

The Waste-Paper

“Waste is a terrible thing to mind”

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What is an autoclave?

Autoclaves use water, pressure, and heat to create superheated steam that kills microorganisms and spores. They are used to decontaminate certain biological waste and sterilize media, instruments and lab ware. Steam sterilization is mainly a function of temperature, pressure and time:

Temperature: Effective sterilization occurs when the steam temperature exceeds 250°F (121°C).

Pressure: Autoclave pressurization should be at least 20 psi.

Time: The amount of time needed to sterilize most organisms is dependent upon the temperature and pressure. At 250°F (121°C) in a vessel pressurized to 20 psi, bags require at least 30 minutes to sterilize.



Glass containers waiting to be autoclaved

DOs

- DO use ORANGE autoclavable biohazard bags to autoclave waste.
- Add ~250mL water to bag before loosely closing the bag.
- Autoclave bag in a stainless steel or autoclave safe polypropylene secondary container.
- Put the autoclaved bag in the regulated medical waste box when the bag has cooled.
- Clean up after yourself.
- Remove your waste from autoclave in timely manner so others may use it.

DON'Ts

- Use RED biohazard bags for autoclave waste.
- Leave your bags in the autoclave after the run is done.
- Leave full autoclave bags on the floor.
- Expect the janitorial staff to handle autoclave bags that are outside of the designated waste bins. They are not trained to handle biowaste.
- Let autoclave bags accumulate in your lab, in the autoclave, or autoclave room.
- Use autoclave bags for anything other than biohazardous waste collection.

Compatible Materials	Incompatible Materials
<ul style="list-style-type: none"> • Tissue Culture Flasks • Surgical Instruments • Glassware • Pipette tips • Media Solutions • Animal food and bedding • Waste • Polypropylene (Secondary containers) • Stainless steel • Gloves 	<ul style="list-style-type: none"> • Acids, bases and organic solvent • Chlorides, sulphates • Seawater • Chlorine, hypochlorite, bleach • Non-stainless steel • Polystyrene(PS) • Polyethylene(PE) • Low density (LDPE) and High density polyethylene(HDPE) • Polyurethane

Never autoclave:

- Flammable, reactive, corrosive, toxic or radioactive materials
- Household bleach
- Any liquid in a sealed container.
- Any material contained in such a manner that it touches the interior surfaces of the autoclave.
- Paraffin-embedded tissue. The melted paraffin can cause significant damage to the autoclave.

Autoclave Validation

Autoclaves used to decontaminate biowaste are validated on a quarterly basis by EHS. This is performed using *Geobacillus stearothermophilus* spores as a biological indicator. The indicator is

incubated for 24 hours to determine if the autoclave cycle inactivated the bacterial spores. Service is requested on the autoclave if the test fails.

Please contact EHS at 8-5294 if you have any questions about the waste pickup schedule.

<i>EHS HAZARDOUS WASTE CONTACTS</i>	
Main Office	8-5294
Kyle Angjelo (Chemical Waste)	8-2711
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EHS Web Page http://www.princeton.edu/ehs	

****NOVEMBER AND DECEMBER COMBINED PICKUP ON DECEMBER 15****