



International Federation of
Biosafety Associations

IFBA Sample Policy and Procedures

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Employee Biosafety Orientation & Training Policies and Procedures

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1.0 PURPOSE & SCOPE

This purpose of this Standard Operating Procedure (SOP) is to describe the orientation and training required for employees to work in a safe and secure manner with biological agents and samples at *Laboratory ABC*.

2.0 REFERENCES

Laboratory ABC Biosafety Manual Section 1.5

WHO Laboratory Biosafety Manual

http://www.who.int/csr/resources/publications/biosafety/WHO_CDS_CSR_LYO_2004_11/en/

WHO Biorisk Management: Laboratory Biosecurity Guidance Document

http://www.who.int/csr/resources/publications/biosafety/WHO_CDS_EPR_2006_6/en/

3.0 RESPONSIBILITY

It is the responsibility of the Laboratory Supervisor to ensure all employees are trained in the safe and secure work with biological materials, the safe operation of the laboratory and equipment, emergency procedures, and other training as outlined below.

It is the responsibility of the Biosafety Officer to coordinate training for all new employees before they begin working in the laboratory, and to coordinate ongoing refresher training at least annually and whenever warranted by a change in the laboratory program.

It is the responsibility of all employees to attend all training sessions and actively participate in training activities.

4.0 Glossary of TERMS and DEFINITIONS

“Adult Learning Theory”: using approaches to learning that are problem-based and collaborative rather than instructive.

“Biorisk Management”: the policies, procedures, and systems in place to identify, assess, and control biological risks.

“Biosafety Officer” (BSO): the individual who has expertise in biosafety, biosecurity, and biorisk management, and is assigned responsibility for managing the biosafety program for the laboratory.

“Competence”: the demonstrated ability to apply knowledge and skills acquired through appropriate education, training, and experience.

5.0 PROCEDURES

5.1 Introduction

The training program for the laboratory has been designed using adult learning theory to provide employees with advanced knowledge in biosafety, biosecurity and biorisk management. By actively participating in the training program, employees will gain knowledge and competency to work safely and securely in the laboratory. The program content is continually reviewed and updated based on a training needs, assessment, and objectives. The training program also promotes a culture of responsibility, and encourages day-to-day management of biological risks by all employees working in and around the laboratory.

5.2 Training Requirements for Employees Working in the Laboratory

As a condition of working in the laboratory with infectious materials, all employees must have both general biorisk management training and specific training related to the safe conduct of their procedures in the laboratory. Training is provided to new employees prior to initiation of work with biological materials and processing samples in the laboratory. Refresher training is provided at least annually and whenever warranted by a change in the laboratory program and activities. Employees may not work unsupervised in the laboratory until they have completed the training outlined below and demonstrated to the BSO that they have understood the training provided.

i) Read and be generally familiar with the content of the WHO Laboratory Biosafety Manual and the WHO Biorisk Management: Laboratory Biosecurity Guidance Document.

http://www.who.int/csr/resources/publications/biosafety/WHO_CDS_CSR_LYO_2004_11/en/

http://www.who.int/csr/resources/publications/biosafety/WHO_CDS_EPR_2006_6/en/

ii) Receive biosafety, biosecurity, and biorisk management training from the BSO. Critical elements to be included in the training curriculum include:

- The nature of microorganisms likely to be encountered in the laboratory, and how they cause infections in the laboratory environment
- Risk assessment and biorisk management

- BSL2 practices including good microbiological techniques to minimize infectious aerosols, personal protective equipment, disinfection and decontamination
- Safe operation of biological safety cabinets and other equipment
- Emergency procedures and accident/incident reporting
- Responding to biological spills inside and outside the biological safety cabinet
- Biosecurity and bioethics
- Emergency procedures
- Medical surveillance and occupational health & safety

iii) Read and understand the *Laboratory ABC* Biosafety Manual and biosafety SOPs. All employees are required to sign the “Memorandum of Understanding for Laboratory ABC Authorized Users”, indicating that they have read and understood the contents of these documents (*See Appendix A*).

iv) Participate in hands-on training onsite at the laboratory from the BSO in the specific operational biosafety and biosecurity procedures to be followed. Critical elements to be included in the training curriculum include:

- Donning (putting on) and doffing (removing) of personal protective equipment
- Start-up procedures, working procedures, and shut-down procedures for the biological safety cabinets
- Spill response procedures inside and outside the biological safety cabinets
- Responding to other emergencies

v) Take and pass the training quiz (open-book test) that is based on this material to demonstrate knowledge. A passing mark of 70% is required.

vi) Participate in ongoing refresher training, courses, drills, and exercises that are offered. Drills and exercises should simulate likely emergency scenarios including spills inside and outside the biological safety cabinet, failure of the biological safety cabinets, power failure, biosecurity incidents (e.g. intruder in laboratory), potential exposures to biological materials, and medical emergencies. Refresher training must be provided whenever there is a change in laboratory activities and at least annually.

5.3 Specialized Training

(i) Maintenance & Support Personnel

Safeguarding the health of maintenance and support personnel working in and around the laboratory is an essential component of the training program. Before any maintenance work is carried out, such personnel must be provided with training on the biological and other hazards that may present in the laboratory and the practices and procedures to conduct their work safely. Critical elements to be included in the training curriculum for maintenance and support personnel include:

- The nature of microorganisms and how they cause infections in the laboratory
- Disinfection and decontamination concepts for equipment and laboratory systems
- Safety practices and personal protective clothing that may be required
- How to avoid infection in the laboratory environment
- Recognizing and responding to potential biological risks that personnel may encounter

- Accidents and incident reporting
- Emergency response procedures
- Occupational health and safety

(ii) Biosafety Officer

The Biosafety Officer (BSO) has assigned responsibility for managing the biosafety and biosecurity program for the laboratory. In order to coordinate and administer the program effectively, as well as keep abreast of new information and requirements, it is important for the BSO to receive additional ongoing training and education. Critical elements to be included in the BSO's training curriculum include:

- Roles and responsibilities and leadership training for biosafety officers
- Auditing and inspection
- Accident and incident investigation
- Design of training courses using adult learning theory
- Transport of infectious substances requirements; such training should also be provided to laboratory technicians if they have responsibility for shipping biological agents
- Risk communication to internal and external stakeholders (e.g. to senior management, other Ministries, the general public)
- Participation in key biosafety meetings and conferences to remain abreast of new developments in the field of biorisk management and applicable standards, guidelines, and international best practices

5.4 Training Records

All training must be documented and records kept on file using the "Record of Training" form (*See Appendix B*).

APPENDIX A – Memorandum of Understanding for Laboratory ABC Authorized Users

I have read, understood, and will comply with the *Laboratory ABC* Biosafety Safety Manual and Standard Operating Procedures. I am familiar with the proper biosafety procedures for working in the laboratory and the required emergency procedures. I have been informed of the risks associated with this laboratory, and I have received instruction in the use of the laboratory from the Laboratory Supervisor and Biosafety Officer.

Before transferring any biological material out of the laboratory I will seek the approval of the Laboratory Supervisor and conform to all applicable shipping and transport regulations. I will notify the Laboratory Supervisor and/or the Biosafety Officer immediately concerning any work-related accident, exposure incident or potential release of infectious materials to the environment; any problems pertaining to the implementation of biological or physical containment procedures; or any violations of biosafety requirements. I will cooperate in the investigation of any of these matters.

Signature of Laboratory User

Printed Name of Laboratory User

Date

APPENDIX B – Training Record Form

Training record for:			
Position in lab:			
Training Provided:	Given By:	Date:	
WHO Laboratory Biosafety Manual & WHO Biorisk Management: Laboratory Biosecurity Guidance			
Biosafety, Biosecurity & Biorisk Management Training			
Laboratory ABC Biosafety Manual & SOPs			
Laboratory Biosafety & Biosecurity Operational Procedures <i>(hands-on training in the laboratory)</i>			
Biosafety Quiz <i>(employees must obtain a grade of 70% to pass the quiz)</i>			
Refresher & Additional Training <i>(specify additional training provided, courses, exercises, drills)</i>			