Cardboard in Biohazard Labs

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# Purpose

<<<< This SOP is left in DOCX format so that you may edit it for your own laboratory>>>

The purpose of this SOP is to lay out the responsibilities, equipment and procedures required for cardboard within biohazard containment zones.

# Scope

This SOP applies to all persons in all biohazard laboratories and their Supervisors.

This SOP does not apply to biohazard laboratories where plastic totes are in use, which can easily be decontaminated or where cardboard is not present on floors or in cold rooms.

# From the Canadian Biosafety Standard and Guide

* CL1 (3.1.6) Work stations and work areas, including floors, are kept free of clutter and obstructions in order to facilitate cleaning and disinfection. Excess or extraneous materials are stored outside of the work area and use of materials that are difficult to decontaminate is avoided.
* CL2 (4.6.35) Containment zone (including floors) to be kept clean, free from obstructions, and free from materials that are in excess, not required, or that cannot be easily decontaminated.

These two points indicate that cardboard is not desirable in locations where contamination is likely. These include on floors (contamination by flood), in wet-work areas (contamination by splash and spill) and in cold rooms (contamination by mold growth).

These two points are also captured in the biosafety lab audit checklist point #69 – *Laboratory areas to be uncluttered*. They are also captured in audit checklist points #11, #12 and #13 which speak to items being ‘non-absorbent’ and ‘easily decontaminated’.

# Responsibilities

## Supervisors

Supervisors are responsible for:

* **Reviewing this SOP on a regular basis. Review is to consider and mitigate the risks of spill, loss of containment and exposure or other harm. Refer to Performing Risk Assessments SOP.**
* Ensuring that all Workers under their supervision are trained on and are proficient in performing the steps of this SOP.
* Ensuring all lab occupants have taken Biosafety Training or Biohazard Awareness Training according to their work functions.

## Workers

Workers are responsible for:

* Following this SOP as approved by their Supervisor
* Take proper care of lab materials according to specified use guidelines as set out by the manufacturer.

# Cardboard Biohazard Waste Containers

* The hazard posed by cardboard biowaste containers is their ability to become contaminated since they are typically kept close to wet-work areas.
* Cardboard biohazard waste containers (bioboxes) may be provided within your building.
* Follow your building processes for management of bioboxes with respect to closet location and pickup times. Contact your departmental chair or area director for queries relating to processes.
* Your building may provide your bioboxes assembled and pre-lined with one bag OR you may have to assemble and pre-line the box yourself. At the end of the disposal process, there should be two bags within the biobox. Both bags should be the same colour.
* Ensure Risk Group 2 waste is pre-bagged in the BSC prior to deposit into biohazard waste container.
* Liquids are not to be disposed of in the bioboxes, even if in closed containers.
* INDICATE WHICH OPTION IS BEING USED IN YOUR LABORATORY
  + Phone number to call when there are no bioboxes: ENTER HERE
  + Weight limit of bioboxes: ENTER HERE
  + Room number of waste closet: ENTER HERE
  + Key or keycode of waste closet: ENTER HERE
  + Size of bag that fits garbage can and/or biobox: ENTER HERE
  + Vendor and catalog number of bags in use in the lab: ENTER HERE
    - Note the bags do not need to be autoclave bags

## First preferred option:

* This method satisfies the criteria of being ‘non-absorbent’ and ‘easily decontaminated’.
* Instead of keeping a cardboard biobox in the lab, use a garbage can on wheels with a lid, lined with one biohazard bag and labelled with a biohazard sticker on the lid and a biohazard sticker on the side.
* Add some paper towels to the bottom of the new bag to catch drips.
* When ¾ full or when the weight limit is reached, close bag.
* Retrieve an empty biobox from the waste closet and bring back to the lab.
* Transfer the bag into a pre-lined biobox.
* Close biobox outer bag, tape biobox closed per building instructions.
* Label biobox per building instructions.
* Transfer the biobox back to the waste closet.

## Second preferred option

* This method satisfies the criteria of being ‘non-absorbent’ and ‘easily decontaminated’, however it introduces the risk of having a spill in the hallway just outside the waste closet, or inside the waste closet.
* Same as above except bring the garbage can to the waste closet, transfer filled and closed bag over to a biobox, close and label the biobox.
* Bring garbage can back to lab.

## Least preferred option

* This method does not satisfy the criteria for items in the wet-work areas being ‘non-absorbent’ and ‘easily decontaminated’.
* It is recommended to keep the biobox on something with wheels to allow for ease of movement of the biobox.
* Place the biobox in a location where risk of contamination is low. If contaminated, the Supervisors and Workers acknowledge and understand the need to treat the cardboard box (and potentially its contents) as contaminated and dispose accordingly.
* Bring empty biobox back to lab.
* Ensure biobox has a second liner installed.
* Fill to ¾ full or to the weight limit.
* Close inner bag, close outer bag, tape box closed and label per building instructions.
* Transport secure biobox back to waste closet.

## Transportation of Bioboxes

* All bioboxes must NOT exceed the weight limits printed on the biobox.
* All transportation of waste must be ergonomically safe and prevent the release of contents.
* Use of carts or dollies is recommended.

# Cardboard on Floors in Biohazard Wet-Work Areas

* Cardboard kept on floors
  + is at risk of contamination by splash/spill and by flooding
  + creates a trip hazard if excessive
  + prevents housekeeping staff from cleaning floors effectively
* Containment standards state that there should be adequate space for storage of materials.
* Storage units provided (shelves and cupboards) must be used fully.
* Assess the need to purge supplies.
* Supervisors to be aware of storage capacity in all spaces used by their Workers.
* Workers to report to Supervisors when storage becomes an issue.
* Light items to be stored on stop shelves.
* Step stool to be available for reaching top shelves.
* INDICATE WHICH OPTION IS BEING USED IN YOUR LABORATORY

## First preferred option

* Cardboard boxes or their contents to be stored on shelves and in cupboards in a manner which completely prevents their contamination.
* Floors to be completely clear.

## Second preferred option

* Cardboard boxes or their contents to be stored in plastic tote bins on floors.

## Least preferred option

* Cardboard boxes are stored on the floor.
* Ensure boxes are kept in a location where the risk of splash or spill is low.
* If contaminated, the Supervisors and Workers acknowledge and understand the need to treat the cardboard box (and potentially its contents) as contaminated and dispose accordingly.

# Cardboard in Cold Rooms

* Cardboard kept in coldrooms is at risk of becoming contaminated by mold. This risk is increased if the coldroom is not cleaned on frequent basis.
* The growth of mold is dependent on humidity and presence of paper materials.
* It is recommended that the coldroom doors be closed as much as possible. With a partner, ensure proper functioning of the emergency exit button from the inside of the closed coldroom.
* Sources of humidity are to be eliminated.
* Loose or damaged gaskets are to be repaired immediately.
* INDICATE WHICH OPTION IS BEING USED IN YOUR LABORATORY
* Indicate the frequency of mold checks and coldroom cleaning for the option chosen.

## First preferred option

* Cardboard is completely removed, and items are stored in plastic tote bins.

## Second preferred option

* Cardboard is placed in ziplock bags (kits) and in plastic tote bins.
* Status of mold growth is checked on a regular basis. The regularity is dependent upon the humidity within the coldroom. The higher the humidity, the more frequent checks.
  + Coldrooms used: ENTER HERE
  + Humidity of coldrooms: ENTER HERE

## Least preferred option

* Cardboard is stored in coldrooms
* Status of mold growth is checked on a regular basis. The regularity is dependent upon the humidity within the coldroom. The higher the humidity, the more frequent checks.
* Coldroom is cleaned on a regular basis. The regularity is dependent upon the humidity within the coldroom. The higher the humidity, the more frequent the cleanings.
  + Coldrooms used: ENTER HERE
  + Humidity of coldrooms: ENTER HERE
  + Frequency of cleanings: ENTER HERE

If environmental mold is in the coldroom, contact FHS Safety Office or EOHSS for consultation on how to proceed. A risk assessment is required to determine if a mold abatement contractor is required to perform the cleanup.