

GUIDELINES FOR THE BSC/LFH CERTIFICATION

“Biological safety cabinets, when present, to be certified upon initial installation, annually, and after any repairs, modification, or relocation.”

As stipulated by the Canadian Biosafety Standard, 2nd Edition.

High efficiency particulate air (HEPA) filters are designed to filter 99.97% of air borne particles of 0.3 µm in diameter and are even more effective at trapping particles larger and smaller than 0.3 µm due to impact, diffusion and interception mechanism. HEPA filters are installed in specialized biosafety equipment, such as biological safety cabinets (BSC), which are designed to provide personnel, environmental and product protection when appropriate practices and procedures are followed. HEPA filters are also employed in the laminar flow hoods (LFH) in which the supply air blowing across the work surface and it is filtrated to maintain a clean work area ¹.

To ensure the HEPA filter's effectiveness, the operational integrity of a BSC must be validated before it is placed into service and after it has been repaired or relocated. Each BSC must be tested and certified at least once a year to ensure continued and proper operation. The LFH is recommended to be tested and certified every two years to ensure the sterility of your work.

CERTIFICATION FREQUENCY

1. For the BSC:

- Annually
- After installation or a relocation
- After any repairs, modification or replacement of the HEPA filters
- Immediately if integrity of unit is felt to be potentially compromised

2. For the LFH:

- Every two years (recommended)

CERTIFICATION PROCESS

1. Scheduling and Preparation:

- ORM informs the PI and the Department/Faculty for the recertification activity on the frequency requested ².
- A representative from a third party service company will communicate directly with the lab to make an appointment ^{2,3}.
- Lab members must ensure that the interior surfaces of the BSC/LFH are disinfected[§] and all material is removed from the BSC/LFH before the service technician comes to the lab.

- To certify a newly installed/relocated BSC/LFH, one must inform the ORM with the BSC/LFH's make, model, serial# as well as the laboratory location by sending an email to bio.safety@uottawa.ca. The ORM will add the apparatus to the University's inventory and help arrange the service.

Note: If the BSC/LFH is not certified due to relocation, change of PI, currently not in use, etc., or an old BSC/LFH is discarded, the Faculty or PI must inform the ORM (bio.safety@uottawa.ca) to ensure the inventory is up-to-date.

2. Decontamination and Certification:

- A full decontamination[§] of the BSC before certification (typically performed by the service technician) is not mandatory, unless direct access to the filter is required and an exposure risk exists.
- The certification process usually takes 1-2 hours. The service technician must test and certify the BSC by following the most recent NSF/ANSI Standard. The tests include airflow tests on the supply and exhaust HEPA filters; leak tests on the supply and exhaust HEPA filters; and smoke pattern tests.
- If the BSC/LFH requires the replacement of parts or HEPA filter, the service technician will contact the laboratory delegate for further details.

3. Payment and Cost:

- The billing of the service is sent directly to the Department who will contact the PI/lab delegate for the Budget Code/FOAP after certification.
- The PI must ensure he/she has identified the budget code and that sufficient funds are available.

4. Certification Report:

- Once the BSC/LFH is certified, a certification sticker with the certification date will be posted on the top of the BSC/LFH, i.e., the old sticker will be replaced.
- The third party service company will send a report in duplicate, one for the lab's records and the other for the ORM's records to track all actions performed.

Note:

¹ Please refer to the [BSC vs. LFH](#) cheat sheet to learn which hood to work with.

² At the Faculty of Medicine, the Procurement Officer coordinates the scheduling of the service.

³ The PI or lab delegate must notify the ORM when a BSC/LFH is going to be relocated or taken out-of-service. Email: bio.safety@uottawa.ca; telephone: (613) 562-5800 ext. 3153.

[§] The disinfection of the apparatus is not the same as the decontamination. The disinfection consists of cleaning up the work surfaces with disinfecting agents such as 70% solutions of ethanol for an appropriate period of time. Decontamination as seen to in this document refers to professional decontamination services, which are typically performed by the third party service company. Please contact bio.safety@uottawa.ca for more information.