidated Systems sterilizer (autoclave) in the laboratory areas at Ragon Institute.

II. SCOPE:

This procedure applies to all employees, contractors and trainees that are use the autoclaves.

III. RESPONSIBILITIES:


- A. The lab managers are responsible for the overall implementation of this procedure. The management needs to periodically review the outlined procedure and initiate any updates to this procedure.
- B. All employees, contractors and trainees are required to follow this procedure.

IV. SAFETY:

This document outlines the guidelines to be followed to operate autoclaves in laboratories at Ragon Institute.

V. GUIDELINES:

1. Appropriate PPE should be worn before operating the autoclave. This includes safety glasses, a pair of gloves and lab gown (in Tissue culture room) or a lab coat (in main lab) when loading the autoclave with waste. Lab coats should be laundered as necessary. A new gown should be initialed and dated and needs to be discarded in biohazard containers every 7 days. They can be disposed earlier in case of tear or spill. Gloves should be regularly checked by visual inspection for cuts or tears and must be replaced accordingly. For emptying the contents from a completed cycle, safety glasses, gloves, heat protectant gloves over the regular gloves and a lab coat are necessary.
2. Before initiation of a cycle, determination should be made about the type of cycle. For all liquid wastes for e.g., waste buckets, coffins with serological pipettes, etc. a liquid cycle must be selected. As for waste bags with solids, a gravity/ dry cycle must be selected. When autoclaving mixed material always use Liquid cycle. It is OK to put dry contents in a liquid cycle but disastrous to put liquid contents in a dry cycle.
3. Make sure that the autoclave door in anteroom is shut properly. You need to hear a few clicks when closing the door.
4. Generator pressure should be between 40-60 psi and Jacket pressure should be at 15 psi. Do not initiate a run without ensuring this, else the cycle aborts. If this is the first run of the day, it takes some time for the respective pressures to reach the required limits.
5. Open door of autoclave from TC room side. Make sure that every content has autoclave tape on it used as an indicator that sterilization is complete.

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6. Biohazardous bags must have a hole pierced to allow for steam entry. Please be extra cautious to be sure that none of the contents are tightly closed and has room for steam entry. Do not overload any cycle.
7. Shut the door (TC side) once all the contents have been safely transferred into the autoclave. It is advisable to load buckets and coffins towards the anteroom and the bags towards TC room. The autoclave can be started from inside after making sure that the correct cycle has been selected. The only option is the cycle run before. If there is a need to change the cycle one must do it from anteroom.
8. Exit the TC room after doffing PPE. Now, in the anteroom after ensuring generator and jacket pressures as aforementioned, cycle selection must be made.
9. Run cycle.
10. After cycle is completed, wear proper PPE and then open the anteroom side door. Be very careful to stay away as all the accumulated steam will escape once the door is opened. Leave the door open for 30 mins and allow contents to cool.
11. After you remove all containers with liquid leave them on the cart for another 30 -60 minutes to cool down.
12. All the liquid contents should be drained into the sink through the sieve provided. All solid contents should go into the biohazard bin/ tote.
13. Hands must be washed or treated with Cal-stat after working before leaving the laboratory.


VI. APPENDICES/ NOTES:

General Precautions:

- Do NOT overload autoclave with contents.
- Visually check the gasket for tears before each run.
- Drain valve must be emptied after every run. Any filtered contents on the mesh should be emptied. DO it carefully as this is delicate part. DO it but tapping and not scaping inside.
- Do not reach deep into the autoclave while emptying contents. It is therefore advisable to stack buckets, coffins towards the anteroom. If you have to remove something from deep inside the autoclave, pull the metal rack out.
- Handling of waste is important and be sure to follow the safety guidelines.

VII. DO NOT AUTOCLAVE:

- Flammable, reactive, corrosive, toxic or radioactive materials (incl. phenol, chloroform, trizol, b-mercaptoethanol, ethanol)
- Household bleach
- Any liquid in a tightly sealed container
- Any material contained in such a manner that it touches the interior surfaces of the autoclave.
- Paraffin-embedded tissue

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- A few different types of plastic were listed too such as Polystyrene (PS), polyethylene (PE), and high-density polyethylene (HDPE) plastics
- When using kits, researchers should check the SDS for each reagent to ensure suitability for autoclave
- If in doubt a lab manager or EH&S should be contacted