

Research freezers and refrigerators are must-have equipment in laboratories since they preserve specimens and maintain reagents at constant, sub-ambient temperatures. During the equipment's service, however, ice build-up occurs reducing storage space and/or rendering freezer/refrigerator contents inaccessible.

PRE-EQUIPMENT SHUTDOWN

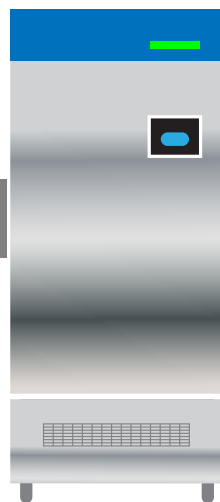
Note that accumulated ice may be contaminated with hazardous materials. See Equipment Decontamination for details.

1. **DO NOT** move research freezers/refrigerators to a non-research space (e.g., corridor, office) for any reason.
2. Treat all containers as potentially contaminated.
3. Take inventory of specimens, reagents, etc. Update (or reconcile) data in [EHSA](#).
4. Transfer accessible important contents to backup freezers/refrigerators. Avoid overcrowding.
5. Discard unwanted or expired contents per waste disposal protocol (see Hazardous Waste Disposal Fact Sheet).

EQUIPMENT SHUTDOWN

Expect two days of freezer/refrigerator downtime during the shutdown process. **NOTE:** Never allow liquid to run directly onto floors (slip hazard) or down any outside drain.

1. Unplug the freezer/refrigerator in the morning to allow ample time for defrosting.
2. Place dikes or berms (absorbent pads or paper towels) within the freezer/refrigerator to collect runoff.
3. To prevent potentially contaminated runoff from flowing into floor drains, place dikes or berms around the freezer/refrigerator.
4. Never chip away at ice with sharp objects. The unit's refrigeration coil can be damaged easily and allow coolant to escape.



EQUIPMENT DECONTAMINATION

1. While the unit is defrosting, test for possible contamination.
 - Radioactive materials. Collect a small ice sample (or runoff) and test with a scintillation counter - see Rad Safety Manual ([RSM](#)) page 7.6. If contamination is present ([RSM](#) page 7.7), collect all runoff for disposal as radioactive waste.

What I need to do...

- Prepare for equipment shutdown.
- Place dikes or berms where needed.
- Discard unwanted or expired contents.
- Request a hazardous waste pickup via [EHSA](#) or (323) 442-2200.
- Questions? Contact hazmat@usc.edu or (323) 442-2200.

2. Defrost unit completely prior to decontamination.
3. Decontaminate the unit of hazardous materials.
 - **Biohazardous material.** Clean unit inside and out with freshly made 10% bleach solution. Dispose of contaminated dikes and berms in a bio red bag.
 - **Hazardous material.** Clean unit inside and out with a cleaning solution. Dispose of contaminated dikes and berms in a labeled poly bag.
 - **Radioactive material.** Clean unit inside and out with a cleaning solution. Re-check for contamination ([RSM](#) page 7.6) Dispose of contaminated dikes and berms in a labeled rad waste drum.

EQUIPMENT STARTUP

1. Plug in freezer/refrigerator; wait for it to stabilize.
2. Return important specimens and reagents back to unit.

Questions? Contact hazmat@usc.edu or (323) 442-2200.

REFERENCES

[Biohazardous Spill Clean-Up Guide Sheet](#)

[Chemical Hygiene Plan](#)

[Hazardous Material Spill Clean Guide Sheet](#)

[Radioactive Waste Disposal Fact Sheet](#)

