Supplemental Laboratory Safety Plan Blue Ridge Community College

Under 29 CFR 1910.1450, Blue Ridge Community College is required to provide a *Chemical Hygiene Plan* that establishes minimum safety standards for working with chemicals in the laboratory and outlines procedures that minimize both the risk of chemical exposure to laboratory personnel and the risk of chemical releases into the environment.

The Supplemental Laboratory Safety Plan is a supplement to the Chemical Hygiene and Laboratory Safety Plan that provides standard operating procedures and laboratory-specific information for responding to health and safety issues and laboratory emergencies. The plan, which must be completed for all laboratories, must list the types of hazards present in the laboratory and outline laboratory-specific engineering and administrative controls, personal protective equipment (PPE), operational procedures (e.g., decontamination, waste handling), and procedures for spill or exposure response. The Supplemental Laboratory Safety Plan must be kept within the laboratory where it is readily available to laboratory personnel and must be routinely reviewed and updated to reflect current laboratory activities. A copy must also be sent to the Office of the Vice President of Finance and Administration.

General Information

Date modified:	
Laboratory Supervisor:	
Unit or Department:	
Office Location:	Office Phone:
Lab Location:	Lab Phone:
Email Address:	

Emergency Response Procedures

1. Emergency Contact Information			
Public Safety:	540-453-2370 or 9	911	
Other:			
Other:			
Other:			
2. Local Medical Care Facilities			
Augusta Health		Sentara RMH Medical Center	
78 Medical Center Dr, Fishersville, VA (540) 332-4000	. 22939	2010 Health Campus Dr, Harrisonburg, VA 22801 (540) 689-1000	
3. Emergency Equipment available in	n or near the laborat	•	
Eye wash location:		Flushed every two weeks by:	
Emergency shower location:		Flushed every two weeks by:	
Fire extinguisher location:		Fire extinguisher type:	
Spill supplies location:		First aid kit location:	
Other:		Other:	
4. Emergency Notification			

- Contact Public Safety
- Provide the following information:
 - o Name and telephone number of the caller.
 - o Location of the emergency (building name, room number, and building specific address, if known).
 - o Nature of the emergency (e.g., chemical spill and chemical(s) involved, fire, injuries).

Special considerations (e.g., the potential for explosion, acutely hazardous gases present, people trapped in rooms or buildings, number of people injured and type of injuries, electrical hazards, property damage and access routes to the emergency).

5. Evacuation Procedure (Follow these steps, if safe to do so.)

- 1. Notify other laboratory personnel.
- 2. If conditions permit, cap and secure open vials, bottles, and other materials and turn off laboratory equipment.
- 3. Leave the laboratory and close the door.
- 4. Activate the fire alarm to evacuate the building.
- 5. If it is safe to do so, assist anyone who may be in danger. Otherwise notify emergency response personnel once you have evacuated the building.
- 6. Exit the building according to the Building Evacuation Plan in a calm manner using the closest available emergency exit. Never use elevators.
- 7. Congregate at the pre-designated assembly point for the building.
- **6. Laboratory Fire** (Personnel are not required to fight fires and should evacuate the building immediately in the event of a fire.)
 - 1. Notify other laboratory personnel.
 - 2. If conditions permit, cap and secure open vials, bottles, and other materials and turn off laboratory equipment.
 - 3. Leave the laboratory and close the door.

- 4. Activate the fire alarm to evacuate the building.
- 5. If it is safe to do so, assist anyone who may be in danger. Otherwise notify emergency response personnel once you have evacuated the building.
- 6. Notify Public Safety or emergency response personnel that you have specific information regarding the fire.
- 7. Fight a fire with a fire extinguisher **ONLY IF**:
 - a. You have been trained in the proper use of a fire extinguisher and are confident in your abilities to cope with the hazards of the fire.
 - b. The fire is a small, incipient fire (no larger than a waste basket).
 - c. Terminate firefighting efforts when it becomes obvious that there is a danger from smoke, heat, or flames.

7. Gas Leaks

Situations involving uncontrollable leaking gas from a cylinder should be considered extremely hazardous and warrant immediate evacuation of the building. If the gas leak is minimal, innocuous, and safely within reach, the cylinder valve should be closed. Otherwise leave the area, call Public Safety or 911, and activate the fire alarm to evacuate the building.

8. Equipment Failures

Equipment failures can result from power failure, defects, or malfunctions. If a piece of equipment fails while in use, take steps to contain or control possible exposures to the substances being used. It is inappropriate to continue use of hazardous substances and equipment during a power failure or equipment malfunction. In the event of a power failure, all personnel must secure the materials they are working with, turn off equipment, and leave the laboratory until power is restored.

9. Ventilation Failure

If laboratory building ventilation fails, all operations concerning chemicals within that laboratory or building must be discontinued. Laboratory operations may resume in the laboratory or building once ventilation has been restored and it is confirmed that all ventilation systems are operating correctly. Chemical Fume hoods that have failed cannot be used until they are repaired and re-tested.

10. Other: List other probable emergencies for your laboratory and appropriate emergency response for laboratory personnel.

Exposure Response

11. Exposure Response–Skin or Mucous Membrane

In the event of a personal exposure, an individual's primary concern must be to minimize the degree of exposure and the possible effects. Skin or mucous membrane exposure can occur through splashes to the eye, face, exposed skin, or clothing; by touching mucous membranes with contaminated hands; or from a needlestick, puncture with a contaminated sharp object, an animal scratch or bite, or through wounds, abrasions, and eczema. A general exposure response is provided below. This response may not be adequate for all materials present in the laboratory. Please provide additional exposure response procedures, as necessary, for chemicals and biological agents that require a specific exposure response.

Chemical or Biological Agent:	Exposure Response:
General	 Remove contaminated PPE and clothing, turning exposed areas inward and place in a bag. Dispose as laboratory waste. Notify other laboratory personnel of the incident and of any surface or equipment decontamination that needs to be done. For mucous membrane exposure, flush the affected area with the eyewash for at least 15 minutes. For skin exposure, wash affected skin with soap and cold water for at least 15 minutes. Cold water has the effect of closing the skins pores thereby slowing the rate of absorption into the body. Wash gently so as not to break the skin. For skin exposures not limited to the hands and forearms, the emergency shower should be used. Apply first aid as needed. Call 911 for emergency medical assistance or seek medical attention at the closest medical facility listed above. Report all possible exposure incidents to Public Safety. Complete an incident report found on the Public Safety website

12. Exposure Response-Inhalation

Inhalation exposure can occur when working with volatile chemicals in a poorly ventilated area or as the result of inhaling airborne substances aerosolized by laboratory procedures such as centrifugation or vortexing. A general exposure response is provided below. This response may not be adequate for all materials present in the laboratory. Please provide additional exposure response procedures, as necessary, for chemicals and biological agents that require a specific exposure response.

Chemical or Biological Agent:	Exposure Response:
	 Stop breathing in order to avoid inhaling airborne substances and quickly leave the room.
	2. Signal to others to leave, close the door, and post a warning sign.
	3. Leave the area immediately and seek fresh air.
	4. Remove contaminated PPE and clothing, turning exposed areas inward and place in a polyethylene bag.
General	Review the Safety Data Sheets (SDS) for the chemical involved to evaluate exposure data.
	 Call 911 for emergency medical assistance or seek medical attention at the closest medical facility listed above.
	7. Report all possible exposure incidents to Public Safety
	8. Public Safety must clear the laboratory for re-entry.
	9. Submit completed Incident Report found on the Public Safety website.

13. Exposure Response	-Ingestion					
Accidental ingestion may	occur as a result of splashes to the face, touching the face with contaminated hands, eating,					
drinking, or applying cos	metics in the laboratory, or through the out-dated and unacceptable practice of mouth pipetting.					
A general exposure resp	oonse is provided below. This response may not be adequate for all materials present in the					
laboratory. Please prov	laboratory. Please provide additional exposure response procedures, as necessary, for chemicals and biological					
agents that require a sp	ecific exposure response.					
Chemical or Biological	emical or Biological Evenosure Bosponson					
Agent:	Exposure Response:					
	In the event of accidental ingestion of a chemical, seek medical attention (dial 911 or the Poison					
General	Control Center at (800) 222-1222). Do not induce vomiting unless directed to do so by a health					
care provider. Report all possible exposure incidents to Public Safety and submit completed						

Incident report found on the Public Safety website.

Spill Response

14. Spill Response				
Laboratory personnel are not required to respond to a spill. If you are uncomfortable in responding to a spill, if a spill				
poses imminent danger to health and safety or cannot be isolated, contained or controlled, move to a safe area and contact Public Safety. Do not attempt to clean the spill.				
Spill Supplies Available in the				
	ning absorbent material (pads, sheets, spill socks, and paper towels), nitrile gloves,			
	marking tape, warning sign, spill supply inventory, and 5-gallon pail with screw top lid.			
	ining disinfectant (that is most effective and appropriate for killing or inactivating the specific			
	the particular laboratory), spray bottle, absorbent material (e.g., sheets, spill socks, and paper			
	ave bags for the collection of contaminated items, autoclave tape, tongs, sharps container,			
	don off the contaminated area until it is properly cleaned and disinfected, warning sign, and			
spill supply inventory.	don'on the contaminated area with it is properly cleaned and distinceted; warming sign, and			
Other Absorbent:				
Acid Neutralizer				
Caustic Neutralizer				
Other:				
15. Spill Response-Chemica	d Spille			
	rovided below. This response may not be adequate for all chemicals present in the			
	additional spill response procedures, as necessary, for chemicals that require a specific			
spill response.	studitional spin response procedures, as necessary, for enemicals that require a specific			
spin response.				
Chemical or Biological				
Agent:	Spill Response:			
	1. Contact Public Safety for any spill that:			
	• poses an inhalation hazard.			
	 cannot be isolated, contained, or controlled quickly. 			
	 poses imminent danger to health and safety. 			
	• poses imminent danger to property or the environment.			
	• you are uncomfortable responding to on your own.			
	2. Signal to others to leave, close the door, and post a warning sign.			
	3. Go to a support space or adjacent laboratory. Avoid the hallway and publicly			
	accessed areas.			
	4. Remove contaminated PPE and clothing, turning exposed areas inward and place in a			
	polyethylene bag.			
	5. If a personal exposure has occurred or you experience symptoms of exposure, follow			
	exposure procedures in this plan and contact University Police.			
	6. Call 911 for emergency medical assistance or seek medical attention at the closes			
General	medical facility listed above.			
Ceneral	7. If you can safely proceed in cleaning the spill, notify other laboratory personnel and			
	consult the MSDS regarding the physical, chemical, and toxicological properties and			
	hazards of the chemical to determine the appropriate response.			
	8. Do not attempt to clean a spill alone. Employ the assistance of a co-worker to			
	facilitate cleanup activities.			
	9. Assemble spill supplies and use appropriate PPE including lab coat, gloves, and eye			
	or face protection.			
	10. Take steps to limit the impact of the spill by preventing spilled substances from reaching drains and by isolating equipment and materials that may escalate the danger			
	of the situation.			
	11. Contain the spill with absorbent materials.			
	12. Pick up any visible sharp objects with tongs and discard into a sharps container.			
	13. Clean the spill by working from the outer edges of the spill towards the center.			
	14. Clean surrounding areas (where the spill may have splashed).			
	15. Clean contaminated laboratory equipment as needed.			

- 16. Place the waste generated from cleaning the spill and contaminated PPE in a polyethylene bag. Place the bag into a sturdy pail such as the one provided with the spill kit. Label the container with a Hazardous Waste label and place the waste in the satellite accumulation area. Sharps containers labeled with a biohazard symbol must be disposed of as biohazardous waste.
- 17. Wash hands with soap and warm water.
- 18. Report all possible exposure incidents to Public Safety and follow the exposure response outlined above.
- Submit completed Incident Report which can be found on the Public Safety website.

16. Spill Response-Biological Materials

When a biological spill occurs, it is important to understand the potential routes of exposure for the material involved and to employ proper response procedures. A general spill response is provided below. For each infectious material in the laboratory, indicate the appropriate disinfectant, concentration and contact time required to clean the spill.

- 1. If the biological material involved poses an inhalation hazard, stop breathing in order to avoid inhaling airborne material and quickly leave the room.
- 2. Signal to others to leave, close door, and post a warning sign. No one should enter the laboratory for 30 minutes.
- 3. Go to a support space or adjacent laboratory. Avoid the hallway and publicly accessed areas.
- 4. Remove contaminated PPE and clothing, turning exposed areas inward and place in a biohazard bag.
- 5. If a personal exposure has occurred, follow procedures outlined above and contact Public Safety to handle spill response.
- 6. Call 911 for medical assistance, when needed.
- 7. If the nature of the spill requires the use of a HEPA filtered respirator, do not attempt to handle the spill. Public Safety will assume responsibility for the situation. If the microorganism does not pose an inhalation threat and you are qualified and comfortable cleaning up the spill, proceed to the next step.
- 8. Assemble spill supplies and use appropriate PPE including lab coat, gloves, and eye or face protection.
- 9. Cover the area of the spill with disinfectant-soaked towels, and carefully pour disinfectant around the spill. Because the volume of the spill will dilute the disinfectant, a concentrated disinfectant should be used. Allow at least a 30-minute contact time.
- 10. Pick up any visible sharp objects with tongs and discard in a sharps container.
- 11. Wipe surrounding areas (where the spill may have splashed) with disinfectant.
- 12. Disinfect contaminated laboratory equipment as needed.
- 13. Treat contaminated spill supplies and PPE as biohazardous waste.
- 14. Wash hands with antiseptic soap and warm water.
- 15. Report all possible exposure incidents to Public Safety.
- 16. Notify Public Safety of the incident.
- 17. Submit completed Incident Report which can be found on the Public Safety website.

17. Sublint completed	merdent report which can be rou.	nd on the rabble barety websi	ic.
Infectious Material	Disinfectant	Concentration	Contact Time (min)
		L	

17. Spill Response-Centrifuge Spills

- 1. If a centrifuge malfunctions while in operation or a tube breaks, turn the centrifuge off immediately and unplug it (if you can do so easily).
- 2. If you notice a spill has occurred after opening the centrifuge lid, stop breathing in order to avoid inhaling airborne material and close the centrifuge to allow aerosols to settle.
- 3. Leave the laboratory and signal for others to leave the laboratory.
- 4. Go to a support space or adjacent laboratory. Avoid the hallway and publicly accessed areas.
- 5. Remove contaminated PPE and clothing, turning exposed areas inward and place in a biohazard bag.
- 6. If a personal exposure has occurred, follow procedures outlined above and contact Public Safety to handle spill response.
- 7. Call 911 for emergency medical assistance or seek medical attention at the closest medical facility listed above.
- 8. If the nature of the spill requires the use of a HEPA filtered respirator, do not attempt to handle the spill. Public Safety will assume responsibility for the situation. If the microorganism does not pose an inhalation threat and you are qualified and comfortable cleaning up the spill, proceed to the next step.

- 9. Assemble spill supplies and use appropriate PPE including lab coat, gloves, and eye or face protection.
- 10. Remove rotor and place it in the biosafety cabinet. Open rotor, remove tubes using tongs or forceps. Disinfect the rotor with an appropriate chemical disinfectant and contact time. Dry the rotor thoroughly after disinfection.
- 11. Cover the bottom of the centrifuge with disinfectant-soaked towels. Concentrated disinfectant should be used. Allow at least a 30-minute contact time.
- 12. Wipe the inside of the centrifuge and the lid with an appropriate disinfectant. Dry the inside of the centrifuge thoroughly.
- 13. Treat contaminated spill supplies and PPE as biohazardous waste.
- 14. Wash hands with antiseptic soap and warm water.
- 15. Report all possible exposure incidents Public Safety
- 16. Submit completed Incident Form which can be found on the Public Safety website

Administrative Controls, Engineering Controls, and PPE

18. Administrative Controls			
List any laboratory specific administ	rative controls in addition to	those listed in the <i>Lat</i>	boratory Safety Manual and
Biological Safety Manual			
19. Safety and Compliance Bins C	ontain:		
Laboratory Safety Manual		Chemical Inventory	
Biological Safety Manual		Biological Inventory	
Radiation Safety Manual	X	Laboratory Training	
SDS Library			
20. Facility Requirements			
List any laboratory specific facility re			nemical Hygiene and Laboratory
Safety Plan (example: hands-free sin	k, safety shower, eye wash st	ation).	
Safety Equipment Available:			
Biosafety cabinet Not ducted	Ducted	Sealed lids for centr	ifuge rotors
Chemical fume hood		Safe needle devices	
Glove box		Other:	
□Eyewash		Safety Shower	
21. Location of Designated Areas			
Chemical Storage:			
Satellite Accumulation Area:			
Radiation Usage Areas:			
Other:			
22. Personal Protective Equipmen			
Check each type of PPE available fo	r use in the laboratory. Equi	pment should be insp	ected, cleaned, or replaced as
needed.			
Disposable lab coat	Glove liners		Safety goggles
Laundered lab coat	Utility/autoclave glov		Safety glasses
Chemical resistant apron	Animal-handling glov	/es	Face shield
Disposable shoe covers	Disposable gloves		Hearing protection
Disposable sleeves	Powder-free		Respiratory Protection
Hair covering	Latex-free		Other:
	Chemical-resistant		Other:

Infectious Material

	ia, parasites, fungi, viruses, prions) and all biological material
	nts. Examples include human blood and blood components,
	and non-human primates, infected animals and animal tissues,
	nates, tissues from sheep, and environmental samples likely to
contain infectious agents. Check all materials present in th	e laboratory.
Human blood or blood components	
Other human bodily fluids (list):	
Unfixed human tissues or organs	
Fixed human or animal brain/neural specimens	
Experimental animal blood, organs, or tissue	
Infectious materials listed on the Biological Inventory (
chlamydial and rickettsial agents), viruses, fungi, para	sites, subviral agents, etc.)
24. Exposure Determination	
The following job classifications are at risk for exposure to	infectious material in this laboratory:
Faculty (Professional, administrative, research)	Post doctoral Fellows
Staff (classified, wage, student wage)	Graduate Students
☐ Visiting Faculty	Undergraduate students
Volunteers	Students working for credit
☐ Visiting Research Associates	☐ High School Students
Other:	Other:
25. The following activities place individuals at risk for ex	sposure to infectious material:
Handling or manipulating samples containing infection	ous material or potentially infectious material
Using equipment potentially contaminated with infect	
	or machinery potentially contaminated with infectious material
Responding to spills involving infectious material	,, F
Handling waste potentially contaminated with infection	ous material
Packaging infectious material for shipping or transport	
	teral exposure, inhalation exposure, or contact with mucous
membranes. Check each of the following tasks or procedu	res performed by laboratory personnel:
Use of sharps (needles, scalpels, blades, glass thermome	eters, pipettes, slides and coverslips)
Injections or perfusions	
Use of french press, sonicator, homogenizer, or safety b	<mark>lender</mark>
High speed centrifugation	
Dissection (human and non-human primate tissues and o	organs, any intentionally infected tissue or organ)
Slicing tissue using a microtome or cryostat	
Pipetting, mixing, vortexing, or homogenization	
Handling infected animals and working in animal rooms	s containing infected animals
27. List other tasks, procedures, and activities that increase	e the exposure risk for laboratory personnel.

Particularly Hazardous Substances

28. Particularly Hazardous Substances: List select carcinogens, acutely toxic chemicals, and reproductive toxins used in the laboratory and provide information on the storage and usage location, the type of containment devices used (e.g., chemical fume hood, glove box), the method used for decontamination, and specific waste handling procedures (e.g., location of waste receptacles). Provide information for each Particularly Hazardous Substance located in the laboratory.

Chemical Name	Designated .	<mark>Areas</mark>	Containment	Decontamination	Specific Waste Handling
	Storage	Usage	Devises used	Procedures	Procedures (disposal of
					liquid waste, paper trash,
					PPE, and other
					contaminated materials)

Animal Handling

procedures, and locations of designated areas	handling, including species, type of study, test substance,
Animal Species (Include approximate number ho	<mark>used)</mark>
☐ Guinea Pig	Other
☐ Rodent	Other
□ Dog	□ Other
□ Cat	Other
Type of Study	
Behavioral	Toxicological
Sensitization	Other
Test Substance	
Name of Test Substance:	
Purity:	
Concentration	
Method of Administration	
Oral Feed	
Oral gavage	
Injection Injection	
Dermal absorption	
<u></u> Aerosolization	
Procedures	
☐ Breeding	
☐ Tail bleeds	
☐ Oral gavage	
☐ Cannula	
☐ Surgery, type	
☐ Anesthetization, method	
☐ Euthanization, method	
Location of Designated Areas	
Bedding:	
Storage location:	
Type of bedding Feed	
Storage location:	
Type of feed;	

Administrative Controls, Engineering Controls, and PPE Related to Animal Handling

30. Administrative Controls
List any facility specific administrative controls in addition to those listed in the Chemical Hygiene and Laboratory Safety
Plan.
Vermin control program
Other:
31. Facility Requirements
Specific facility requirements in addition to those outlined in the <i>Chemical Hygiene and Laboratory Safety Manual</i>
(example: hands-free sink).
Doors are self-closing and locking.
Doors open inward.
Walls, floor, and ceilings are water resistant and designed to facilitate cleaning and housekeeping.
Penetrations in walls, floor, and ceilings are sealed, to include openings around ducts, doors, and door frames, to
facilitate pest control and proper cleaning.
✓ Ventilation is provided in accordance with the <i>Guide for Care and Use of Laboratory Animals</i> .
Heat and humidity is adjustable to accommodate a range of animal species.
32. Safety Equipment
Check each type of safety equipment available for use in the facility.
Biosafety cabinet Not ducted Ducted Safe needle devices
Chemical fume hood Cage Wash
Glove box Bedding station
Downdraft table Other:
33. Required Personal Protective Equipment (PPE)
☑Disposable or laundered lab coat ☑Disposable gloves (latex-free)
∑Disposable shoe covers ∑Safety glasses
Optional N95 respirator when completing bedding or Hair covering when completing bedding or cage changes
cage changes
Disposable coveralls or laundered scrubs when
completing bedding or cage changes
34. Additional Personal Protective Equipment (PPE)
Check each type of PPE available for use in the facility. Equipment should be inspected, cleaned, or replaced as needed.
Disposable sleeves Hearing protection
Utility/autoclave gloves N95 respirator
Animal-handling gloves Other:
Safety goggles