

Queen's University Environmental Health & Safety



Date Issued: September 2017	Page No.: 1	Document No.: SOP-Biosafety-03
Revision: 2.0	Subject: Biological Safety Cabinets	

1. Introduction and Scope

Queen's University Environmental Health & Safety



Date Issued: September 2017	Page No.: 2	Document No.: SOP-Biosafety-03
Revision: 2.0	Subject: Biological Safety Cabinets	

Queen's University Environmental Health & Safety



Date Issued: September 2017	Page No.: 3	Document No.: SOP-Biosafety-03
Revision: 2.0	Subject: Biological Safety Cabinets	

Biological Safety Cabinet

prevent release of particulate contaminants.

NSF certified biosafety cabinetry should be used for level 2 containment.

There are three classes of BSC and selection of the proper class requires careful evaluation of the activities to be carried out:

Class I

Class II types A1, A2, B1, and B2

Queen's University Environmental Health & Safety

Date Issued:
September 2017

Page No.:
4

Document No.:

Queen's University Environmental Health & Safety



Date Issued: September 2017	Page No.: 6	Document No.: SOP-Biosafety-03
Revision: 2.0	Subject: Biological Safety Cabinets	

5. User Guidelines

5.1. Purpose and Use of the BSC

Queen's University Environmental Health & Safety

Date Issued: September 2017	Page No.: 7	Document No.: SOP-Biosafety-03
Revision: 2.0	Subject: Biological Safety Cabinets	

Queen's University Environmental Health & Safety

Date Issued:
September 2017

Page No.:
8

Document No.:
SOP-

Queen's University Environmental Health & Safety



Date Issued: September 2017	Page No.: 10	Document No.: SOP-Biosafety-03
Revision: 2.0	Subject: Biological Safety Cabinets	

Working in the BSC

cabinet waste located towards the rear of the
Do not discard materials in containers outside of the cabinet.

Queen's University Environmental Health & Safety



Date Issued: September 2017	Page No.: 11	Document No.: SOP-Biosafety-03
Revision: 2.0	Subject: Biological Safety Cabinets	

Clean up spills

Upon completion of work:

Queen's University Environmental Health & Safety



Date Issued: September 2017	Page No.: 12	Document No.: SOP-Biosafety-03
Revision: 2.0	Subject: Biological Safety Cabinets	

5.4. Warnings:

An open flame should not be used in a BSC.

Non-flame alternatives (e.g., microincinerator, or sterile disposable inoculation loops) should be used whenever possible.

Queen's University Environmental Health & Safety



Date Issued: September 2017	Page No.: 13	Document No.: SOP-Biosafety-03
Revision: 2.0	Subject: Biological Safety Cabinets	

- If personnel may have been exposed to infectious material due to cabinet failure,

Appendix I - Queen's University SOP-Biosafety-03 Biological Safety Cabinets

Table and Figures showing different types of BSC, copied from the Canadian Biosafety Handbook, 1st Edition, 2016, Chapter 11

Table 11-1: Summary Table of Key Characteristics of Class II Biological Safety Cabinets (BSCs)

	Type A1	Type A2	Type B1	Type B2
Minimum average inflow velocity through front opening				
Air patterns				
HEPA-filtered downflow air				
HEPA-filtered exhaust air				
Type of exhaust				

Figure 11-3: Illustration of a Class II Type A2 Biological Safety Cabinet (BSC)

Figure 11-5: Illustration of a Class II Type B2 Biological Safety Cabinet (BSC)