


Practice Reminders for Safe & Effective Use of a Biological Safety Cabinet (BSC)

The following graphics explain the importance of operational practices for those who use a BSC for working with biological materials. When such practices are consistently followed, the BSC can protect the worker, research materials and the lab environment from potentially harmful contamination.

DOs when working with your Biological Safety Cabinet



Minimize disturbances to airflow barrier.
Avoid rapid movements. Move in a controlled and steady manner.

Observe correct sash opening height.
Always set the sash to correct opening height when working in your cabinet.

Observe surface decontamination.
Germicidal UV lamps are not substitute for good cleaning practice. Decontaminate work zone with cleaning agents after use.

Observe proper working attire.
Wearing complete Personal Protective Equipment should be practiced.

Be careful when using vaporizing toxic chemicals.
This requires the cabinet to be exhaust ducted.

Work ergonomically to reduce fatigue.
Use BSCs with raised arm rest. Utilize ergonomic lab chairs and foot rests.

Observe proper aseptic technique.
Always work "clean to dirty", segregate sterile zone on 1 side, work area on middle, and waste bin on opposite side.


Proper waste and pipette disposal.
Dispose pipette tips and waste into a biohazard bag placed inside the cabinet, not outside, to prevent spreading contaminants.

Work within the 'Safe Area'
Work as deep into the work zone as possible to avoid blocking of the front or back grille.

Annual BSC Certification
This ensures cabinet airflow and containment factors are within safe limits.

Use a disinfectable notepad inside the BSC.
Consider using smart tablets or iPads instead of paper notes.

DON'Ts when working with your Biological Safety Cabinet



Do NOT confuse laminar flow with a biosafety cabinet.
Check the label of the cabinet or look for the biohazard symbol.

Do NOT operate if any of the alarms are activated.
Visual and audible alarms are activated when sash is not at its correct working height and if airflow is out of normal range.

Do NOT block the front intake grille.
When the grille is blocked, a localized containment failure can happen that may affect the operator or contaminate the product.

Do NOT place unnecessary items inside the cabinet.
Always disinfect items put into the cabinet before taking it out.

Do NOT put waste basket outside the cabinet.
Outside waste basket encourages the user to bring contaminated samples from inside to outside the cabinet.

Do NOT use bleach when cleaning the BSC.
Bleach can cause rust. If it is required, wipe the residue with DI/IPA.

Do NOT use the cabinet as storage area.
Overloading the cabinet with unnecessary items can affect cabinet airflow and containment.

Do NOT use for flammable or explosive materials.
The combustible vapor can enter the blower motor coil and a spark can cause explosion.

Do NOT work in the cabinet when the UV light is on.
Before turning on the UV light, always make sure that the sash is fully closed to protect the user from UV radiation.

Do NOT use open flame inside the cabinet.
The hot air can disrupt the airflow causing contamination, filter damage, and even explosion.

Do NOT run tubes underneath the sash window.
Use cable ports when available.

Do NOT place large or multiple magnets on the BSC body.
Strong magnets must not be attached to the BSC because it can disrupt the sash window sensor.

Graphic source: <https://www.escolifesciences.com/news/safe-use-of-biological-safety-cabinet>

Are you acquiring, moving or servicing a BSC?

Specific considerations apply to these activities to ensure that a BSC is installed, moved or maintained in a way that doesn't create additional hazards during these activities. Review the [guidance document at this link](#) or contact VU Biosafety at VUBiosafety@vanderbilt.edu for assistance.