

# Bloodborne Pathogens

## Lab-Specific Exposure Control Plan

Template Rev. 5.1/Feb2023

Completing this template indicates that the Principal Investigator or Lab Manager (to be referred to as "Supervisor" in this document) intends to fully implement the provisions of the SFSU Exposure Control Plan, and thus fully comply with Cal/OSHA 8 CCR Title 8 §5193.

### Research Lab or Project:

Name of Lab or Project \_\_\_\_\_

Review/Revise Date

Department \_\_\_\_\_

Dept Head \_\_\_\_\_

Location Building \_\_\_\_\_

Room(s) \_\_\_\_\_

### Person with the authority and responsibility for the bloodborne pathogen exposure control plan for this operation is:

Full Name \_\_\_\_\_  
Please print

Email \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

### Brief Description of Project/Objective

**I. PURPOSE:** Some techniques or specimens used in this research laboratory are hazardous and could cause exposure to human disease organisms. The purpose of this Exposure Control Plan is to describe how to eliminate or minimize the danger of exposure to human blood or other potentially infectious materials, in compliance with the California OSHA Bloodborne Pathogens Standard (8CCR§5193, effective July 1, 1999) and the campus Injury and Illness Prevention Program (IIPP). This template is to be completed by each applicable researcher (Principal Investigator), teaching lab coordinator/lecturer, or staff manager based upon the unique specimens and the nature of work being conducted under her/his auspices.

**Universal Precautions** [§5193(d)(1) and (b)]: It is the policy of the San Francisco State University and this laboratory to ensure practice of Universal Precautions and all other appropriate methods to reduce exposure to human bloodborne pathogens. Universal Precautions is a method of infection control in which all human blood, tissue and certain body fluids are treated **as if known to be infectious** for HIV, HBV or other bloodborne pathogens.

**II. EXPOSURE DETERMINATION** [§5193(c)(2)]: The PI will identify positions and procedures in the laboratory that present the possibility of occupational exposure to human blood or other potentially infectious materials. This determination is based on the risk of performing each procedure without the use of personal protective equipment. Self-inspection for these risks is also required under the IIPP. Use RSS Assessment, the lab hazard assessment tool (LHAT).

**A. The materials** used in this laboratory that may cause exposure to human bloodborne pathogens include the following: (Mark all that apply.)

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- Human blood, serum, plasma, blood products, components, or cells
- Human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid visibly contaminated with blood, all body fluids where it is difficult to differentiate between fluids
- Any unfixed human tissue or organ. (Tissues and organs soaked in chemical preservatives, such as formalin or alcohol solutions are “fixed and handled under the University Biosafety Plan.)
- Cell, tissue or organ cultures containing HIV; culture medium or other solutions containing HIV or HBV; blood, organs or other tissues from experimental animals infected with HIV or HBV
- Handle sharp instruments such as knives, needles, scalpels, or scissors which have been used by others working with human blood or other potentially infectious materials to include human organs, tissues or body fluids,
- Perform first aid where exposure to human blood or OPIM is possible
- Clean up spills of human blood or OPIM

**B. The job classifications** in which all or some employees may have occupational exposure to human bloodborne pathogens include the following categories: **(List the names of persons potentially at risk.)**

- Principal Investigator (1)** \_\_\_\_\_ email \_\_\_\_\_
- Principal Investigator (2)** \_\_\_\_\_ email \_\_\_\_\_
- Staff/Lab Manager** \_\_\_\_\_ email \_\_\_\_\_

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**Research Team/ Lab Group**

- Post-Doctoral(s)** \_\_\_\_\_ email \_\_\_\_\_  
 \_\_\_\_\_ email \_\_\_\_\_  
 \_\_\_\_\_ email \_\_\_\_\_
- Staff** \_\_\_\_\_ email \_\_\_\_\_  
 \_\_\_\_\_ email \_\_\_\_\_
- Graduate Research Students** \_\_\_\_\_ email \_\_\_\_\_  
 \_\_\_\_\_ email \_\_\_\_\_  
 \_\_\_\_\_ email \_\_\_\_\_  
 \_\_\_\_\_ email \_\_\_\_\_  
 \_\_\_\_\_ email \_\_\_\_\_
- Undergraduate Research Students** \_\_\_\_\_ email \_\_\_\_\_  
 \_\_\_\_\_ email \_\_\_\_\_  
 \_\_\_\_\_ email \_\_\_\_\_

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**C. The tasks and procedures** used in this laboratory that may pose risk of exposure to human bloodborne pathogens include the following: **(Mark all that apply.)**

- Phlebotomy or venipuncture of humans (including co-worker or student)
- Injections (into humans or into animals using human specimens)
- Other use of needles with human specimens
- Preparing, dissecting, cutting, or otherwise handling unfixed human tissue
- Pipetting, mixing, homogenizing, or vortexing human blood, fluid or tissue
- Centrifuging human blood, fluid or tissue
- Handling tubes or other containers of human blood, fluid or tissue
- Handling contaminated sharps or other contaminated waste
- Cleaning up spills of human blood or other body fluids
- Preparing or handling primary human cell cultures
- Other

**IMPORTANT!** Attach relevant standard operating procedures, and protocol for acquiring, distributing, and using these materials specific to your operations. Can be included as part of your BUA.

**III. METHOD AND SCHEDULE OF COMPLIANCE** [§5193(d) and (i)]: The Blood-borne Pathogens Standard will be implemented in this laboratory by the following methods and schedule:

**A. Written Exposure Control Plan** [§5193(c)(1)]: This Exposure Control Plan will be available to all affected employees and reviewed and revised annually, or whenever any significant changes in procedure or personnel occur.

**B. Engineering And Work Practice Controls** [§5193(d)(2)]: The following engineering and work practice controls are employed in this laboratory as part of Universal Precautions to minimize exposure to human bloodborne pathogens.

**1. Handwashing:** Laboratory personnel wash their hands frequently while working with biohazardous agents, immediately after removing gloves, and immediately upon any contact with blood or other potentially infectious material.

**2. Mouth pipetting** or mouth suctioning is strictly prohibited.

**3. Eating, drinking, smoking,** applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas. Never put anything (pen, pencil, pipette, pins) into your mouth.

**4. Food and drink are not placed in refrigerators,** freezers, shelves, cabinets, bench tops, ovens or microwaves where blood or other potentially infectious materials are handled or may be present.

**5. Used needles and other sharps** are not sheared, bent, broken, recapped, or re-sheathed by hand. Used needles are not removed from disposable syringes. Contaminated sharps are placed immediately in a puncture-resistant and labeled "sharps container".

5.1 In this lab, the following procedures require needles to be recapped:

- No needles will be recapped in this laboratory operation.

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5.2 These procedures require the use of the following mechanical device(s) or one-handed technique(s):

**6. Leak-resistant containers** are used during the collection, handling, processing, storage, transport or shipping of blood specimens and other potentially infectious materials. The containers are appropriately labeled or color-coded and are closed prior to transport. If outside contamination could occur, the primary container is placed in a second container to prevent leakage. Containers are available from:

**7. Engineering controls** are examined and maintained on a regular schedule to ensure their effectiveness.

**7.1 Engineered Sharps for Injury Protection** [§5193(d)(3)] have an attribute built into the device that effectively reduces the risk of an exposure incident such as barrier creation, blunting, encapsulation, automatic needle withdrawal.

Per 8CCR5193(d)(3)(A)(2), if needless systems cannot be used, needles with "engineered sharps" injury protection *must* be used for withdrawal of body fluids or for any other procedure involving the potential for an exposure incident. Evaluate your use of syringes and needles.

If your procedure, equipment, objective, or project is such that "safety-type" sharps are not effective and cannot be used, check the box below:

- Needless systems are not usable and there are no "Engineered Sharps" available that will effectively work with the method or equipment used.

Explain why and describe how you will prevent unwanted punctures or exposure incidents.

**7.2 Biological safety cabinets** must be checked for proper functioning each time they are used. The laboratory manager will check the magnahelic gauge periodically, as it serves as a useful tool to determine when filters must be changed.

Report problems with a biosafety cabinet promptly to your stockroom and take the unit out of service until repaired and retested.

The Environment, Health and Safety office coordinates the annual biosafety cabinet certification and maintains the records. Verification of this annual testing must be posted on the biosafety cabinet.

Note that laminar flow hoods or "clean benches" are not biosafety cabinets, are not maintained by EH&S, and may not be used for handling bloodborne pathogens and other biohazards.

**7.2 Other engineering controls and equipment** that require regular examination. A list of the equipment and the maintenance schedule for each piece is listed below:

EQUIPMENT	Note	INSPECTION OR CLEANING SCHEDULE
<input type="checkbox"/> Biosafety cabinet		<input type="checkbox"/> Daily <input type="checkbox"/> Weekly <input type="checkbox"/> Monthly <input type="checkbox"/>
<input type="checkbox"/> Sharps containers	Remove when 3/4 full	<input type="checkbox"/> Daily <input checked="" type="checkbox"/> Weekly <input type="checkbox"/> Monthly <input type="checkbox"/>
<input type="checkbox"/> Biohazard waste containers	Remove when 2/3 full	<input type="checkbox"/> Daily <input checked="" type="checkbox"/> Weekly <input type="checkbox"/> Monthly <input type="checkbox"/>
<input type="checkbox"/> Other _____		<input type="checkbox"/> Daily <input type="checkbox"/> Weekly <input type="checkbox"/> Monthly <input type="checkbox"/>

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8. **Examine equipment prior to servicing or disposal** and decontaminate as necessary. In the event that decontamination of specific equipment or portions of such equipment is not feasible, a readily observable label, the biohazard symbol and the word "biohazard" will be attached to the equipment stating which portions remain contaminated. Specific types of equipment which will/may require decontamination are:

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**C. Housekeeping** [§5193(d)(4)]: The instructor has determined that the following procedures are appropriate cleaning and decontamination methods for use in this laboratory to minimize exposure to human bloodborne pathogens. Universal Precautions dictate using appropriate disinfection or disposal techniques for all items potentially contaminated with human blood or other infectious materials.

1. The work site is maintained in a clean and sanitary condition. Benches and biosafety hoods are cleaned at the end of the day and after any spill using the following disinfectant(s)

Disinfectant/Type	Location	How Used/Purpose

Other details \_\_\_\_\_

Contaminated work surfaces must be decontaminated with disinfectant after completion of each procedure and

- Immediately when surfaces are overtly contaminated or after any spill of blood or OPIM
- At the end of the work day if the surface may have become contaminated since the last cleaning

2. Broken glassware is not picked up directly with the hands – even if lab gloves are worn. Use mechanical means, such as a brush and dust pan, tongs or forceps.

3. All buckets, pails, cans, bins, baskets and similar receptacles intended for re-use that have a reasonable likelihood of becoming contaminated with blood or OPIM must be inspected and decontaminated regularly and as soon as possible after known or visible contamination.

The following schedule for cleaning and sanitizing or decontaminating has been established.

ITEM TO BE CLEANED	FREQUENCY	CLEANER/METHOD TO USE	JOB TITLE OR NAME

4. Waste that is handled according to the standards of good laboratory practice and the SFSU Biosafety Plan\* will comply with state law. Medical waste generated by this laboratory is disposed of as follows:

Waste Type	Collection Container	Disposal
<input type="checkbox"/> Sharps - disposable	Red "sharps" container with biohazard symbol and label "Sharps" or "Sharps Waste". Attach blue Sharps Waste tag.	<input type="checkbox"/> Securely taped sharps container is taken to Biohazardous/Medical Waste collection area in <a href="#">HH 765</a>
<input type="checkbox"/> Dry Contaminated Materials • Lab debris— <i>paper towels, liners, etc.</i>	1. Red biohazard autoclave bag 2. Outer collection container must be <ul style="list-style-type: none"> <li>• sturdy</li> </ul>	<input type="checkbox"/> Autoclaved per COSE Biosafety Plan, then placed into opaque trash bag, secured, and put into municipal trash.

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<ul style="list-style-type: none"> <li>Contaminated clothing—gloves, lab coats, aprons, etc.</li> </ul>	<ul style="list-style-type: none"> <li>have tightly closed lid</li> <li>biohazard symbol on top and sides</li> <li>have word “biohazard”</li> </ul> <p>3. Blue waste ID tag with generator and waste information affixed to outer container</p>	<input type="checkbox"/> Securely red bag is taken to to Biohazardous/Medical Waste collection area in <a href="#">HH 765</a>
<input type="checkbox"/> Liquid blood/body fluids	<p>Red medical waste container that can be tightly sealed. Biohazard word and symbol is required on container and blue waste ID tag.</p>	<input type="checkbox"/> Container is taken to the Biohazardous/Medical Waste collection area in <a href="#">HH 765</a>
<input type="checkbox"/> Human unfixed tissue	<p>Red medical waste container that can be tightly sealed. Biohazard word and symbol is required on container and blue waste ID tag.</p>	<input type="checkbox"/> Container is taken to the Biohazardous/Medical Waste collection area in _____
<input type="checkbox"/> Animal blood or tissues containing active human pathogens	<p>Red medical waste container that can be tightly sealed. Biohazard word and symbol is required on container and blue waste ID tag.</p>	
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		

*\*See page 11 for the COSE Biological Waste Flow Chart*

**4a. Additional comments regarding waste disposal**

Additional waste streams and relevant collection and disposal protocols are attached.

**D. Personal Protective Equipment** [§5193(d)(3)]: Personal protective equipment (PPE) and clothing is used in this laboratory to minimize or eliminate exposure to human bloodborne pathogens. All PPE must be inspected, cleaned, or replaced, as needed, in order to maintain its effectiveness; this will be done at no cost to laboratory personnel. The use of PPE will be evaluated and enforced by the Supervisor using the [RSS PPE Lab Hazard Assessment](#) tool and the [Chemical Hygiene Plan](#).

1. Laboratory personnel wear gloves, lab coat, and safety glasses whenever handling human blood, fluids or tissue. To be effective, gloves must provide a barrier between hand and contaminated material. Occasional testing of your glove brand and type is recommended; one simple test is to fill the glove with water to check for leaks. In any event, gloves must be replaced frequently and immediately if they become contaminated or damaged in any way.

2. Laboratory personnel wear whatever personal protective equipment (apron, booties, face shield, etc.) is needed to prevent blood or other potentially infectious material from reaching their street clothes, skin, eyes, mouth, or other mucous membranes, under normal conditions.

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Tasks and procedures in this laboratory which require use of additional personal protective equipment or clothing include:

TASK/PROCEDURE PPE REQUIRED	Gloves	Lab Coat	Goggles	Face shield	Apron	Other required PPE or additional details
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

3. All necessary PPE, in correct sizes, is readily accessible at these locations:

- Disposable gloves \_\_\_\_\_
- Lab coats \_\_\_\_\_
- Eyewear \_\_\_\_\_
- Face shields \_\_\_\_\_
- Dust Masks (N95 type) \_\_\_\_\_
- Other \_\_\_\_\_

4. PPE is removed **prior** to leaving the work area and is placed in designated areas for disinfection or disposal. The following PPE should be put in these locations:

- Disposable gloves \_\_\_\_\_
- Lab coats \_\_\_\_\_
- Safety goggles \_\_\_\_\_
- Face shields \_\_\_\_\_
- Dust Masks (N95 type) \_\_\_\_\_
- Other \_\_\_\_\_

5. **Contaminated laundry** is handled as little as possible. It should be placed and transported in bags or containers which are appropriately labeled or color-coded and which prevent leakage of fluids.

Contaminated laundry generated by this laboratory is disposed of by:

*(NOTE: At no time will workers be expected to take home any PPE, including lab coats, for laundering or cleaning that have been in contact with human blood or OPIM.)*

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**E. Post-Exposure Evaluation and Follow-up** [§5193(f)(3)]: A post-exposure evaluation and follow up will be made for all employees who have had an exposure incident at no cost to you.

You must notify the Responsible Supervisor or **Class Instructor** as soon as a suspected exposure incident has occurred.

The Class Instructor will notify the Biology Stockroom and fill out an Incident Report. The Stockroom will report the incident to Campus EHS. Following an exposure report, we will immediately make available to you a confidential medical evaluation and follow-up. Medical evaluations are coordinated by the EHS Dept.

Review additional information about medical evaluations and availability of the Hepatitis B vaccine in the COSE or SFSU Exposure Control Plan. If it is a sharps stick or incident, the “Sharps Injury Log” in Appendix B of this Lab ECP must be filled out in addition to the injury reporting form..

As detailed in the SFSU BBP Exposure Control Plans, Hepatitis B vaccinations can be made available pre-exposure to those employees determined to be “at risk” and post-exposure following a medical evaluation. An employee has the right to decline the HBV vaccine. The “Declination” form is available as Appendix A to the COSE BBP Exposure Control Plan.

**F. Information and Training** [§5193(g)(2)]: Initial Bloodborne Pathogen training is offered online through CSU Learn. Once an employee with a risk of exposure to blood or OPIM is identified, the Supervisor must contact the EH&S Office as soon as possible and BEFORE work with these materials begins.

Work-specific training must be provided by the Supervisor with general assistance from the Biology BIS facility. Instruction will include review of the BBP Exposure Control Plan and discussion of the lab-specific rules and policies in place to minimize risks.

Add any lab-specific procedures for tasks that involve the potential for exposure to human blood, blood products, un-fixed human tissue, or OPIM.

**Laboratory Classrooms:** Instructor shall provide documented training to enrolled students in laboratory safety rules that includes universal precautions and bloodborne pathogen awareness. Training acknowledgement forms with student signatures must be maintained on file by the department for at least the current semester plus one year.



**Initial Bloodborne Pathogen Training Documentation Form**

**INDIVIDUAL WORK-SPECIFIC TRAINING**

Trainer's Name	<input type="text"/>	Training Date	<input type="text"/>
Employee Name	<input type="text"/>	SFSU ID	<input type="text"/>
Faculty/Staff Supervisor	<input type="text"/>	Assignment Date	<input type="text"/>

I hereby certify that I received training as described in the following areas and agree to comply with these requirements and safe work practices”

**General Bloodborne Pathogens Training (Online)**

- An explanation of the Cal/OSHA Bloodborne Pathogen Standard.
- A discussion of bloodborne diseases and their transmission
- An explanation of the use and limitations of methods that will prevent or reduce exposures, including
  - ☞ Engineering controls
  - ☞ Work practices
  - ☞ Personal protective equipment (PPE)
- Instructions on emergency response involving blood or other potentially infectious materials (OPIM)

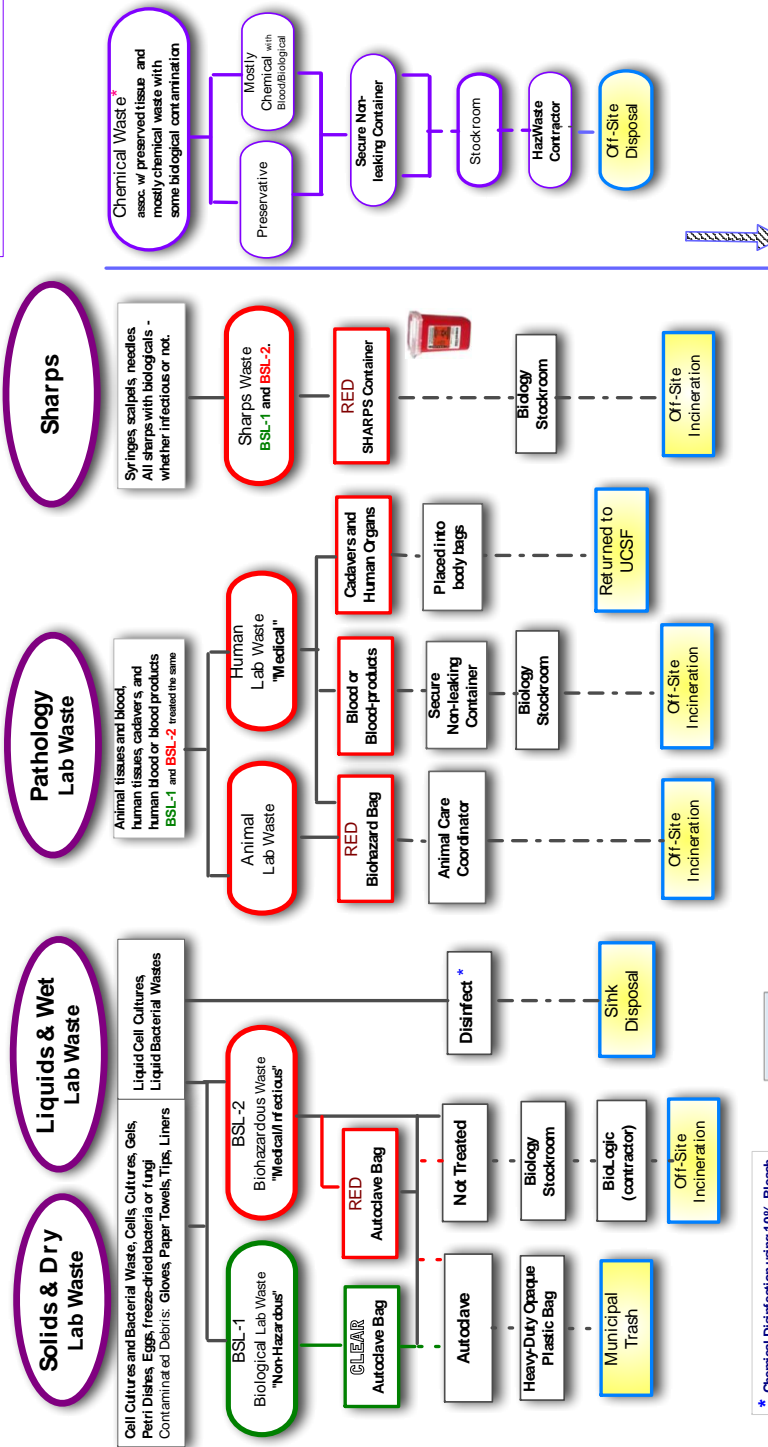
**Lab-specific Training on the COSE Exposure Control Plan (In Person)**

- An explanation of the signs, labels, and/or color coding used to identify potentially infectious material, i.e., red bags, red sharps containers, biohazard symbol.
- Information on the types, selection and proper use, location, handling, decontamination and disposal of PPE available to me
- An explanation of how to handle exposure incidents and post-exposure evaluation and follow up
- A comprehensive review of the Lab-specific BBP Exposure Control Plan

**Employee/Trainee's Signature** \_\_\_\_\_

**Trainer Signature** \_\_\_\_\_

Approved by the CCSE Biosafety Committee  
 on Nov. 14, 2013.



\* Chemical Disinfection using 10% Bleach liquids or semi-liquids only

Use this BLUE Biowaste Tag to label biological wastes with generator information, contents, and date.



DO NOT USE GREEN chemical waste tag for most biological wastes. Chemical contamination of biological wastes aren't "hazardous" waste per EH&S

\* CHEMICAL ONLY sharps with NO BIOLOGICAL materials go in SHARPS containers that are not red. Preservatives poured off from preserved specimens are collected and disposed of as Hazardous Waste. Attach GREEN chemical waste tag and also when chemical hazard outweighs biological hazard.

