Duke Occupational & Environmental Safety Office

Laboratory Equipment Decontamination

What is Decontamination?

Decontamination is the neutralization or removal of hazardous materials (including biological, chemical, and/or radiological hazards) from an area or object. This is an important process when a laboratory relocates or closes out from their lab space and/or if the area or object will be surplused or transferred to new users, or needs maintenance or repair.

What types of laboratory equipment need to be decontaminated?

Any equipment that may have contacted hazardous materials, including but not limited to:

- Freezers and Refrigerators
- Cold Rooms
- Chemical Fume Hoods
- Biological Safety Cabinets
- Incubators
- Benchtops
- Sample Processors/Machines

What is the process for decontamination of laboratory equipment?

- **Freezers and Refrigerators** — After defrosting, thoroughly wipe down racks and interior with a 10% bleach solution if biological materials were stored inside. Otherwise, a general wipe down with soap and water should be efficient. See Laboratory Freezer Defrosting Guidelines.
- **Cold Rooms** — Wipe down cabinets, benchtops, storage racks, etc. with soap and water. If there are any areas of biological material contamination, use a 10% bleach solution to decontaminate the area. Report any indications of mold growth to engineering or facilities staff. See Cold Room Guidelines.
- **Chemical Fume Hoods** — After removing chemicals and chemical wastes, inspect the inside of the hood for any noticeable spills of liquids, chemical or biological residues and decontaminate as appropriate. If any radiological materials were used, contact your Radiation Safety Officer radsafety@dm.duke.edu.
- **Biological Safety Cabinets** — Wipe down interior and exterior of cabinet using 10% bleach solution. If materials was handled at Biosafety Level 2 or greater, follow with a second wipe down. If the biological safety cabinet will be relocated and/or dismantled, a formaldehyde decontamination may be necessary. Contact the Biological Safety Division at biosafety@duke.edu for guidance.
- **Incubators** — It is best to decontaminate incubators immediately after a spill of biological materials (i.e. cell cultures, bacteria, media, etc.). Utilize appropriate disinfectant such as 70% ethanol or 10% bleach to wipe the incubator surfaces. Rinse bleach thoroughly to avoid corrosion of the interior shelving.
- **Benchtops** — If benchtop areas contain spills of biological materials, wipe those surfaces with 70% ethanol followed by 10% bleach. Regular soap and water is appropriate for normal surface cleaning.
- **Sample Processors/Machines** — Lab equipment that has processed human samples, DNA, proteins, etc. may require specific decontamination procedures indicated by the manufacturer. Check for equipment guidance from the manufacturer.

How can we minimize contamination?

- Properly dispose of hazardous materials to reduce risks of spills that could lead to contamination of surface areas and equipment.
- Clean up spills immediately. Spill kits can be purchased from most laboratory supply vendors.
- Defrost refrigerators and freezers regularly to check for broken vials, containers, and other vessels that may have leaked.
- Use benchtop absorbent padding and dispose of it appropriately once contaminated.
- Protect the laboratory from biological aerosol-generating procedures by using a Biological Safety Cabinet.
- Use a chemical fume hood when handling hazardous chemicals.

INFORMATION

⇒ In all cases, use appropriate PPE for decontamination, including gloves, splash goggles, face shields, & lab coat.

⇒ **Sign and post the Laboratory Equipment Statement of Hazard Assessment form on laboratory equipment after decontamination. If perchlorates have been heated or used inside of the chemical fume hood contact labsafety@duke.edu.**

⇒ If your laboratory will be relocating or closing out, see our Lab Start-up/Close-Our/Relocation website. please contact the Laboratory Relocation and Closeout Coordinator at labsafety@duke.edu with any questions.

I agree to follow lab equipment decontamination procedures and adhere to guidelines outlined by the equipment manufacturer.

Duke ID	Signature