INTRODUCTION

This program applies to Eastern Washington University (EWU) personnel who work with biohazardous agents in performance of their job duties. Biohazardous agents may pose a threat to human health or the environment if not used properly and employees have the right to know and understand the biohazardous materials they use and how to work with them safely. It is the intent of the EWU that all biohazardous materials are recognized, stored, and safely used.

The Environmental Health and Safety (EH&S) Department assists departments on campus with the safe management of biohazardous agents that are used during department operations.

This procedure is supported by information provided in the Occupational Exposure to Bloodborne Pathogens Procedure, Radiation Safety Directive Procedure and the Autoclave Safety Guidance. The forms to assist with documentation of biohazardous agents are the Bio-Materials Treatment and Certification Form and the Incident Report Form.

PURPOSE

Biohazardous agents are biological in nature, capable of self-replication, and have the capacity to produce deleterious effects in humans or other organisms. Biohazardous waste is all infectious and potentially injurious waste originating from medical, veterinary, dental, laboratory or research facilities [including all materials contaminated with blood, saliva, and gingival fluids, or infectious agents].

Researchers anticipating work with biohazardous agents categorized as Biosafety Level 2 or 3, must contact EH&S and review their protocol for conformance with Biosafety Containment requirements.

Definitions

Biohazardous agent refers to an agent that is biological in nature, capable of self-replication, and has the capacity to produce deleterious effects upon biological organisms. Biohazardous agents include, but are not limited to; bacteria, fungi, viruses, rickettsiae, chlamydia, prion, parasites, recombinant products, allergens, cultured human and animal cells and the potentially biohazardous agents these cells may contain, infected clinical specimens, tissue from experimental animals, plant viruses, bacteria and fungi, toxins, and other biohazardous agents as defined by State and Federal regulations.

Biological waste is any material that contains or has been contaminated by a biohazardous agent. Biological waste includes, but is not limited to; petri dishes, surgical wraps, culture tubes, syringes, needles, blood vials, absorbent material, personal protective equipment and pipette tips.

Sharps are items that are capable of puncturing, cutting or abrading the skin. Sharps include, but are not limited to; glass and plastic pipettes, broken glass, test tubes, razor blades, syringes, and needles. See the Sharps Disposal Guidance (In Progress) for more details.
Animal Carcasses refer to any animal parts or whole animals that have been used for routine experimentation and not subject to chemical contamination, radioactive contamination or biohazard experimentation. All uncontaminated animal carcasses can be placed in standard plastic garbage bags and properly labeled as to what they are and which lab they originated from.

Animal carcasses exposed to chemicals during research will need to be evaluated for chemical disposal. Contact EH&S ahead of time for disposal options and pickup.

LAB NOTIFICATION

Science Building – Cheney: Principle investigators anticipating work with biohazard agents are responsible for determining the correct biosafety level\(^1\) and obtaining authorization. Authorized laboratories will be prominently posted with the name of the principle investigator, the nature of the biohazard, and the biohazard symbol.

BIOHAZARDOUS WASTE DISPOSAL

Handling and disposal of biohazardous materials must comply with WAC 296-24, WAC 296-62, WAC 296-800, and local solid waste disposal regulations.

WASTE TYPES

Biological versus Chemical/Radiological Waste

Biological waste must be managed separately from chemical waste. The most common example where chemical waste is mistaken for biological waste is agarose gel contaminated with ethidium bromide or heavy metals (i.e. arsenic, chromium). This type of material should always be managed as chemical waste.

Sharps

All sharps should be placed into properly labeled sharps containers or other rigid, puncture-proof containers. Make sure the container is sealed, labeled, and in-tact.

- Biological contaminated sharps should be treated and managed following the Biological Waste Disposal and Pickup Procedures found on the next page.
- Biological and chemical contaminated sharps should be treated first as a biological waste. Once the biological agents have been deactivated by either autoclave or chemical disinfection, the remaining chemical waste should be submitted on a Hazardous Materials Pickup Request Form.

- Chemical contaminated sharps should be placed in a hard plastic container, labeled as chemically contaminated sharps and a pickup request must be submitted to EH&S on a Hazardous Materials Pickup Request Form.
- Radioactive contaminated sharps must be managed as radioactive materials. Place radioactive sharps in a hard plastic contained separate from other radioactive waste. The container must have a radiation sticker on it. See the Radiation Safety Procedure for more information.
- Autoclaved or clean sharps will be placed in hard plastic containers labeled as clean sharps and can then be placed in the dumpster for disposal.

**Liquid Waste**

Liquid biological waste should be collected in containers for autoclaving or chemical disinfection. (See Autoclave Safety Guidance) Autoclaved liquid wastes can be disposed via the laboratory sink. Chemically disinfected liquids must be approved by EH&S for sink disposal. Do not pour melted agarose down the drain. Allow it to cool and solidify, then dispose of it as solid waste in biohazardous waste bags.

**Solid Waste**

Solid biological waste, including solidified agarose gels, should be collected in appropriate biohazardous waste autoclave bags. Once the waste has been autoclaved or chemically disinfected, the autoclave bags should be taped or tied shut and placed inside of the cardboard box provided by EH&S or a licensed contractor.

**BIOLOGICAL WASTE DISPOSAL AND PICKUP PROCEDURES**

1. Determine whether the biological waste is Category 1 or Category 2.

   **Category 1** biological waste includes any human-derived biological or substance known, assumed, or suspected of being infectious to humans, plants, or animals before treatment that may cause harm to the general public if released into the environment. Category 1 biological waste also includes any material contaminated with the aforementioned infectious substances and all items containing or contaminated with human blood or fluids. All Category 1 biological waste must be treated by autoclave or with an appropriate chemical disinfecting agent such as bleach prior to pickup.

   **Category 2** biological wastes, also known as "look-alike waste", is non-infectious and includes material such as animal tissue, fluids, cell cultures and Petri dishes not fitting the Category 1 description. Category 2 waste does not require treatment.

2. All solid biological waste, including sharps containers, must be placed into a cardboard box provided by EH&S. The box should be taped shut once it is full. Do not overfill the box; the box flaps should easily fold down onto the top of the box (See pictures on next page).
3. Once you are ready to have waste removed from your laboratory, complete and sign a Bio-
Materials Treatment and Certification Form and call EH&S at xt. 2788 to schedule a pickup. 
Pickup usually occurs within three working days. If necessary, regularly scheduled pickups can 
be setup throughout the week (i.e. pickup every Friday). Riverpoint waste boxes will be placed 
in the Hazardous Waste Collection Room in the basement. EH&S will arrange for a contractor 
pickup.

4. A EH&S technician will come to your lab and remove the waste. The technician will leave 
behind the same number of boxes that were removed from the lab. It is the responsibility of the 
lab personnel to construct each new box.

5. Custodians who pick up biowaste will place the waste in the building’s main biowaste container 
or transport the waste to the Hazardous Materials Building and place it in the hard plastic 
container in front of the building. This container will be emptied once a day.

Correct

Incorrect

Once the waste is picked up from campus locations, it is transported back to EWU Hazardous 
Materials Storage Building where it is consolidated. A waste vendor routinely picks up and 
transports the waste to a nearby Subtitle D non-hazardous waste landfill. The landfill requires that 
all waste be non-infectious, free of EPA regulated chemical waste, and contain no liquids.

Any waste that has contacted human blood, saliva, or gingival fluids, or waste, which contains 
pathogens (to which direct exposure creates a risk of disease), will be collected in red containers 
marked with the BIOHAZARD symbol. Biohazardous medical wastes shall be chemically 
disinfectected or steam sterilized according to recognized and acceptable practices prior to disposal.

Biohazard medical waste rendered non-infectious must be packaged in such a manner so as to 
prevent spillage or leakage under normal handling condition, and disposed of as general solid waste.

- Recognizable human body parts must be disposed of through a medical waste contractor.
- Dead animals must be transported for disposal within 24 hours if not kept under refrigeration. 
  Animals weighing fifteen pounds or less (not contaminated with hazardous chemicals), may 
  be disposed of in the general solid waste provided the carcass is separately double bagged in 
  6 ml plastic or single bagged in 6 mil plastic and over packed in opaque plastic containers.
with tight fitting lids. For numerous small animal carcass (less than 15 pounds) and animals weighing over fifteen pounds, contact EH&S for assistance. Biohazard animal carcasses must be rendered non-infectious prior to disposal.

**SPILL CONTROL**

The faculty or staff member supervising the laboratory protocol must clean spills of infectious material. Documentation of the spill and the cleanup methods should be forwarded to EH&S on the Incident Report Form.

**Non-Laboratory Biohazardous Waste**

Non laboratory generated biological waste (vomit, blood, urine etc.) will be cleaned up by custodial staff in teaching labs and public areas. If someone gets sick in a research lab custodial staff may clean the area in the prescience of a senior researcher provided there are no additional hazards involved (leaking gases, chemicals within the biohazard, etc.)

**CONTINGENCY PLAN**

In the event autoclaves are not operating or waste disposal services are not available biohazard material must be stored in properly labeled and sealed containers, under refrigeration, until appropriate disposal can be arranged.

**TRAINING & EDUCATION**

The most important element for controlling biohazards is strict adherence to standard microbiological practices and techniques. Persons working with infectious agents or infected materials must be aware of potential hazards and must be trained and proficient in the practices and techniques required for safely handling such material.

Students will receive training on the handling of biohazards waste as required by laboratory curricula. Training on the content of these procedures will also be provided.

Faculty and graduate research assistants will receive training consistent with the requirements of Chapter 296-823 for laboratory work involving human blood or body fluids. Exposure incidents must be documented on the Incident Report Form.

**MONITORING**

The EH&S Department will be responsible for monitoring biohazardous and medical waste contractors for compliance with the regulations, maintaining records on biohazard waste disposal, and assisting with biohazard waste disposal as requested.
ASSOCIATED DOCUMENTS

- Occupational Exposure to Bloodborne Pathogens Procedure
- Radiation Safety Directive
- Autoclave Safety Guidance

ASSOCIATED FORMS

- EH&S Form: Bio-Materials Treatment and Certification Form
- EH&S Form: Incident Report Form

REVISION HISTORY

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