

# Autoclave Safety

Autoclaves sterilize laboratory glassware, instruments, and media, as well as decontaminate potentially infectious materials prior to disposal, using high-temperature steam under pressure. Improper use can result in steam burns, scalds, other injuries, or explosions.



## General Safety Practices

Never autoclave flammable, corrosive, reactive, volatile, or radioactive materials. Contact EH&S for proper disposal. Ensure that the lab is utilizing suitable materials for autoclaving such as polypropylene (PP) or polycarbonate (PC) plastics and borosilicate glass (Pyrex and Kimax).

When using an autoclave, you must wear a lab coat, heat-resistant gloves, safety glasses, and closed-toe shoes. If handling hot liquids or facing splash risks, wear a rubber apron and face shield.

In addition to monthly checks, all users should perform visual inspections of the door gasket integrity, cycle parameters, and recording/device functionality before operation. Laboratories should also schedule routine maintenance with the manufacturer as described in the equipment manual.



*Proper PPE for Operating an Autoclave*



*An Example of an Autoclave*

## Using the Autoclave

Before loading, inspect the autoclave for cracks in the door gasket and ensure the drain strainer is clean. Loosen caps on liquid containers to prevent explosions and cover them with a loosened lid or aluminum foil.

Do not overload the autoclave; allow space for steam circulation. Always use an autoclave-safe secondary container to stabilize items and contain spills. Ensure the door is fully closed and latched before starting a cycle.

Never open the door during a cycle. Wait for the cycle to finish and the pressure gauge to read zero before opening the door. Open slowly, keeping hands and face away from escaping steam. Allow items to cool for at least 10 minutes before handling to prevent glass breakage or liquid boil-over.

If a spill occurs, wait until the autoclave and materials have cooled to room temperature before cleaning. Dispose of waste properly, including broken glass. For more information, refer to the QR code below.



## Fun FAQ!

To work effectively, steam must be in contact with the materials directly. The parameters for an effective steam sterilization process are pressure, temperature, and time.

Have more questions? Reach out to EH&S at [Labsafety@columbia.edu](mailto:Labsafety@columbia.edu) or give us a call

CUIMC: (212) 305 - 6780

Manhattanville/Morningside: (212) 854 - 8749



QR Code: Columbia University Autoclave Policy and User Checklist

