

NDMRB – University of Oxford NDMRB-SOP-018 Issue 004 – September 2014 (TBJ/AKK)

**NDM Research Building
Use of ULT freezer**

1.0 Introduction

The purpose of this SOP is to describe the management and safe operation of the Ultra Low Temperature (ULT) freezer that is for the use of research samples. The ULT freezers are located within the NDMRB on the ground floor, in the primary laboratory area of the first and second floor and in each suite of the Containment Level 3 suite.

2.0 ULT management

- Samples should be stored in a racked system or as organised as possible to aid in event of defrost or emergency removal.
- All ULT freezers will have their filters cleaned no less than every 3-6 months by a designated member of staff.
- All freezers are on an 18-month tracked defrost cycle encouraged and supported by alternative storage space being available for short periods. Should an alternative storage space be unavailable, freezers should be defrosted manually by scraping of the interior (particularly in areas which can compromise seals).
- There should be no boxes or materials blocking airflow at the back of the fridges/freezers.
- All ULT and -150C freezers should be serviced yearly as organised by a designated member of laboratory staff.
- Any fault must be reported as soon as possible to the relevant Lab Manager and/or to the Building Manager.

3.0 Guidelines for safe ULT freezer use

- Users must wear appropriate protective clothing prior to opening the door (labcoat, insulated gloves, safety spectacles)
- Avoid touching cold surfaces with the skin, this can cause acute freeze-burn.
- Samples should be contained within approved containers or vials. (vials not cryo-resistant will crack or break and their content will be lost)
- They should be clearly labelled identifying the content, owner and date of sample. (freeze resistant labels, freezer suitable storage containers).
- The temperature of the freezers is tracked using wireless probe. Contact the relevant lab manager if access to the alarm system is needed. In case of drop of temperature

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below the set alarm point, the alarm will automatically contact a group of people responsible for the freezers.

- Keep the door open for minimal amount of time (this will activate the wireless alarm and the freezer alarm).
- Please inform lab manager when the frost is preventing the door gasket from sealing the freezer correctly. This will lead to an increase of frost and risk of freezer failure.
- Note that when thawing out of the freezer is needed, the alarm system must be adequately modified to avoid disruption of the persons on the emergency contact list.
- On the outer door are displayed the name of people to be contacted in case of emergency, the top of the list being the person who leave the closest. If the first person on the list isn't available, then try the next one and so on.
- The freezer alarm may be muted by pressing the 'mute' button on the front door of the freezer.
- Always mop up the floor from ice/snow which has fallen from the ULT freezer as this could cause other users to slip and injure themselves.

4.0 Thawing out of freezer

- Make sure that everyone in the group is aware that the freezer content will be relocated.
- Disable the Comark alarm monitoring system for the duration of the thawing cycle.
- Using appropriate Protective wear, move the content of the freezer to a spare freezer – use a trolley to reduce manual handling.
- Turn off the freezer or unplug it – in doubt contact Lab Manager or member of Facilities team for help.
- Have large polystyrene boxes, scrapers, absorbent material ready to avoid a flood once the ice starts thawing (there is a mop and bucket in the Freezer room).
- If removing shelves, take care whilst lifting as they are heavy and cumbersome.
- Attend to the freezer continually to avoid flooding.
- Allow the freezer to dry out, dispose/store of any tubes which may have been trapped in the ice and found during the thawing process.
- Once dry, plug the freezer in or turn it back on. Monitor for temperature and allow to settle overnight.
- The following day, replace the content of the freezer using appropriate PPE and trolley.

- Re-enable the Comark alarm monitoring.

5.0 Comark alert actions

There is a sequence of events that happen when a freezer goes into alarm. The first thing the comark system will do is ring a list of people that are allocated to a gateway. People are allocated spaces 1-5 and this is the order that the system will call. The first spot is occupied by the lab manager who will log on to Comark, see which freezer is in alarm and call the appropriate person.

If the person in position 1 does not pick up the call Comark will ring person in position 2, then 3 and so on.

In the event of power failure or you cannot contact anyone else please call Darren Blase 07791212866, Ross McRae 07967449882, Andrea Keepence-Keyte 07960086093

If you pick up the call a recorded message will say 'this is a freezer alarm, press the hash key to acknowledge the alarm', by pressing the hash key you acknowledge the alarm on your phone but you must log on to the system to stop the alarm. However, if you log on to Comark and see that a freezer is in trouble you must ring the responsible person for that freezer. If you cannot contact the people allocated to the freezer you must go to the NDMRB, source the freezer and move the contents to the building spare (this is located on the TDI floor). You must email the group to let them know that this has happened as the building spare are not temperature monitored. If you have succeeded in contacting someone from that group you must tell them which freezer is in alarm and then you can acknowledge the alarm on the system. In the comments section please state who you contacted, the date and time. Please ask the person contacted to stick a sign on the faulty freezer indicating that it is being dealt with as the freezers factory alarm will continue to sound if the freezer is not turned off.

If you are on the list that comark will call or you are on a list of responsible people for a freezer then you must let the lab manager know if you will be on leave so that arrangements can be made to cover you during this time.

1. You can drive to site if you are called out – please put a sign on your dashboard that reads 'Emergency Call out NDMRB', remember to sign in and out of the building if you are called out of hours. Spare freezer in ground floor freezer room: Hare, far left row in the ULT freezer room, Ground Floor.
2. TDI spare freezer: freezer situated at the very end of the lab corridor on the 2d floor.

Check first if the spare freezer has content already inside it. If not, then proceed with transferring the samples. Make sure appropriate labels and signage are placed on the spare freezer to know what is in the freezer.

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If the spare freezer is not available, make use of the other freezers in the ground floor freezer room.

6.0 Emergency contact details out of hours:

The emergency contacts for each freezer can be found either on the freezer itself or in the freezer room. The list of contacts is held, updated and can be obtained from the lab manager.

7.0 Review

The information in this document will be reviewed and amended if necessary every 3 years by the laboratory manager or alternative relevant personnel.

8.0 Risk Assessment

NDMRB-RA-0018 Use of ULT freezers

9.0 Reference

WIMM SOP – Deep Freezers