

## Biosafety Cabinet Use



### Personal Protective Equipment & Personnel Monitoring

#### BSL1 or BSL2:



Lab Coat



Gloves



Safety Glasses

#### BSL2+:



Disposable Gown



Double Gloves



Safety Glasses



Surgical Mask

- This SOP applies to personnel working in or around biosafety cabinets.
- Class II biosafety cabinets (BSCs) provide aerosol containment of biohazardous materials to protect users and the environment and a microbe-free work environment to protect materials handled inside. Protection is provided by an air curtain, directed airflow and a high-efficiency particulate air (HEPA) filter. BSCs must be used correctly to ensure that the protective measures function.

### Engineering Controls, Equipment & Materials

**Biosafety Cabinet:** Enclosed, ventilated laboratory workspace that protects the worker from aerosols

**Disinfectant:** Appropriate for the agent(s) (see Decontamination SOP)

### Procedures

1. Check that the BSC was certified within the past year
2. Lift the sash to the recommended height
3. Turn on the BSC at least 3 minutes before beginning work to allow air exchange
4. Decontaminate BSC surfaces (four walls + work surface)
5. Bring in all materials needed for the procedure, keeping the front and rear exhaust grilles clear
6. Conduct the procedure, keeping in mind the following:
  - a. Practice aseptic technique
  - b. Use slow movements
  - c. Move in and out perpendicular to the BSC
7. Dispose of waste following waste handling SOPs for solids, liquids and sharps
8. Decontaminate equipment and supplies, and remove them from the BSC
9. Decontaminate BSC surfaces (four walls + work surface)
10. Close the sash and leave the BSC running if possible or shut off after a final 3-minute purge

### Cautions & Considerations

- BSCs are designed for one person to work in at a time
- BSCs must be certified by a licensed technician annually and when new, repaired or relocated
- BSCs must be decontaminated by a certified professional before relocation or disposal
- Use eye protection (safety glasses or goggles) when moving materials into or out of the BSC

## Cautions & Considerations Continued...

- Locate BSCs away from fixtures or equipment that could disrupt the airflow (e.g., doors, windows, supply air vents, incubators, high-traffic areas)
- Minimize movement around BSCs when in use
- Place a biohazard waste container inside the BSC for use during procedures
- Dispose of porous materials used during the procedure as biohazardous waste afterwards
- BSCs in California must be seismically stabilized
- UV light is not recommended by the CDC or NIH and must not be turned on when the room is occupied
- Open flames are not permitted in the BSC because they can damage the HEPA filter and lead to explosions
- If bleach is used as the primary disinfectant, follow decontamination by wiping with 70% ethanol or sterile water to remove corrosive bleach residue