

Working with Biological Safety Cabinets SOP

(UV, Preparation, Use and Shut Down)

PPE

Wear proper personal protective equipment (lab coat, gloves, and safety glasses).

UV LIGHT USE

As per the Canadian Biosafety Handbook (second edition), use of UV germicidal lamps is strongly discouraged as it is not very effective at disinfecting the inside of the cabinets. UV light should be used as a secondary method along with surface disinfection. UV Light MUST be off at all times, except when used just prior to operation of the BSC.

1. Decontaminate and remove all items from the Biological Safety Cabinet.
2. Ensure no one will be working or remain within the 1 meter parameters around BSC to avoid possible exposure to UV, through reflection of UV from interior surface.
3. Wear gloves to prevent direct skin contact with the germicidal lamp, as oils from the hands/skin can greatly interfere UV penetration.
4. Wipe the UV lamp using 70% Ethanol solution to remove debris, dust particles and oils from the lamp surface and interior surface.
5. Verify that the UV lamp does not have black ends. If black ends are present, then the UV bulb should be changed, as the required intensity will not be emitted to achieve decontamination.
6. Ensure the sash of the Biological Safety Cabinet is in the downward position, i.e. blocking off direct horizontal UV exposure.
7. Turn off blow motor as this affects the effectiveness of the UV.
8. UV shall only be turned on for the required time.

PREPARING WORKING SURFACE

1. Turn the blower on and run it for 5 minutes to allow air filtration
2. Confirm inward airflow by holding a piece of tissue at the middle of the edge of the viewing panel and ensure it is drawn in
3. Disinfect the interior surfaces with a suitable, noncorrosive disinfectant (usually 70% Ethanol)
4. Assemble all materials required for the procedure and load them into the cabinet, avoiding the obstruction of air grilles (clutter inside BSC may impede proper airflow and the level of protection provided)
5. Segregate “clean” items from “waste” items.

6. Wait 5 min to purge airborne contaminants from the work area.

WORKING IN THE BSC

(Experimental specific protocols will vary according to your lab SOP)

1. Perform operations as far to the rear of the work area as possible.
2. Avoid movement of materials or excessive movement of hands and arms through the front access opening during use
3. Enter or exit the cabinet from straight on, and allow the cabinet to stabilize before resuming work.
4. Keep discarded, contaminated material to the rear of the cabinet; do not discard materials in containers outside of the cabinet.
5. Do not work with open flames inside the cabinet.
6. If there is a spill during use, surface decontaminate all objects in the cabinet; disinfect the working area of the cabinet while it is still in operation (do not turn the cabinet off).

DECONTAMINATION

1. Allow the cabinet to run for 5 minutes with no activity.
2. Cover open containers before removing them from the cabinet.
3. Surface-disinfect objects in contact with contaminated material before removal from the cabinet, and ensure that all materials are placed into biohazard bags within the cabinet.
4. Remove contaminated gloves and dispose of them as appropriate; wash hands.
5. Using a suitable non-corrosive disinfectant, disinfect interior surfaces of cabinet
6. Periodically remove the catch pan and wipe the surface with disinfectant.

SHUT DOWN

1. Turn off the fluorescent light and cabinet blower when appropriate (some cabinets must be left on at all times; if you are unsure, check with your cabinet certifier, safety officer or building maintenance personnel)
2. Pull the sash to the base of the BSC (if applicable), UV light should remain off.