

Biological Safety CO-LS-PR2

Responsible Officer: Vice President for Administration and Campus Operations

Sponsoring Department: Environmental Health & Safety

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PROCEDURE OBJECTIVE

The purpose of this procedure is to:

- protect The University of Texas at Arlington (UT Arlington) personnel from exposure to infectious agents or other viable biological materials that may cause harm to themselves or others after secondary transmission;
- protect UT Arlington students, visiting professionals, volunteers, visitors, and others not employed by UT Arlington who may be on the premises or in proximity of biohazards;
- prevent waste from contaminating the environment;
- provide an environment for high quality research and teaching while maintaining a safe work place; and
- comply with applicable federal, state, and local guidelines and requirements.

SCOPE

This procedure applies to all personnel, students, visiting professionals, volunteers, or other individuals working at or on the premises of all University facilities.

RESPONSIBILITIES

The Environmental Health and Safety Office (EH&S), Biological Safety Specialist is available for consultation if there are any questions or concerns with any aspect of this procedure. If you are unsure of a requirement or biosafety practice, please contact EH&S at 817-272-2185 for assistance.

PROCEDURES

Biological safety or biohazard control is management of biological hazards through proper application of engineered containment and administrative controls. Biological safety at UT Arlington is a team effort involving the Principal Investigators (PIs), the research and teaching laboratory personnel, the [Institutional Biosafety Committee \(IBC\)](#), the [Institutional Animal Care and Use Committee \(IACUC\)](#), [Research Administration \(RA\)](#) and [EH&S](#).

Section I. Registration of Materials Potentially Infectious for Humans

EH&S maintains a registry of all laboratories and personnel working with biohazardous agents such as microbial pathogens, toxins, human blood, body fluids, and/or cells/tissues. UT Arlington complies with the recommendations of the Centers for Disease Control and Prevention (CDC) and National Institutes of Health (NIH) presented in [Biosafety in Microbiological and Biomedical Laboratories \(BMBL\)](#), 5th Edition, revised 2009.

The PI is responsible for completing the appropriate parts of *Human Pathogen Registration (HPR)* ([Form 8-30](#)) and forwarding it to EH&S. EH&S will then inspect the laboratory to ensure compliance with local, state, and federal regulations and to improve safety using the *Biosafety Level 2 (BSL-2) Commissioning Checklist* ([Form 8-87](#)). The PI is also responsible for notifying EH&S when the project has terminated or when other significant changes occur using *Human Pathogen Registration Update (HPRU)* ([Form 8-31](#)).

Section II. Recombinant Deoxyribonucleic Acid Research

All projects involving recombinant deoxyribonucleic acid (rDNA) must be reviewed by the [UT Arlington Institutional Biosafety Committee \(IBC\)](#) prior to initiation. UT Arlington complies with the [National Institutes of Health \(NIH\) Guidelines for Research Involving rDNA Molecules](#).

Section III. The UT Arlington Exposure Control Plan for Bloodborne Pathogens

EH&S provides support in the effort to adequately protect UT Arlington employees from occupational exposure to blood and other potentially infectious materials (OPIM) to achieve

regulatory compliance. UT Arlington has developed [Exposure Control Plan for Bloodborne Pathogens](#) in accordance with [Texas Department of State Health Services Exposure Control Plan, Health and Safety Code 81.304](#) to be analogous with [the Occupational Safety and Health Administration \(OSHA\) Bloodborne Pathogen Standard, 29CFR1910.1030](#). [Employee Blood and Body Fluid Exposure](#) and [Student Blood and Body Fluid Exposure](#) guidelines are to be followed in case of an exposure incident.

Section IV. Hepatitis B Vaccination, Post-exposure Evaluation and Follow-up

UT Arlington departments shall make available the hepatitis B vaccine and vaccination series to personnel who are considered occupationally exposed to human blood or OPIM. If the employee refuses the vaccine, he/she must sign a declination form, *Hepatitis B Vaccine Waiver* ([Form 8-29](#)).

Section V. Vaccinia Virus in Research

Verification of Training on Vaccinia Virus, Recombinant Vaccinia Viruses, or Other Orthopoxviruses that Can Infect Humans ([Form 8-32](#)) must be completed and submitted to UT Arlington EH&S before one can be given access to the laboratory/facility that harbors the viruses in question. Occupationally exposed laboratory personnel who directly handle vaccinia virus cultures or animals contaminated with these viruses, must follow Biosafety Level 2 (BSL-2) or Animal Biosafety Level 2 (ABSL-2) practices and procedures ([UT Arlington Biosafety Manual](#)).

Section VI. Biological Waste Management and Disposal Instructions

Biohazardous waste is defined as all biologically contaminated waste that could potentially cause harm to humans, domestic/wild animals, or plants. Examples include human blood, certain body fluids, cells/tissues, rDNA, and human, animal or plant pathogens. All generators of biohazardous waste and sharps must strictly adhere to the [UT Arlington Biological Waste Management and Disposal Instructions](#). These instructions apply only to potentially biohazardous waste streams. Radioactive waste and hazardous chemical waste should be handled as specified in the [UT Arlington Radiation Safety Manual](#) and the [UT Arlington Laboratory Safety Manual](#), respectively.

Contact EH&S at 817-272-2185 with any questions or concerns regarding waste disposal.

Section VII. Autoclaves Used for Waste Treatments

Autoclaves used for sterilizing biohazardous waste are tested semiannually by EH&S for their effectiveness through the use of biological indicators per the [Standard Operating Procedure: Performance Verification of Steam Autoclave Kill Cycle](#).

Section VIII. Biological Safety Cabinet (BSC) Certifications

BSCs on the UT Arlington campus are certified at the time of installation, any time the BSC is moved, has a filter replaced, and annually thereafter per [Biological Safety Cabinet Certification](#). EH&S coordinates the certifications of BSCs.

Section IX. Suspicious Mail-Biological Threats

All persons at UT Arlington should take appropriate steps to protect themselves and others from exposure to potentially harmful agents that might be sent through mail. UT Arlington [Guidelines for Addressing Suspicious Mail](#) should be followed for recognizing and handling suspicious packages and letters.

Section X. Safety Training

Training is a key requisite to guarantee the fundamental objective of a biological safety program that provides a safe and healthy environment for the campus community. EH&S offers training in the following areas:

- [Bloodborne Pathogens](#) - Bloodborne pathogen training is mandatory for all UT Arlington researchers, laboratory staff, and students who work with human-origin materials including blood, OPIM, cell lines or tissues.
- [Working with Vaccinia](#)
- [Biosafety Level 2 \(BSL-2\) Work](#)

FORMS AND TOOLS/ONLINE PROCESSES

Forms

Hepatitis B Vaccine Waiver ([Form 8-29](#))

Human Pathogen Registration (HPR) ([Form 8-30](#))

Human Pathogen Registration Update (HPRU) ([Form 8-31](#))

Verification of Training on Vaccinia Virus, Recombinant Vaccinia Viruses, or Other Orthopoxviruses that Can Infect Humans ([Form 8-32](#))

Biosafety Level 2 (BSL-2) Commissioning Checklist ([Form 8-87](#))

EH&S Manuals and Documents

[Biological Safety Cabinet Certification](#)

[Employee Blood and Body Fluid Exposure](#)

[Exposure Control Plan for Bloodborne Pathogens](#)

[Guidelines for Addressing Suspicious Mail Standard Operating Procedure: Performance Verification of Steam Autoclave Kill Cycle](#)

[Student Blood and Body Fluid Exposure](#)

[UT Arlington Biosafety Manual](#)

[UT Arlington Laboratory Safety Manual](#)

[UT Arlington Radiation Safety Manual](#)

Helpful Links

[American Biological Safety Association Website](#)

[Centers for Disease Control and Prevention \(CDC\) Website](#)

[National Institute of Health \(NIH\): Guidelines for Research Involving Recombinant DNA Molecules](#)

[Occupational Safety and Health Administration: Bloodborne Pathogens Standard 29 CFR 1910.1030](#)

[Texas Commission on Environmental Quality \(TCEQ\) Website](#)

[UT Arlington Research Administration](#)

[UT Arlington Emergency Management Plans](#)

DEFINITIONS

Biosafety in Microbiological and Biomedical Laboratories (BMBL)

Biological Safety Cabinet (BSC)

Biosafety Level (BSL)

Centers for Disease Control and Prevention (CDC)

Environmental Health and Safety Office (EH&S)

Institutional Animal Care and Use Committee (IACUC)
Institutional Biosafety Committee (IBC)
Other potentially infectious materials (OPIM)
Occupational Safety and Health Administration (OSHA)
Principal Investigator (PI)
Recombinant deoxyribonucleic acid (rDNA)
Research Administration (RA)
National Institutes of Health (NIH)
The University of Texas at Arlington (UT Arlington)

RATIONALE

This procedure was prepared by EH&S as a guideline for biological research at UT Arlington. Work with hazardous biological agents in research laboratories has expanded as new infectious agents and diseases have emerged. Thus it is crucial to provide safe methods, facilities, and equipment for managing infectious materials in UT Arlington microbiological and biomedical laboratories where hazardous biological agents are being handled or maintained. This procedure provides a core set of biosafety practices and procedures for the safe handling of known biohazards and potentially infectious materials. Laboratories that work with microorganisms, rDNA technologies, laboratory animals, toxins of biological origin, venom, human blood/body fluids, or bloodborne pathogens are special and often require unique work environments. These laboratories and their waste streams must be managed uniquely to reduce the potential for personnel exposure and environmental release.

RELATED STATUTES, POLICIES, REQUIREMENTS OR STANDARDS

UT System Administration Policies and Standards	Other Policies and Standards
	<i>University Environmental Health & Safety Policy (Procedure 8-1)</i>

APPENDICES

N/A

CONTACTS

If you have any questions about Procedure 8-10, *Biological Safety*, please contact the following departments:

Subject	Office Name	Telephone Number	Email/URL
All topics in Procedure	Environmental Health & Safety	817-272-2185	ehsafety@uta.edu
Grant and Contract Services Regulatory Services Technology Management	Research Administration Research Administration Research Administration	817-272-2105 817-272-3723 817-272-1119	http://www.uta.edu/research/administration/index.php
Website access	Administrative Information Management	817-272-0222	aim@uta.edu http://www.uta.edu/aim

WEBSITE ADDRESS FOR THIS PROCEDURE

<http://www.uta.edu/policy/procedure/8-10>