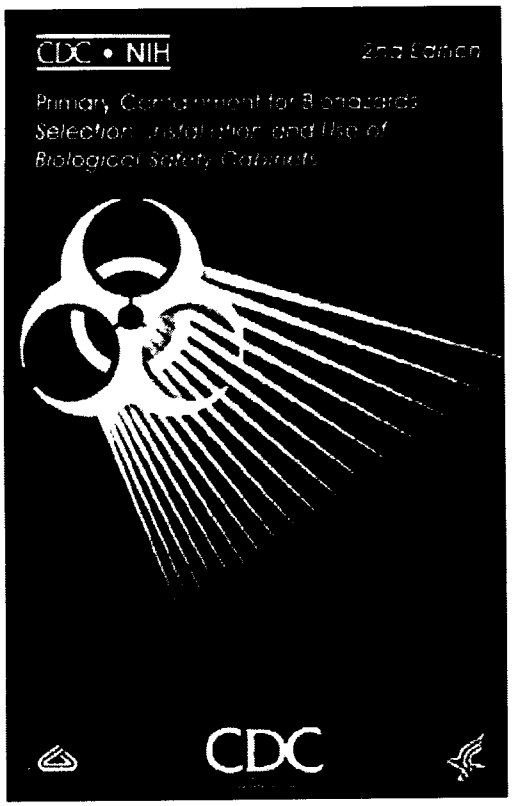


# 2nd Edition

# Primary Containment for Biohazards:

## Selection, Installation and Use of Biological Safety Cabinets

U.S. Department of Health and Human Services
Public Health Service
Centers for Disease Control and Prevention
*and*
National Institutes of Health

**September 2000**

2nd Edition now available in .pdf format.
**Note:** Accompanying tables and figures are not included in PDF but are included separately below.

**Editors** **Contributors**

SECTION 1 - Introduction
SECTION 2 - The High Efficiency Particulate Air (HEPA) Filter and the Development of Biological Containment Devices
SECTION 3 - Biological Safety Cabinet
SECTION 4 - Laboratory Hazards and Risk Assessment
SECTION 5 - BSC Use by the Investigator: Practices and Procedures
SECTION 6 - Facility and Engineering Requirements
SECTION 7 - Certification of Biological Safety Cabinets

ACKNOWLEDGMENTS
REFERENCES

## TABLES

Table 1. Selection of a Safety Cabinet Through Risk Assessment

Table 2. Comparison of Biosafety Cabinet Characteristics
Table 3. Performance Tests to be AppLIed to the Three Classes
Table 4. References for AppLIcable Containment Tests

## FIGURES

Figure 1. HEPA filters
Figure 2. The Class I BSC
Figure 3. The Class II, Type A BSC
Figure 4. Thimble Unit
Figure 5A. The Class II, Type B1 BSC (classic design)
Figure 5B. The Class II, Type B1 BSC (bench top design)
Figure 6. The Class II, Type B2 BSC
Figure 7. The tabletop model of a Class II, Type B3 BSC
Figure 8. The Class III BSC
Figure 9A. The horizontal laminar flow "clean bench"
Figure 9B. The vertical laminar flow "clean bench"
Figure 10. A modified containment cabinet or Class I BSC
Figure 11. A typical layout for working "clean to dirty"
Figure 12. One method to protect a house vacuum system
Figure 13. A bag-in-out filter enclosure

*Office of Health and Safety, Centers for Disease Control and Prevention,*
*1600 Clifton Road N.E., Mail Stop F05 Atlanta, Georgia 30333, USA*
*Last Modified: 5/17/2001*

Send us your Comments.