

	<b>OCCUPATIONAL SAFETY AND ENVIRONMENTAL HEALTH GUIDELINE</b>
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**Subject: Biological Safety Cabinets**

**Guide No: BLS012**

**Date: 4/16/2009**

**Revision: 04**

**SUMMARY:** Employees using Biological Safety Cabinets (sometimes referred to as laminar flow or tissue culture hoods) shall observe all applicable standards and guidelines to minimize exposure to employees, prevent a release to the environment and protect research materials from contamination.

**SCOPE:** This Guideline applies to all research and clinical units and personnel involved in the use of a Biological Safety Cabinet (BSC).

**REFERENCE** CDC-NIH, Primary Containment for Biohazards: Selection, Installation and Use of Biological Safety Cabinets, 2007  
[http://www.cdc.gov/OD/OHS/biosfty/primary\\_containment\\_for\\_biohazards.pdf](http://www.cdc.gov/OD/OHS/biosfty/primary_containment_for_biohazards.pdf)

**REGULATIONS:** NSF International, Standard 49-2007

**RESPONSIBILITY:** OSEH

Provide requested training, education, selection and placement evaluations, technical assistance, and laboratory design review.

Conduct annual certification, maintenance, and select warranty repairs on Class II BSCs per our Engineering Controls Standard of Care document set <http://www.oseh.umich.edu/guideline.html>.

Review and revise the Biological Safety Cabinets Guideline.

Principle Investigators/Supervisors

Ensure maintenance, certification, and proper use of the BSC. Ensure laboratory personal are trained in proper BSC use.

Make staff aware of this Guideline and its contents. Maintain documentation as required.

Plan for the replacement of antiquated BSCs. Refer to OSEH's Standard of Care #3 Biological Safety Cabinet Service Criteria or call 763-6973 for guidance.

Implement procedures in accordance with this Guideline.

**PROCEDURES:** *Contact Person*

A designated contact person must be identified for each BSC. This facilitates communication necessary for the annual inspection, routine maintenance and other functions that OSEH performs. Notify OSEH at 763-6973 when there is a change in the contact person.

*Annual Certification*

OSEH will arrange an appointment and notify the contact person by campus mail of the date and time the BSC will be certified. If the assigned date is not convenient, call 763-6973 to arrange a new time.

In order for the BSC to be certified, lab personnel must remove all items including pipettes, clean supplies, clamps, flasks and hoses. All interior surfaces must also be wiped down with a disinfectant. The certifier may remove remaining items or refuse to certification based on the condition of the BSC at the time of certification.

*New Installations and Relocation*

Contact OSEH for a site evaluation and/or certification of new and relocated BSCs. Approval to relocate or remove all BSCs must be received from the UM Biological Safety Officer prior to the move. Notify OSEH two weeks in advance of any move by completing an OSEH BSC Clearance form (<http://www.oseh.umich.edu/deconform.pdf>) and faxing it to the Biological Safety Officer. The form will be evaluated by the Biological Safety Officer to determine if decontamination of the BSC is necessary for approval of the move.

*Gas Utility Connections*

OSEH, the CDC, and BSC manufacturers do not support the use of Bunsen burners in Class II BSCs. The burners create disruptive air currents that can reduce containment. Please review the OSEH advisory at: [http://www.oseh.umich.edu/rfh/OSEH"Advisory"-Gas"Burner"Alternatives.pdf](http://www.oseh.umich.edu/rfh/OSEH%20Advisory%20Gas%20Burner%20Alternatives.pdf). UM maintenance shops will not install gas lines to BSCs without specific approval from the UM Biological Safety Officer. Approval is granted on a case by case basis under special circumstances. Call OSEH at 763-6973 for more information.

*Placement*

The placement of a BSC within a laboratory is critical for proper performance. All BSCs must have a twelve-inch clearance from the ceiling and six inch clearance on both sides so they can be properly serviced and certified. Make sure BSCs are placed away from doors, windows, supply vents, or high traffic areas. The BSC must also be level for proper performance. To ensure proper placement, please contact OSEH at 763-6973 to arrange a site evaluation.

#### *Unscheduled Maintenance*

Contact OSEH at 763-6973 to arrange service in the event of BSC failure or unanticipated BSC maintenance needs.

#### *BSC Lighting*

Call maintenance at 647-2059 to make arrangements for fluorescent bulb replacement in your BSC.

UV bulb replacement is the responsibility of the lab and is not supported by OSEH. For further information go to <http://www.oseh.umich.edu/pdf/UVbulb.pdf>.

## **RELATED**

### **DOCUMENTS:**

BSC Helpful Hints pamphlet

<http://www.oseh.umich.edu/cabinet.html>

CDC/NIH Biosafety in Microbiological and Biomedical Laboratories  
5<sup>th</sup> Edition

[http://www.cdc.gov/OD/ohs/biosfty/bmb15/BMBL\\_5th\\_Edition.pdf](http://www.cdc.gov/OD/ohs/biosfty/bmb15/BMBL_5th_Edition.pdf)

NSF International Std. 49-2007

CDC/NIH Primary Containment for Biohazards: Selection,  
Installation and Use of Biological Safety Cabinets, 2007.

[http://www.cdc.gov/OD/OHS/biosfty/primary\\_containment\\_for\\_biohazards.pdf](http://www.cdc.gov/OD/OHS/biosfty/primary_containment_for_biohazards.pdf)

OSEH Engineering Controls Standard of Care document set

<http://www.oseh.umich.edu/guideline.html>.

## **TECHNICAL**

### **SUPPORT:**

Please contact OSEH at 763-6973 for any questions regarding proper selection, placement, certification, maintenance, warranty repairs, and use of biological safety cabinets.

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