

RECOMMENDATIONS FOR THE CORRECT USE OF BIOLOGICAL SAFETY CABINETS (BSC)

There are three classes of Biological Safety Cabinets (BSC) with different operator, environment and product protection characteristics:

- Class 1** – Operator and environment protection – can be use with biohazard agents level 1, 2 and 3
- Class 2** – Operator, environment and product protection (includes sub-divisions concerning air recirculation and exhausting system) – can be use with biohazard agents level 1, 2 and 3
- Class 3** – Operator, environment and product protection (full containment) – must be use with biohazard agents level 4

At ITQB NOVA the majority of BSC are class 2 but not all have the same technical characteristics. To know the features of a BSC in use check the equipment technical manual or data plate fixed in the side wall.

RECOMMENDATIONS FOR THE CORRECT USE OF BSC:

1. Training must be provided to all users concerning the correct use and limitations of biological safety cabinet. Written “How to use” and safety protocols and/or operation manuals must be available to staff. In particular, it should be made clear that the cabinet will not protect the operator from spillage, breakage or when poor lab techniques are applied.
2. The cabinet must not be used unless it is working properly (maintenance checkup and filters change should be performed periodically).
3. The glass protective sash must not be opened when the cabinet is in use.
4. UV light must be turned OFF before user start working at the BSC.
5. Apparatus and materials inside the cabinet must be kept to a minimum and placed before start working. Air circulation must not be blocked. Materials should be surface-decontaminated before being placed inside the working area of the cabinet.
6. **Bunsen burners are forbidden inside the cabinet.** The heat produced by the flame will distort the air flow and may damage the filters. An electric microincinerator is permissible but the use of sterile disposable transfer loops is strongly advisable.
7. For higher protection, all work should be carried out in the middle-back part of the working surface.
8. To avoid disturbing the air flow the traffic behind the operator should be minimized and repeated removal and reintroduction of the operator’s arms should be prevented.
9. The table front air grid must not be blocked with notes, pipettes or other materials, as this will disrupt the air flow causing potential contamination of the operator, environment and product.
10. The cabinet fan should be run for at least 5 min before beginning work and after completion of work in the cabinet.
11. The surface of the biological safety cabinet should be wiped using an appropriate disinfectant after work is completed and at the end of the day.