STANDARD OPERATING PROCEDURE

Biosafety Cabinet Use SOP

Document no.	SOP-LAB-008
Revision	1.0
Owner	Biosafety Officer
Effective date	September 15, 2026
Review cycle	Every 12 months

1. Purpose

To protect the operator, the sample and the environment when working with biological material by using the biosafety cabinet correctly and keeping it certified and decontaminated.

2. Scope

Applies to all work performed inside a certified biosafety cabinet. General bench cleaning and chemical spill response are covered by separate SOPs.

Definitions

Certification	An annual or post-move inspection confirming the cabinet's airflow and HEPA filter meet performance standards.
Front intake grille	The opening along the front edge of the work surface that draws in air to protect the operator; it must never be blocked.
Purge time	The period the cabinet blower runs after work is finished to clear airborne particles before shutdown.

3. Responsibilities

Lab Technician	Uses the cabinet correctly for daily work and reports airflow alarms or certification issues.
Biosafety Officer	Tracks certification schedules, reviews incidents and approves the cabinet's return to service after an alarm.
Laboratory Manager	Approves the annual certification budget and resolves recurring equipment issues.
Maintenance Technician	Coordinates the certified vendor for annual certification and filter service.

RACI matrix

Activity	Lab Technician	Biosafety Officer	Laboratory Manager	Maintenance Technician
Check certification sticker before use	R/A	I	-	-
Perform work inside the cabinet	R/A	-	-	-
Respond to an airflow alarm	R	A	I	C
Schedule annual certification	I	A	C	R

R = Responsible, A = Accountable, C = Consulted, I = Informed

4. Materials and PPE

Materials, tools and systems

- Approved surface disinfectant compatible with cabinet materials
- Cabinet certification sticker and log
- Biohazard waste bags and sharps container
- Lint-free wipes
- UV lamp, if fitted, with usage log

Personal protective equipment

- Disposable nitrile gloves
- Lab coat with cuffed sleeves
- Safety glasses or face shield if splash risk is present

5. Procedure

Step	Task	Owner	Done
5.1	**Check the certification sticker** Before use, check the cabinet's certification sticker to confirm it is within its annual certification date. **Warning:** Do not use a cabinet with an expired certification sticker; report it and use an alternative cabinet.	Lab Technician	☐
5.2	**Start airflow and let it stabilize** Turn on the cabinet blower and lower the sash to the marked operating height, then wait the time stated in the cabinet's manual for airflow to stabilize.	Lab Technician	☐
5.3	**Disinfect the interior surfaces** Wipe the work surface, side walls and interior of the sash with the approved disinfectant before placing any materials inside.	Lab Technician	☐
5.4	**Gather and arrange materials** Collect all items needed for the task before starting, and arrange them from clean to dirty across the work surface without blocking the front or rear grilles. **Checkpoint:** No item, arm or paperwork blocks the front intake grille or rear exhaust grille.	Lab Technician	☐
5.5	**Don PPE and load slowly** Put on gloves over cuffed sleeves, and move arms in and out of the cabinet slowly and perpendicular to the sash opening to avoid disrupting airflow.	Lab Technician	☐
5.6	**Work toward the center of the cabinet** Perform manipulations at least 4 inches inside the sash opening and toward the center of the work surface, away from the edges.	Lab Technician	☐
5.7	**Manage waste inside the cabinet** Place used tips, tubes and other waste directly into a biohazard bag or sharps container positioned inside the cabinet, not outside it.	Lab Technician	☐
5.8	**Decontaminate items before removal** Surface-decontaminate any container or item with disinfectant before passing it out of the cabinet.	Lab Technician	☐

Step	Task	Owner	Done
5.9	**Clean up at the end of the task** Remove all materials and waste, then wipe down the work surface, walls and any spills with the approved disinfectant.	Lab Technician	☐
5.10	**Run the purge time before shutdown** Leave the blower running for the manufacturer's stated purge time after the last item is removed before raising the sash or switching off.	Lab Technician	☐
5.11	**Report airflow alarms** If the cabinet's airflow alarm sounds during use, stop work, close the sash if safe, and report it to the biosafety officer before further use.	Lab Technician	☐
5.12	**Schedule certification and filter service** Track the annual certification due date and coordinate with the certified vendor to inspect airflow and replace HEPA filters as needed.	Maintenance Technician	☐

6. Quality checks

- The certification sticker is current before any session begins.
- Front and rear grilles remain unblocked throughout the work session.
- The interior is disinfected before and after every use.
- Airflow alarms are reported and resolved before the cabinet returns to use.

7. Records

- Cabinet certification log
- Cabinet usage log
- Airflow alarm incident reports
- UV lamp usage log, if applicable

8. KPIs

- Percentage of cabinets certified on schedule
- Number of airflow alarms per quarter
- Average time to resolve an airflow alarm
- Number of blocked-grille observations during audits

9. Common mistakes

- Blocking the front intake grille with papers or elbows.
- Moving arms in and out of the cabinet quickly during work.
- Skipping the purge time before shutting the cabinet down.
- Continuing to use a cabinet with an expired certification sticker.

10. Revision history

Revision	Date	Description	Reviewed by
1.0	September 15, 2026	Initial release	Ilia Pirozhenko

Approval

Prepared by	Approved by	Date

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