

Environmental Health and Safety
Title: Freezer Defrosting Procedure
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I. Purpose:

The purpose of this document is to provide guidelines for deicing/defrosting and maintenance of freezers efficiently. Facilities Management recommends defrosting freezers outside whenever possible; to prevent water from pooling on the floor. However, we acknowledge that some labs may opt to leave their units in place. Procedures are provided based on whether the freezer will be temporarily moved outdoors or defrosted in its current location.

II. Scope:

This document applies to the procedure of defrosting and cleaning laboratory freezers on campus.

III. Responsibility:

- **Laboratory personnel** have the responsibility to initiate the process, monitor the defrosting procedure and perform the cleaning of the unit (including removing and replacing contents). Facilities/Sustainability does not provide backup or maintenance freezers, so the lab is responsible for arranging temporary storage for the items during the defrosting process.
- **Facilities Management personnel** handles moving the freezer back and forth
- **Sustainability** has supplies available upon request. Supplies include rolling coolers, mop and bucket, bins, sorbent pads, and scrapers.

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IV. Personal Protective equipment

Staff must wear proper PPE when deicing/defrosting freezers. PPE will include at minimal:

- Lab coat/gown
- Nitrile gloves
- Thermo protective gloves for extensive procedure
- Safety glasses or face shield.

V. Procedure

Frost will first accumulate in the freezer, the frost will eventually turn to ice and finally if there is sufficient amount of ice and frost in a freezer the freezer will need to be emptied, turned off and completely defrosted.

Labs should follow the steps below to minimize the need to completely defrost a freezer. As freezers age turning them off may lead to their “death” and they will not turn back on.

a. Defrosting

Do not let frost accumulate on the doors, inner doors and lids (chest freezers) and shelves of the freezers. The frost on the doors will turn to ice and samples will get “lost” and frozen-in on the shelves.

Laboratories should create a schedule to regularly remove visible frost as to not let it accumulate. The frost rate accumulation will depend on the frequency the freezer is opened, length of opening and the humidity present in the air.

- *For upright freezers*, place absorbing material on the ground to collect the frost and water. With a small handheld brush, brush off the frost on the doors and shelves, seals/gaskets, if possible, collect the frost in a dustpan and dispose in the sink.
- *For chest freezer*, place a bucket, tray in the freezer to collect the frost. With a small handheld brush, brush off the frost on the doors and shelves, seals/gaskets,

b. Deicing

Do not let ice buildup on the freezer door, inner doors and lids (chest freezers) and on the seal/gaskets. Ice buildup will prevent the freezers door from closing correctly which

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will increase the ice build-up, damage the seals and put pressure on the motor, overall reducing the life span of the freezer.

Deice the freezer as soon as ice is visible.

- *For upright freezers*, place absorbing material on the ground to collect the ice and water Use a scraper to remove the ice.
- *For chest freezer*, place a bucket, tray in the freezer to collect the ice. Use a scraper to remove the ice.
- Wipe down the seals and gaskets to remove accumulated humidity.

Do not use other tools to knock the ice off, it will damage the freezer and potentially injure staff.

c. Complete defrosting

It is recommended that complete defrosting takes place at the beginning of the week and early in the day.

i. Procedure If Moving Unit Outside:

1. Submit a Work Order – Lab personnel should submit a facilities work order through UNT HEALTH Connect. Include the date for moving the freezer outside (please give at least a 5-day notice) and the best number to reach the primary contact. Facilities staff will contact the lab to coordinate moving the freezer in and out of the lab for defrosting on the date specified in the work order.
2. Preparing for Freezer Defrost – Lab personnel should consult the freezer's manual for unit-specific defrosting instructions and plan for the freezer to be out of use for at least two days. Remove all items from the freezer prior to the freezer being moved and discard any items that are no longer needed.

The outer door of the freezer must be surface decontaminated with an approved solution such as a quaternary solution or 10%bleach followed by 70% alcohol.

Complete the Equipment **Relocation/Removal Form**, send it to EHS for signature and then place on the unit. Facilities will NOT move the freezer without the form attached to it.

- If items are frozen in place, lab personnel are responsible for removing the items as the ice melts. Please contact UNT HEALTH Environmental Health & Safety (safety@unthsc.edu) to ensure proper disposal.

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- If you need additional supplies to help with the cleanout such as brush/scrapper, mop & bucket, and coolers, contact UNT HEALTH Sustainability (sustainability@unthsc.edu).
3. Freezer Defrost - On the designated day, Facilities will move the freezer outside in the morning, if possible.

Lab personnel are responsible for cleaning the freezer as it thaws. Proper PPE must be worn, and all items must be disposed of in accordance with safety regulations.

Once the freezer has been fully defrosted, all internal surfaces must be dried and surface decontaminated with an approved solution such as a quaternary solution or 10% bleach followed by 70% alcohol.

Lab personnel will notify facilities that the freezer has been decontaminated and is ready to be returned to the lab.

Lab personnel may return items to the freezer once it has reached the proper temperature.

Clean the dirt and dust from the exterior coils and wipe down the entire freezer.

d. Procedure If Keeping the Unit in Place

This method should only be used if freezer can absolutely not be moved outside for defrosting. Any damaged to the facility including the space on the floor below from improper freezer defrosting, repairs will be at the charge of the department.

1. Prepare – – Lab personnel should consult the freezer's manual for unit-specific defrosting instructions and plan for the freezer to be out of use for at least two days. Identify temporary storage for items in the unit.

Remove all items from the freezer prior to defrosting and discard any items that are no longer needed. Contact UNT HEALTH Environmental Health & Safety (safety@unthsc.edu) to ensure proper disposal.

Gather needed supplies to ensure water can be collected and disposed of as the ice melts, such as absorbing pad and buckets. Defrost supplies are available by contacting UNT HEALTH Sustainability at least 5 days before the defrost will occur (sustainability@unthsc.edu).

Ensure that all lab personnel are aware of the defrost and the unit will be attended to as the unit defrosts.

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Freezer Defrost – Turn off the unit and unplug it. As the ice melts, use catch bins, pads, and/or a mop and bucket to catch the water. Use a scraper to remove excess buildup, being careful not to damage the rubber seals and gaskets. Ensure that absorbing material is replaced as soon as it becomes saturated.

Once the freezer has been fully defrosted, all internal surfaces must be dried and surface decontaminated with an approved solution such as a quaternary solution or 10% bleach followed by 70% alcohol.

4. After the Defrost – Plug in the unit and turn it on. Lab personnel may return items to the freezer once it has reached the proper temperature.

e. Motor maintenance

It is critical for the longevity of the freezer and energy conservation that the freezer filters located at the air intake grid, usually on the bottom front of the freezers are maintained free of dust and replaced when damaged.

Filters can be cleaned by carefully brushing them or rinsing and thoroughly drying them. Filter cleaning should occur as part of a complete freezer defrosting and labs should develop a schedule to clean and monitor the filters in-between complete defrosting of the freezers.

VI. References

- Relocation/Removal Form
- Lab equipment relocation removal SOP - EHS-700-01

VII. Version revisions

Initial approval 29 May 2025

Revised 28 July 2025 up dated brand and made accessible