

FACT SHEET

Biological Safety Cabinet Failure Response Procedure

This procedure is intended to describe the steps which should be taken to protect worker safety in the event of a biological safety cabinet failure.

Signs of Biological Safety Cabinet Failure

If any of the following signs of biological safety cabinet failure are observed work should be stopped as quickly and safely as possible.

1. Power failure – lights within the cabinet will go out and the blower motor will stop. Laminar flow within the cabinet has failed.
2. No airflow – if you can't feel the downward airflow in the cabinet the air curtain has failed.
3. Reversed airflow – if you feel air flowing towards you from inside the cabinet.
4. Alarm sounding or visible on cabinet – modern biological safety cabinets are commonly equipped with audible or visual alarm systems which warn the operator when the cabinet malfunctions.
5. Unusual noises – if unusual noises such as squeaking, squealing, loud humming, knocking, or buzzing occur they could indicate failure or imminent failure of the cabinet's mechanical and/or control systems.
6. Unusual smells – unusual smells such as ozone or smoke could indicate a fire within the cabinet.

Response Procedure

Personal Safety is more important than the integrity of the experiment

If any of the signs of cabinet failure described above are observed when starting or attempting to start the biological safety cabinet **do not start work**. If any of the signs of cabinet failure described above are observed while work is occurring in the cabinet, follow the steps below.

1. Stop working immediately. If safe to do so follow steps 2-14. If conditions are immediately dangerous to life and health evacuate the lab space.
2. Move slowly and smoothly to prevent aerosols from spreading.
3. Cap, cover or otherwise package any vessels that contain biological agents.
 - If you are working with animals ensure that the cage is closed and leave within the cabinet.
4. Back out of the biological safety cabinet and close the sash (if it closes).
5. Remove and discard your gloves as biohazardous waste.

6. Switch off the alarm and blower motor.
7. Advise other workers in the area of the cabinet failure.
8. Complete, print and post the attached warning sign on the sash of the cabinet (have a copy in the room ready for emergencies).
9. Wash hands and vacate the room, waiting at least 30 minutes for aerosols to settle before re-entering the room.
 - If the failure is due to a BSC malfunction: keep the sash closed until power returns. The contents must be decontaminated and removed and the surface decontaminated before it can be serviced. Ensure that the BSC is decontaminated before any internal repairs are carried out. Contact EHS Biosafety at (801) 581-6590 or Biosafety@EHS.Utah.edu for advice on how to proceed.
 - If the malfunction is due to a power outage, once the power has returned and at least 30 minutes have passed, the cabinet may be used but all contents must be appropriately surface decontaminated prior to the resumption of work.
 - If an aerosol transmissible pathogen was being used and you are concerned that there could be contamination of the room contact EHS Biosafety at (801) 581-6590 or Biosafety@EHS.Utah.edu.
10. Don the appropriate personal protective equipment (gloves, lab coat or back fastening gown, safety glasses).
11. Open the sash of the cabinet slowly and carefully to prevent aerosols from spreading
12. If the failure was due to a power loss then restart the cabinet and let it run for at least 15 minutes.
13. Package and decontaminate in order – tools/equipment, sample containers, waste and the cabinet working surface and interior.
14. To ensure that appropriate medical follow-up action is taken, notify your supervisor if anyone may have been exposed to infectious material due to the cabinet failure and submit a Hazard/Incident Report to EHS (<https://oehs.utah.edu/incidentnear-miss-report>).

Adapted from University of Manitoba guidance



125 South Fort Douglas Blvd, Salt Lake City, UT 84113
801.581.6590 | ehs.utah.edu

WARNING!



Biohazard

**This biological safety cabinet
does not work.**

Do not use it!

For more information contact

Responsible Worker Name and Phone Number:

Responsible Supervisor Name and Phone Number: