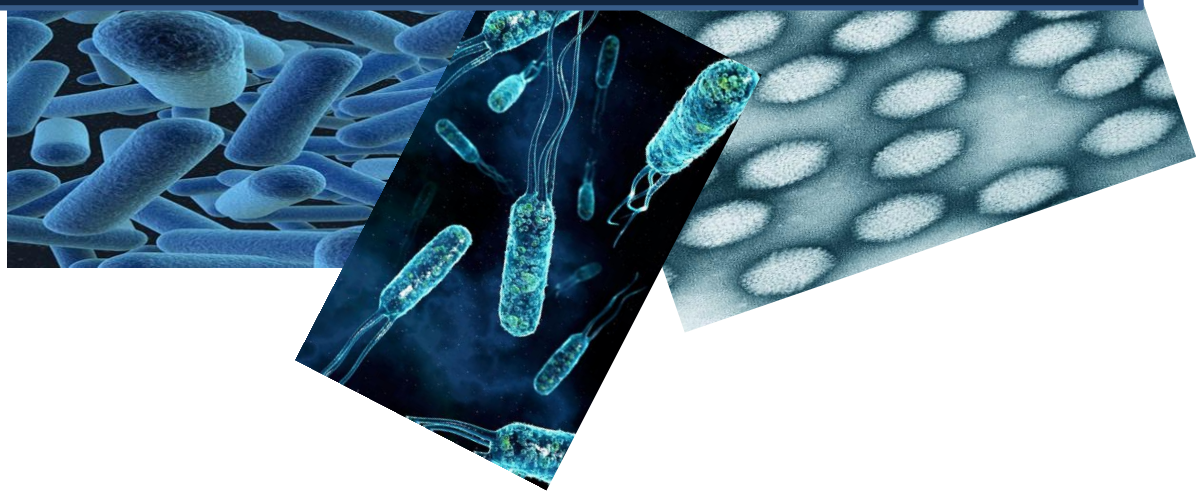
UCONN
UNIVERSITY OF CONNECTICUT

Laboratory-Specific Biosafety Manual Procedure



Principal Investigator: _____

See Appendix B of IBC Registration for RG2 agents this manual applies to.

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Environmental Health and Safety
Research Integrity & Compliance Services
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INSTRUCTIONS

This template is provided to assist Principal Investigators (PIs) in the development of a Laboratory Specific Biosafety Manual (LSBM) to provide guidance to labs on how to safely handle and manipulate particular agents and/or toxins at Biosafety Level 2 (BSL-2) containment. In addition to UConn IBC policies, this manual is also a requirement of the *NIH Guidelines* (Appendix G-II-B-2-m) and the CDC's *Biosafety in Microbiological and Biomedical Laboratories, 6th Edition*.

This document **must summarize general practices for maintaining good laboratory practices**, as well as **outline emergency response procedures** in the event of an incident involving biological materials. The PI is responsible for including basic background information for the lab and writing standard operating procedures for experiments where safety is a concern (see approved IBC Registration for detailed information on agents, decontamination, etc.). If SOPs have been previously drafted then they should be incorporated in the SOPs section of the binder.

Additions and changes to this template will render the final manual more useful for the laboratory's safety needs, and revisions are encouraged.

The LSBM template includes the following:

1. **Biosafety Information**
    a. Table of Contents from the UConn Biosafety Manual. This will help to ensure that all lab personnel are aware of what information is in the manual, and where it can be found.
    b. Information to be added by PI or designee includes:
        i. Recent Biosafety Inspection Reports
        ii. Corrective Action Forms
        iii. Incident Reports
2. **Agent Specific Information:** Pathogen Safety Data Sheets (PSDSs) / Fact Sheets (to be added by PI or designee)
3. **Institutional Biosafety Committee (IBC) Registration Information** (to be added by PI or designee)
    a. Include approved registration/biological summary documents, amendments, etc.
4. **Training Records**
    a. Use the Training Verification Form to track annual LSBM training / review for all personnel.
    b. Add copies of training records from HuskySMS. While in the lab dashboard, select the "Training" tab, and then click "Training Records". Use the drop down to select "All" under "Filter Records By:" section and then click "Submit". This list can then be printed and added to the LSBM. This list can also be exported to Excel so records can be tracked annually.
    c. A copy of the NIH Guidelines Training has been included for lab personnel to review.
5. **Additional information that can be added by the PI or designee:**
    a. Emergency contact information for pertinent lab personnel, including after-hours phone numbers
    b. Lab SOPs / Laboratory specific policies, including:
        i. PPE required for working in the lab
        ii. Infectious Waste Disposal procedures for (liquids, sharps, solids, research animals)
    c. Relevant sections of the Biosafety in Microbiological and Biomedical Laboratories (BMBL), 6th Edition, (e.g. Section IV pertaining to standard BSL-2 practices, Appendix H, pertaining to work with human and NHP cells and tissues, if applicable).

Please modify this document to fit the needs of your laboratory

Locations of Emergency Equipment

Be sure to provide the locations of equipment for all laboratories spaces!

Type of Emergency Equipment	Room #:	Room #:	Room #:	Room #:
Nearest Emergency Exit				
Eyewash				
Emergency Shower				
Spill Supplies				
First Aid Kit				
Evacuation Rally Point				

** Personal Protective Equipment (PPE), such as gloves, lab coat, and safety glasses/goggles are to be **worn at <u>ALL TIMES</u>,** except when working at the computer desk **









Wear closed-toed shoes at all times!

Tie up long hair when working with open flames!



** See UConn Biosafety Manual for BSL-2 containment requirements

EXPOSURE RESPONSE PROCEDURES

Steps to follow in the event of an exposure to a biohazardous material:

1. Contaminated PPE should be removed and disposed of as appropriate.
2. Proceed to the nearest sink.
3. If the exposure involves **broken/compromised skin**, (needle sticks, sharps exposure, animal bite, etc.) the area must be washed thoroughly with soap and water **for 15 minutes**.
4. If applicable, cover the wound with a bandage.
5. If the exposure involves the contamination of the **mucus membrane(s),** the area must be treated by flushing with water for 15 minutes at the nearest emergency eyewash station.
6. **Seek medical treatment** and provide the following information to the medical provider:
    - Identity of biological material individual was exposed to,
    - type of exposure (e.g., needle stick, splash to eyes, animal bite, etc.),
    - date, time, and location of the incident, and
    - initial first aid completed.

MEDICAL TREATMENT LOCATIONS	
Students Only	
Student Health and Wellness Hilda May Williams Building 234 Glenbrook Road, Unit 4011 Storrs, CT 06269	**Hours:** Monday – Friday: 8:30am -10:30pm Weekends: 8:00am - 3:30pm **Phone:** 860-486-4700
Students, Faculty/Staff	
Hartford Health Care Walk-In Center, Willimantic, CT (**Faculty/Staff**) 1703 Main St Willimantic, CT 06226	**Hours:** Monday - Friday 8:00am -5:45pm Weekends: 10:00am -3:00pm **Phone:** 860-456-5000
All Personnel for After Hours Emergencies	
Windham Hospital 112 Mansfield Ave Willimantic, CT 06226 860- 456-9116	

7. Notify the PI and the Biosafety Officer (BSO) immediately as soon as it is safe to do so.
    - The PI must fill out an Incident Reporting Form and submit it to the BSO **within 5 days** of the incident. Forward completed form to David.Cavallaro@uconn.edu.

SPILL CLEANUP PROCEDURES

Spill inside the BSC:

1. Wait 5 minutes to allow aerosols to settle.
    - Check to make sure the spill is fully contained in the BSC.
    - If a spill has occurred outside of the BSC, proceed to *Spills outside the BSC*.
2. Ensure appropriate PPE is donned prior to beginning clean up (same as required when working with the agent).
3. Remove and dispose of any sharps material associated with the spill, as appropriate.
4. Gently cover the spill with absorbent materials (e.g. paper towels, spill pads).
5. Soak the absorbent materials with appropriate disinfectant and allow to sit for 30 minutes.
6. Dispose of spill cleanup materials in a biological waste container*.
7. Residual bleach can be removed using 70% EtOH and disposed of in a biological waste container*.

Spills outside of primary containment (BSC, centrifuge, etc.):

1. Notify staff in the laboratory that a spill has occurred and evacuate the room immediately. *All PPE and contaminated clothing should be removed and disposed of as appropriate, upon exiting*.
    - Be sure to have the last person exiting close the door on the way out.
    - Prohibit others from entering the room, either by verbal communication or door signage.
    - Notify the PI and the BSO of the incident.
    - If an overt exposure has occurred, follow procedures for *Exposure Response Procedures.*
2. Do not re-enter for at least 30 minutes to allow aerosols to settle; this will reduce the risk of inhalation exposure.
3. Don appropriate PPE (same that is used to work with the agent), and cover the spill with absorbent materials (e.g., paper towels, spill pads).
4. Starting from the perimeter and working your way toward the center, soak absorbent materials with an appropriate disinfectant (i.e., 10% Sodium Hypochlorite or 0.5% Wescodyne).
5. Allow to sit for at least 30 minutes for decontamination.
    - *If there is broken glass or other sharps materials involved, use forceps, tongs, or a broom and dust pan to dispose of in a sharps container as appropriate.*
6. Dispose of spill cleanup materials in a biological waste container*.
7. Decontaminate surfaces with an appropriate disinfectant a second time.
8. For spills that are too large or hazardous to initiate cleanup, contact EH&S at x6-3613.
9. PI must complete an Incident Reporting form and submit to the BSO **within 5 days** of the incident, and forward completed form to David.Cavallaro@uconn.edu

**Note: Bleach soaked absorbent materials should not be autoclaved. Chlorine is a corrosive and will corrode the autoclave over time.*

Incident Reporting Requirements:

Type of Spill or Exposure	Reporting Time Frame
Exposure to a Risk Group 2 or 3 agent	Report **immediately** to the BSO. Submit Incident Reporting Form to the BSO **within 5 days** of exposure.
Exposure to rsNA molecules	
Spill outside of primary containment (BSC, centrifuge, etc.) involving Risk Group 2 or 3 agents	Incident Reporting Form must be submitted to the BSO **within 7 days of incident**. If an exposure occurred as a result of the spill, see reporting requirements above.
Spill outside of primary containment (BSC, centrifuge, etc.) involving rsNA molecules	

Spill Kits

The lab must have a spill kit, or the components necessary to clean up a spill, readily available in the event of a spill. The spill kit should include:

- An easy-to-read outline of spill response procedures (pg. 6 of this procedure)
- Gloves
- Surgical Masks
- Safety Glasses or Goggles
- Clean lab coat, disposable gown or clean scrubs and spare slip-on shoes in case clothing not covered by lab coat becomes contaminated
- Paper towels or other absorbent materials (e.g. universal spill pads, etc.)
- Appropriate disinfectant (e.g. 10% bleach)
- Tongs, forceps, or broom and dust pan to pick up broken glass or sharps materials

Note: Appropriate biohazard waste containers must be available in the lab

Appendix I: Emergency Contact Information

STORRS CONTACTS

UConn Public Safety

Emergency	x911
Police Department	860-486-4800
Fire Department	860-486-4925

Medical Treatment Locations

See page 5 of this manual for medical treatment information

Environmental Health & Safety

Administrative Office 3102 Horsebarn Hill Road Unit 4097	860-486-3613
Terri Dominguez, MSPH, CSP *EHS Director*	860-486-0981
David Cavallaro, MS, RBP, CBSP *Institutional Biosafety Officer*	860-486-3180
Danielle Delage *IBC Program Director*	860-486-1838
Mike Besaw *Biosafety Specialist II*	860-486-1380
Bill Field, RBP *Senior Biosafety Specialist*	860-486-1376
Brent Lewchik, MS, CHMM *Chemical Safety Manager*	860-486-4927
Amy Courchesne *Radiation Safety Manager, RSO*	860-486-5399
Valerie Brangan *Occupational Health & Safety Manager*	860-486-2982

Research Compliance Services

Victor Hesselbrock, PhD *Interim Associate Vice President for Research Integrity and Regulatory Affairs*	860-679-2513
Karen Moré, CPIA *Director of Research Compliance-Animal Research & Safety*	860-486-2459
Mark Johnson *IACUC Specialist / Post Approval Monitor*	860-486-4110
Nick Lacafta *IACUC Specialist*	860-486-8802
Karen Christianson, *Interim Program Manager HRPP/IRB; HRP Consultant*	
Douglas Bradway, M.A., CIP *IRB Program Specialist*	860-486-0986
Joan Levine, MPH, CIP *Education & QA/QI Specialist*	860-486-7145
Diane Sainsbury *IRB Program Specialist*	860-486-5944

ALL REGIONAL CAMPUSES

Emergency Number: DIAL (8) 911 from a campus phone DIAL 911 from a cell phone

Faculty, Staff and Students Utilize local Initial Treatment Network Urgent Care Provider or local Emergency facilities https://hr.uconn.edu/workers-comp/

Contacts for EHS and RICS are the same as above

Appendix II: Spill Response Cue Cards

 ***Cut out cue cards and post in a visible work area*** 

SPILLS INSIDE THE BIOSAFETY CABINET

1. Wait 5 minutes to allow aerosols to settle.
   - Check to make sure the spill is fully contained within the BSC.
   - If a spill has occurred outside of the BSC proceed to, “Spills Outside of Primary Containment” card.
2. Ensure appropriate PPE is donned prior to beginning clean up (same as required when working with the agent).
3. Gently cover the spill with absorbent materials (e.g., paper towels).
4. Soak the absorbent materials with appropriate disinfectant and allow to sit for 30 minutes.
5. Dispose of spill cleanup materials in a biological waste container*.
6. Residual bleach can be removed using 70% EtOH, and disposed of in a biological waste container*.

SPILLS OUTSIDE OF PRIMARY CONTAINMENT

1. Notify staff in the laboratory that a spill has occurred and evacuate the room immediately; *all PPE and contaminated clothing should be removed and disposed of as appropriate, upon exiting.*
   a. Be sure to have the last person exiting close the door on the way out.
   b. Prohibit others from entering the room, either by verbal communication or door signage.
   c. Notify the PI and the BSO.
   d. If an overt exposure has occurred, follow instructions in *Exposure Response Procedures.*
2. Do not re-enter for at least 30 minutes to allow aerosols to settle. This will reduce the risk of inhalation exposure.
3. Don appropriate PPE (same that is used to work with the agent), and cover the spill with absorbent materials (e.g., paper towels).
4. Starting from the perimeter and working your way toward the center, soak with an appropriate disinfectant (i.e., 10% Sodium Hypochlorite or 0.5% Wescodyne).
5. Allow to sit for at least 30 minutes for decontamination.

a. If there is broken glass or other sharps materials involved, use forceps, tongs, or a broom and dust pan to dispose of in a sharps container as appropriate.

6. Dispose of spill cleanup materials in a biological waste container*.
7. Decontaminate surfaces with an appropriate disinfectant a second time.
8. For spills that are too large or hazardous to initiate cleanup, contact EH&S at x6-3613.
9. PI must complete an Incident Reporting form and submit to the BSO **within 5 days** of the incident, and forward completed form to David.Cavallaro@uconn.edu

**Note: Bleach soaked absorbent materials should not be autoclaved. Chlorine is a corrosive and will corrode the autoclave over time.*

SPILLS INSIDE OF AN INCUBATOR

1. Alert personnel in the vicinity.
2. Evacuate the room. Close door. Discard potentially contaminated PPE and remove any contaminated clothing. Wash hands thoroughly.
3. Notify PI.
4. Don fresh PPE: lab coat or gown, gloves, mask, eye protection.
5. Cover spill with paper towels.
6. Soak paper towels with appropriate disinfectant, from perimeter toward the center.
7. Allow 30 min. of contact time.
8. Discarded towels go in biohazard bags. Pick up sharps with tongs & place in sharps container. Decontaminate water pan via autoclave.
9. Wipe down spill area one final time with appropriate disinfectant.

SPILLS INSIDE OF A CENTRIFUGE

1. Open lid of centrifuge slowly.
2. If there has been no breach of containment, spray rotor with appropriate disinfectant (e.g. 10% bleach) followed by 70% EtOH to prevent corrosion. See step #8 next.
3. If inside of rotor is contaminated, decontaminate in the BSC. As a precautionary measure, decontaminate the centrifuge chamber.
4. If rotor buckets are damaged, close centrifuge lid.
5. Alert personnel in the vicinity. Evacuate room.
6. Wait 30 min. Meanwhile, notify PI and a Biosafety Officer/Specialist (6-3180).
7. If assistance is needed, discuss with Biosafety Officer.
8. Open lid slowly and add paper towels.
9. Spray walls of chamber and rotor with appropriate disinfectant (e.g.10% bleach).
10. Close centrifuge lid for 30 min. of contact time.
11. Finish centrifuge clean-up as for major spill outside the BSC. Transport rotor to BSC.
12. Open and decontaminate rotor/buckets in the BSC.
13. With PI, write up a report and submit to IBC

Appendix III: Spill Hazard Warning Sign



Authorized Personnel Only

BIOHAZARDOUS SPILL

DO NOT ENTER!

Identity of Biological Agent(s) Released:	
Special Procedures, PPE, or Precautions for Entry/Exit:	

Principal Investigator		**Emergency Contact (must be 24/7)**	
Name	Phone	Name	Phone