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Biohazardous Waste Management Plan and Policy

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Biohazardous Waste Management Plan and Policy

1 Introduction

The **University of Maine** and **University of Southern Maine** Biohazardous Waste Management Plan and Policy establishes procedures and practices for the proper disposal of biohazardous waste and references the rules set forth with the Maine Department of Environmental Protection (DEP), [Biomedical Waste Management Rules \(06-096 CMR 900\)](#).

For the purpose of clarity, the term “Biomedical Waste” is a sub-category of “Biohazardous Waste.” **Biomedical** waste as defined by the DEP “means a waste that may contain **human** pathogens of sufficient virulence and in sufficient concentrations that exposure to it by a susceptible host could result in disease.” **Biohazardous** waste (human and animal) includes all infectious and pathogenic waste generated regardless of whether or not the waste meets the DEP’s definition of biomedical waste.

It is the University’s intent for compliance and as a risk management policy to ensure that ALL potentially infectious and pathogenic waste be managed properly regardless of how it was generated.

Biohazardous wastes are generated through research, teaching, medical procedures, medical testing, and emergency response/first aid activities. Biohazardous waste includes the following:

- **Discarded Human Blood, Blood Products, and Body Fluids:** Discarded blood, serum, plasma, blood products, and body fluids. Body-fluids are defined as fluids which are generated or removed during surgery, autopsy, obstetrics, emergency care, or embalming.
- **Waste Saturated with Human Blood, Blood Products, or Body Fluids:** These may include items such as sponges, surgical gloves and masks, drapes, aprons, dressings, disposable sheets and towels, under-pads, plastic tubing, suction canisters, used syringes without needles and dialysis unit waste.
- **Pathological Waste:** Human tissues, organs, and anatomical parts including teeth, discarded from surgery, autopsy, obstetrical procedures, and laboratory procedures.
- **Discarded Sharps** used in patient, animal, cadaver care or in medical and biohazardous research laboratories: These include, but are not limited to, hypodermic needles, syringes, scalpel blades, suture needles, disposable razors, lancets, capillary tubes, Pasteur pipettes, broken glassware, IV tubing with needles attached, and dialysis bags with needles attached.
- **Discarded Cultures and Stocks of Infectious Agents** and the culture dishes and devices used to transfer, inoculate and mix cultures; discarded clinical specimens and the associated containers or vials; discarded biologicals; and waste from the production of biologicals and recombinant DNA research.
 - Biologicals: Preparations made from living organisms and their products, including serums, vaccines, antigens, and antitoxins.
- **Discarded Carcasses, Body Parts, Bedding and Other Waste** generated by research facilities from animals containing organisms or agents not usual to the normal animal environment and which are pathogenic or hazardous to humans.
- **Cytotoxic Drugs and Chemotherapy Waste** which includes all materials that have come in contact with, and have no more than trace amounts of cytotoxic (antineoplastic) agents.

Biohazardous Waste **DOES NOT** include the following:

- **Urine and feces**
- **Sludge and septage.** Sludge means the semi-solid or liquid residual generated from a municipal, commercial or industrial wastewater treatment plant. Septage means waste, refuse, effluent, sludge and any other materials from septic tanks, cesspools, or any other similar facilities.
- **Water and wastewater samples.** Wastes generated as a result of the routine screening of water and wastewater samples are not subject to the requirements of this rule.
- **Animal carcasses, anatomical parts, bedding, or other waste** generated in the routine handling of animals **containing organisms or agents normally found in the animal environment**
- **Band-Aids and other blood spotted items such as feminine hygiene products**

2 Registration

The DEP addresses registration requirements for **“medical facilities.”** The DEP defines a **medical facility** as “any place where **biomedical** waste is generated, including, but not limited to: hospitals, ambulatory surgical centers, emergency medical service providers, offices and mobile units of health care providers including doctors and dentists, nursing homes, medical diagnostic laboratories, blood centers, pharmaceutical companies, research laboratories, health agencies, diet or health care clinics, offices of veterinarians, veterinary hospitals, and funeral homes and mortuaries.”

The DEP classifies biomedical waste generators as Very Small (VSQG, < 10 lbs./mo.), Small (SQG, 10><50 lbs./mo.) or Large Quantity Generators (LQG, > 50 lbs./mo.) based upon the average amount of waste produced. Registration is filed annually by the responsible campus department using the average generation rates of the previous year. Examples:

- The University of Maine (Orono Campus), Generator ID#1390, typically generates between 400 to 1000 lb. of waste monthly and is registered as a LQG.
- The University of Southern Maine (Portland Campus), Generator ID#BWGL-0000096, typically generates between 10 and 50 lbs. of waste monthly and is a SQG.
- The Darling Marine Center (DMC) Generator ID# 2611, produces (on average) less than 10 lbs. of waste per month and is registered as VSQG.

VSQG’s and SQG’s are not required to have a written plan; however, they are required to manage their waste according to the DEP Rules and are expected to follow the guidelines established in this plan.

3 Responsibilities

UMS Safety Management (SM) is responsible for coordinating waste disposal services, including the collection and manifesting of waste at the University of Maine in Orono, Darling Marine Center in Walpole, and the University of Southern Maine in Portland. Safety Management will also provide guidance for other sites upon request.

- Note: All other system sites should make arrangements with their campus safety contact (typically a member of the Facilities Maintenance Department) to have their waste collected.

Departments are responsible for conducting employee training within their department for all employees who handle or package biohazardous waste.

Employees are responsible for attending required training, proper handling of potentially infectious materials, and following written guidelines for disposal of biohazardous and contaminated waste.

4 Personnel Training

All employees who handle or package biohazardous waste must be trained. New personnel may be trained by more experienced personnel in an on-the-job setting. Training should also be provided annually as part of the department Hazard Communication or Bloodborne Pathogen Training (BBP).

Training must include, at a minimum:

- Type of waste generated in their area
- Waste handling, packaging, labeling, storage, and disposal procedures specific to their area
- Spill containment and cleanup procedures
- Name and phone number of the person(s) responsible for biohazardous waste management in their area, and the Biosafety Officer

Departmental Bloodborne Pathogen Plans or Biosafety Plans that include all the required information may be used as training documents. All training must be documented.

5 Storage Areas

- Biohazardous waste must be segregated from other wastes.
- All on-site storage of containers of biohazardous waste must be in a designated area away from general traffic flow patterns and, where possible, in a room reserved for this purpose. **The manner of storage must prevent access to or contact with such waste by unauthorized persons.**
- Biohazardous waste must be stored in a manner that preserves the integrity of the container and is not conducive to rapid microbial growth and/or putrefaction. Pathological waste, cultures, and discarded animal carcasses and body parts stored for more than 24 hours after

packaging must be refrigerated at a temperature of 45° F or below in a refrigerator or refrigerated space used only for biohazardous waste.

- All areas used for the storage of biohazardous waste must be capable of being readily maintained in a sanitary condition.
- All biohazardous waste containers must be stored in a manner that allows access for inspection.
- Biohazard signs must be posted wherever biohazardous waste is stored or contained, including on storage rooms doors, refrigerators, bins and other containers.

6 Handling

- Whenever biohazardous waste is handled, disposable gloves and other protective equipment (E.g. lab coats, safety glasses), as needed, must be used. Disposable PPE may be discarded in a solid biohazardous waste container.
- Hands must be washed immediately upon removal of gloves. If a sink is not immediately accessible, antiseptic towelettes must be provided and hands must be washed as soon as possible.
- Liquid cultures of bacteria, viruses, etc. are typically autoclaved or inactivated with an appropriate disinfectant before discharge to the sewerage system.
- Solid biohazardous waste must be collected in red plastic bags, clearly marked with the "Biohazard" symbol. Red bags specified to be autoclaved must be of autoclavable type. Bags designated to be autoclaved should be closed but not sealed air tight so as to prevent them from bursting open inside the autoclave. After autoclaving, these bags must be placed in biohazardous waste boxes lined with red bags. When full, the liners must be wrapped and tied to provide a leak resistant seal. The boxes must be sealed by taping along all six seams and labeled with
 - the name and generator
 - ID# of the site generating the waste and
 - the date of packaging

Note: Even after autoclaving, biohazardous waste is still regulated by the Maine DEP and must be shipped to a licensed disposal facility.

- At the time of generation, needles and any other contaminated "sharps" must be placed in properly labeled, leak-proof, and puncture-resistant cardboard or hard plastic containers for disposal. Sharps containers should never be filled more than 2/3 full and they should be closed before disposal.
- All reusable containers used for the storage of biohazardous waste (e.g., non-sharps, 11-gallon red colored waste bins) must be decontaminated when emptied unless there is a liner which prevents contamination of the container.
- Biohazard labels must be used on ALL waste containers and shipping boxes.

7 Transportation

- All containers and liners must meet DOT specifications and are provided by the disposal firm.
- All containers of biohazardous waste from LQG's must be transported off-site by a State of Maine licensed biohazardous waste transporter.
- VSQG's and SQG's may transfer their waste to another medical facility or to a permitted biohazardous waste transfer or treatment facility and the amount transported is less than 50 pounds (no more than 50lb if just sharps).

8 Spill Containment and Clean-up

The proper implementation of infection control procedures is imperative when dealing with infectious waste. Areas where biological materials meet Biosafety Level 1 or 2 criteria may use the Biohazard Spill Clean-up Cleanup Procedure (available on the SM-Documents webpage). Laboratories conducting research with organisms at biosafety level 3 or 4 are required to prepare specific spill cleanup procedures as part of their Laboratory Biosafety Manual.

9 For Additional Information

- Contact your Campus/Department Safety Coordinator or Safety Management at 207/581-4055.
- Biohazardous Waste Guidance
- Biohazard Spill Clean-up Procedure

Documents are available on the Safety Management (SM) (SM-Documents) web page or by contacting SM at 207-581-4055 | email sem@maine.edu