

Safe Use of Autoclaves

First-time users must receive hands-on training prior to using an autoclave; a list of the individual(s) responsible for this training is posted near each autoclave. This training must be documented by completing and forwarding the [Training Attendance/Compliance Record](#) form (EHS-FORM-032) to EHS.

Autoclaves must be loaded so that steam is able to penetrate into the innermost areas of bags and maintain sterilization temperature. Longer processing times are required for larger loads, larger volumes of liquids and denser materials. Effective operating parameters must be established whenever autoclaves are used to decontaminate biological waste. The autoclave efficacy monitoring program is overseen by EHS: please contact the BSO.

Before loading the autoclave:

- Ensure that the strainer, located over the drain at the front of the autoclave, is not clogged;
- Make sure that plastic bags, containers and trays can withstand the high heat and pressure;
- Do not fill bottles of liquid or autoclave bags more than 3/4 full);
- Immediately before loading, loosen the caps of liquid containers to prevent bottles from shattering during pressurization. Alternatively, use vented caps;
- Use suitable wrapping when sterilizing clean equipment for re-use. For example, steam will not penetrate objects that are tightly covered with aluminum foil;
- Close autoclave bags loosely to allow for steam penetration.

Loading the autoclave:

- To allow for steam penetration around all items, do not overload the chamber or stack containers. Items must not touch the top or sides of the autoclave;
- To prevent spills inside the autoclave, place bags and containers in autoclavable rigid, leak-proof secondary containers. Shallow tubs are preferable to buckets because the air can be displaced more efficiently;
- Avoid placing containers and bags directly on the floor of the autoclave;
- Make sure the door of the autoclave is fully closed and that the correct cycle has been selected;
- Never autoclave volatile/toxic chemicals or radioisotopes.

Unloading the autoclave:

- Verify the autoclave cycle log to ascertain that decontamination conditions were achieved;
- Ensure that the chamber pressure gauge reads zero psi;
- Wear eye protection and insulated gloves or mitts. Add a rubber apron and rubber sleeve protectors for large volumes of liquids;
- Open the door slightly to allow the steam to escape before unloading;

- Allow the autoclaved waste to cool and place inside a dark garbage bag in the designated area.