This document has been developed as a reference for Principal Investigators and laboratorians conducting research requiring review and approved by the Texas A&M Institutional Biosafety Committee. The Information has been compiled by the Texas A&M Health Science Center, Environmental Health and Safety Office. For a complete listing of Biosafety Level Criteria or for information on Animal Biosafety Level Criteria, please refer to the ***Biosafety in Microbiological and Biomedical Laboratories, 5th ed.*** http://www.cdc.gov/od/ohs/biosfty/bmbl5/bmbl5toc.htm .

A. Registration Requirements for Using Biological Agents at Texas A&M Health Science Center

1. All research conducted by Texas A&M Health Science Center employees or students, involving any of the agents/materials listed below, must be approved by the Texas A&M University Institutional Biosafety Committee (IBC) prior to initiation:

   - Pathogens and potential pathogens of humans, animals or plants;
   - Materials potentially containing human pathogens (including human blood, tissue, and cell lines; non-human primate blood, tissue, and cell lines);
   - Recombinant DNA (and RNA) including creation or use of transgenic plants and animals;
   - Select agents and toxins (see http://www.cdc.gov/od/sap/docs/salist.pdf) including strains and amounts exempted from the select agent regulations;
   - Any material requiring a CDC import license or a USDA permit.

   The web site for the TAMU IBC is found at http://rcb.tamu.edu . Forms for new applications as well as amendments and contact information for the Biosafety Officer and Associate Biosafety Officers can be found at this site. **If you have any questions completing the forms contact the Office of Research Compliance and Biosafety (biosafety@tamu.edu) and they will assist you in completing the required paperwork.**

2. After approval of your application you will receive an approval letter from the IBC Chair that lists the agents, in-vitro/in-vivo use and locations approved for the Principal Investigator (PI). Any agent or work locations not listed on the letter **CANNOT** be used until approval is obtained from the IBC. Changes to your approved application are done by completing an amendment form: http://rcb.tamu.edu/biohazards/forms, submitting it to the committee and receiving approval (any changes will be indicated on the approval letter, see figure 1 for an example of the approval letter).

   The approval letter will also list any additional conditions that must be met such as: “Enrollment in the Occupational Health Program”, “Personal Protective Equipment”, “Training” and the need for contacting other compliance committees and granting agency.

3. The IBC Office will also supply the PI with a list of “Approved Personnel” for their IBC Permit. Personnel are listed during the initial application process or can be added by amendment form after initial approval is granted. Addition is done by completing an Amendment form, submitting it to the committee and having it approved PRIOR to allowing the individual to work in the lab, see figure 2 for an example of the Approved Personnel Letter.

B. Standard Procedures for Research Laboratories

1. Signs must be posted on the doors to the laboratories (see example below). The sign must list the PI's Name, contact information, a list of agents used/stored in the lab, entrance and exit requirements. Doors to BL2 laboratories must be self closing and must remain closed at all times. The doors must be locked when the lab is unattended. A template for this signage is available from the TAMHSC Safety Office.

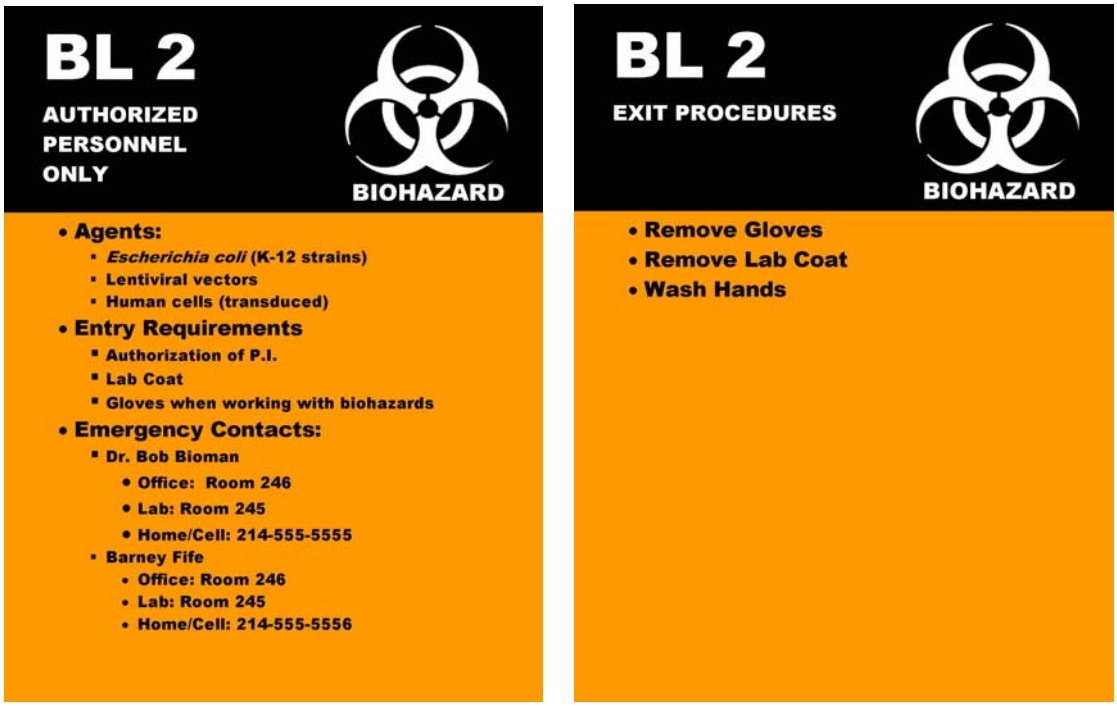


Figure 3

2. Lab coats must be worn at all times by everyone working in the BL2 lab. Gloves must be worn when working in the lab with hazardous materials. Prior to leaving the lab, gloves and lab coat **MUST** be removed and hands washed. **NO LAB COATS or GLOVES are to be WORN OUTSIDE THE LAB into public areas.**

3. If research samples must be carried outside one lab to another for continued analysis or storage the samples **MUST** be placed in a secondary container, the outside of the container disinfected and then carried to the next lab with ungloved hands. The secondary container must be able to contain the volume of the material in the event that the primary container fails or spills.

4. Aspirating cultures can create aerosols. HEPA filtered vacuum lines prevent aerosolized microbes from contaminating the vacuum line and possible release to the environment. All vacuum systems must be protected from contamination by use of an in-line HEPA filter. The vacuum flasks **MUST** be located in the biosafety cabinet, unless specific approval from the Office of Research Compliance and Biosafety authorizing use of a specialized aerosol tight vacuum system has been received.

Figure 5

A typical layout for working "clean to dirty" within a Class II BSC. Clean cultures (left) can be inoculated (center); contaminated pipettes can be discarded in the shallow pan and other contaminated materials can be placed in the biohazard bag (right). This arrangement is reversed for left-handed persons.

Perform all procedures to minimize the creation of splashes and/or aerosols.

Every item removed from the BSC MUST be decontaminated prior to removal from the cabinet.

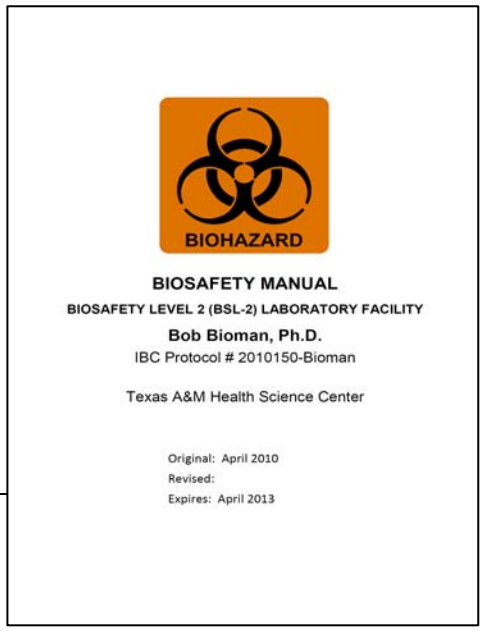
Waste Containers Waste generated in a Biosafety Cabinet(BSC) **MUST** be collected in appropriate containers placed inside the BSC. These containers must be closed in the BSC, the outside decontaminated and then removed from the BSC and placed in a larger waste container. Small autoclavable bags are available from several vendors. Autoclavable disposal containers are also available for pipettes (see Figure 6 for example). NEVER bring a pipette out of the BSC for disposal unless it is in a secondary container.

Terminal Pipet Keeper Disposal Container, Whitney Products		Bel-Art* Scienceware* Poxygrid* Desk Model Biohazard Bag Holder	
VWR Cat. #	**Whitney Product #**	**Fisher Sci #**	**Fisher Sci #**
1214-715	BH2006	01-815-2 (holder)	01-830A (bag)

Figure 6

6. Laboratory-specific biosafety manual

A laboratory-specific biosafety manual must be prepared and adopted as policy. The biosafety manual must be available and accessible. This manual shall contain the PI's IBC Application and Amendments as well as all IBC Approval letters. A template for this manual is available from the TAMHSC Safety Office. A BSL2 Laboratory Manual Checklist can be found at http://rcb.tamu.edu/biohazards/forms/inspectinfo/bl-2-manual-checklist .


BIOHAZARD

BIOSAFETY MANUAL

BIOSAFETY LEVEL 2 (BSL-2) LABORATORY FACILITY

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IBC Protocol # 2010150-Bioman

Texas A&M Health Science Center

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