

Florida International University



Biomedical Waste Plan

**DEPARTMENT OF RISK MANAGEMENT &
ENVIRONMENTAL HEALTH & SAFETY**

CSC 162 (305) 348-2621 ehs@fiu.edu

www.fiu.edu/~ehs

An ounce of prevention is worth more than a pound of cure

BIOMEDICAL WASTE PLAN

This document outlines the methods by which the Department of Risk Management and Environmental Health and Safety will implement the Biomedical Waste Management Program as mandated by the Florida Administrative Code, Chapter 64E-16.

Last date revised: 09/2009 / _____ / _____ / _____

Approved by: William Youngblut Assistant Director
(Department Head or Unit Supervisor) (Title)

The University Biosafety Officer is responsible for ensuring this program meets the compliance requirements of FAC 64E-16. The following individual is designated to fulfill this responsibility:

Tamece Knowles
Employees name or title

348-3387
Telephone #

PURPOSE

The purpose of this Biomedical Waste Plan is to provide guidance and describe requirements for the proper management of biomedical waste premises in and operations by FIU facilities. Guidelines for management of biomedical waste are found in Chapter 64E-16, Florida Administrative Code (F.A.C.), and in section 381.0098, Florida Statutes.

SCOPE

This Biomedical Waste Plan covers all FIU facilities that generate biomedical wastes.

DEFINITION

The F.A.C. 64E-16.002(2) defines biomedical waste as any solid or liquid waste which may present a threat of infection to humans, including non-liquid tissue, body parts, blood, blood products, and body fluids from humans and other primates; laboratory and veterinary wastes which contain human disease-causing agents, and discarded sharps.

RESPONSIBILITY

It is the responsibility of the waste generator to properly handle biomedical waste in compliance with the requirements of F.A.C. 64E-16 and the guidelines provided in the plan. Generators of biomedical waste are required to complete the **Biohazardous Waste Generation Registration Form** (#166) and submit the form to the Biosafety Office in CSC 162. This form is available on the EH&S website on the Biosafety webpage under the "FORMS" section.

PERMITS

All biomedical waste generating facilities are inspected and required to obtain a permit from the Dade County Health Department on an annual basis. Because FIU is a state-owned and operated facility, EH&S is exempt from paying the annual permit fee. Permits are issued in October and expire in September of the following year. The Biosafety Officer is responsible for obtaining and managing the permit information all areas generating biomedical waste on university grounds.

BILLING

Biomedical waste generating facilities are billed quarterly. Invoices are sent during the 3rd week of the following months: October, January, April, and May*

*May's invoice is an estimate of May and June services. Any differences in the amount will be adjusted in July. Invoice delivery in May is subject to Fiscal year ID Transfer deadlines

INSPECTIONS

Monthly inspections of biomedical waste storage sites are conducted by the Biosafety Officer. The inspection consists of a 27-pt inspection checklist that covers containment, labeling, storage, treatment, disposal, training and recordkeeping. The Department of Health conducts annual inspections in July.

ENFORCEMENT AND PENALTIES

Any person who generates, transfers, treats, stores, transports or disposes of biomedical waste in violation of Chapter 64E-16, F.A.C.; or who interferes with, hinders, or opposes any employee of the Department of Health in the discharge of his duties, or who impersonates an employee of DOH, is chargeable with a misdemeanor of the second degree. Violation of any provision of

Chapter 64E-016, F.A.C., may result in denial, suspension or revocation of the university's biomedical waste permits or an administrative fine of up to \$2500 per day for each violation of this chapter or other enforcement action authorized by law.

GENERATOR LOCATIONS

Biomedical waste is generated at three Florida International University campuses and one satellite locations:

University Park
11200 SW 8th street
Miami, FL 33199

Biscayne Bay
3000 NE 151st street
North Miami Beach, FL 33181

The Engineering Center
10555 West Flagler Street
Miami, FL 33174

College of Health at Camillus House
726 NE 1st street
Miami, FL 33132

The points of origin that generate biomedical waste are as follows:

University Park

| <u>Department</u> | <u>Building</u> |
|---------------------------------|--------------------------|
| Biological Sciences | OE Bldg, HLS I & II Bldg |
| Chemistry and Biomchemistry | OE Bldg |
| Athletics and Campus Recreation | Golden Panther Arena |
| University Health Services | Health & Wellness Center |
| College of Health | HLS I Bldg |
| Dietetics and Nutrition | HLS I Bldg |
| College of Medicine | HLS I Bldg |
| Nursing | HLS II Bldg |
| Recreation Center | RC Building |

Biscayne Bay

| <u>Department</u> | <u>Building</u> |
|----------------------------|--------------------------|
| University Health Services | Health & Wellness Center |
| Biological Sciences | AC II |

The Engineering Center

| <u>Department</u> | <u>Building</u> |
|------------------------|-----------------|
| Biomedical Engineering | EC Bldg |

Camillus House

Department
College of Health

Building
Camillus House

COLLECTION

The collection schedule for FIU campuses and satellite locations is as follows:

Once or twice a month: HLS I 203A, 303A, 403A
Panther Arena
HLS I 411
Recreation Center 150
CP 345

Every 2 weeks: OE 272
OE 294
ACII 340
Engineering Center 2350
HLS II 288
University Health Services BBC
Animal Care Facility OE 277
HLS I 307, 308, 311
HLS I 304A, 327, 328

Every week: University Health Services UP

CONTAINMENT

The following minimum containment practices apply:

- Place medical waste into impermeable red plastic bags, sealed, and placed into cardboard boxes supplied by the medical waste transporter.
- Place sharps in sharps containers at the point of origin, sealed, and placed into the designated cardboard boxes.
- Label red bags and outer cardboard boxes with the generator's name and address.
- Identify the outer cardboard box with the international biohazard symbol.

LABELING

- Label biomedical waste bags and sharps containers with the generator's name, bldg, and room #.
 - Bags and sharps containers placed into larger bags prior to transport are not required to be labeled with the generator's information. The outer bag shall be labeled with the generator's information.
 - Labels provided by the transporter for bags and sharps containers that are generator-specific satisfy the labeling requirements.
- Outer containers should be labeled with the transporter's name, address, registration #, and 24-hour telephone number.

STORAGE

- Store sealed red bags, sharps containers, and outer containers in areas that are restricted through the use of locks, signs, or location.
 - FIU waste generating facilities can not store biomedical waste for more than 30 days. The 30-day period commences when the first non-sharps item of biomedical waste is placed into a red beg or sharp container, or when a sharps container containing only sharps is sealed. Biomedical waste remains at the generating facility until removed by the transporter.
- Restrict access to indoor storage areas
 - Locate away from pedestrian traffic and maintain in a sanitary condition.
 - The areas should be constructed of smooth, easily cleanable materials that are impervious to liquids.
- In addition to the above criteria, mark outdoor storage areas (containers) with the international biohazard symbol and secure against vandalism and unauthorized entry. The biohazard symbol on an outdoor container should be a minimum of six inches in diameter.

TRANSFER

Transfer of biomedical waste within the generating facility should be conducted safely and with appropriate care. Minimum protective equipment for handling biomedical waste is disposable latex gloves. Biomedical waste should not be transferred from the generating facility to other buildings on campus.

TREATMENT AND DISPOSAL

Categories of Biological Waste

- **Infectious, potentially infectious, or R-DNA waste:**
 - a) human pathogens
 - b) animal pathogens
 - c) plant pathogens
 - d) recombinant DNA
 - e) human and primate blood, blood products and other potentially infectious material (OPIM)
 - f) any material containing or contaminated with any of the above (test tubes, needles and needle/syringe combinations*, syringes, tubing, culture dishes, flasks, gloves, other PPE, etc.)
- **Non-infectious Biological Waste**

This category includes waste that is **NOT** contaminated with any of the biological wastes listed in category 1 above. Sterile or unopened *biomedical* materials that require disposal are also considered biological waste.

| | | |
|----------|----------------|-----------------------|
| gloves | test tubes | petri dishes |
| needles* | razor blades* | Tissue culture flasks |
| syringes | culture dishes | Serological pipettes |

| | | |
|----------------------------------|-------------------------------|-------------------|
| scalpels* | Pasteur pipettes* | Micropipette tips |
| broken glass and plastic ware ** | Needle/syringe combinations * | |

* Must be placed in FDOH-approved sharps container

**Must be placed in approved broken glass container for disposal

• **Mixed radioactive/biological waste**

- Manage biohazardous waste mixed with radioactive waste in a manner that does not violate the provisions of Chapter 64E-5, F.A.C.
- Manage the biomedical waste in accordance with the provisions of Chapter 64E-16, F.A.C. The radioactive component takes precedence over the Biohazardous component, and must be managed as such until the radioactive component has decayed in storage. Please check with the Radiation Safety Office (348-0489) regarding the disposal and storage of radioactive waste.

• **Mixed chemical/biological waste**

- Manage biomedical waste mixed with hazardous waste, as defined in Chapter 62-730, F.A.C., Hazardous Waste, as hazardous waste.
- Autoclaving is not recommended because of flammable or reactive compounds and potential explosion hazards. Please check with the Chemical Safety Office (348-7835) for guidance regarding particular chemicals.

• **Animal carcasses and materials**

- Freeze animal carcasses prior to removal and packaging. Dispose of animal carcasses and other animal materials and tissue through the contracted biomedical waste disposal company.
- Do not dispose of any animal bodies or material as regular trash.
- Contain animal carcasses and other animal material that may spread an animal or human pathogen before disposal.

• **Human remains**

Please contact the Biosafety Office (348-3387) for information regarding the final disposition of human remains and body parts.

Onsite Treatment – Autoclave Use

Treatment of biomedical waste on FIU campuses using autoclaves must be in accordance with FAC 64E-16. Refer to USCG #907 for guidance on Autoclave Use and Safety.

Disposal

Biomedical waste is stored until removed by the transporter for disposal. Transportation and treatment services of FIU Biomedical waste is provided by:

United Medical Industries
PO BOX 2788883
Miramar, FL 33027
Phone: 786.331.8661

Fax: 786.331.8662

RECORDKEEPING

FIU biomedical waste disposal records are maintained at:

Department of Risk Management and Environmental Health and Safety
University Park, CSC 162
Miami, FL 33199
Tel: (305) 348-2621
Fax: (305) 348-3574

The records maintained by Environmental Health and Safety include waste manifests, monthly account statements, annual operating permits, and FDOH inspection reports.

Environmental Health and Safety and waste generating locations maintain training records for 3 years.

TRAINING

Biomedical waste training is scheduled as required by paragraph 64E-16.003(2)(a), F.A.C, and details compliance with this biomedical waste plan and with Chapter 64E-16, F.A.C. The main components of the training cover:

- Definition and Identification of Biomedical Waste
- Segregation
- Storage
- Labeling
- Transport
- Procedure for Decontaminating Biomedical Waste Spills
- Contingency Plan for Emergency Transport
- Procedure for Containment
- Treatment Method

Environmental Health and Safety provides on-line training for biomedical waste generators/handlers through the “Online Anytime” Safety Training Program. Employees handling biomedical waste must complete training at the time initial assignment and annually thereafter.

REFERENCES

[FAC Chapter 64E-16 Biomedical Waste](#)
[FIU Biosafety Manual](#)
[FIU Blood-borne Pathogen Exposure Control Plan](#)
Autoclave Use and Safety

APPENDICES

UNIT SPECIFIC BIOMEDICAL WASTE PLAN – TEMPLATE

BIOHAZARDOUS WASTE LOCATION REGISTRATION FORM

BIOHAZARDOUS WASTE DISPOSAL REQUEST



FIU UNIT-SPECIFIC BIOMEDICAL WASTE PLAN

This document outlines the methods by which the _____ (name of unit) will implement the Biomedical Waste Management Program as mandated by the Florida Administrative Code, Chapter 64E-16.

Last date revised: _____ / _____ / _____ / _____

Approved by: _____ (Unit Supervisor) _____ (Title)

Signature: _____

_____ (Employee first and last name) is responsible for ensuring this unit meets the compliance requirements of FAC 64E-16 and for updating this plan annually. A current copy of the plan must be readily accessible to students, staff, and regulatory/safety representatives.

I. IDENTIFICATION OF BIOMEDICAL WASTE

The following biomedical waste is generated by this unit located in room(s) _____ of the _____ building (*check those which apply*):

- 1 ___ Non-liquid tissue and body parts from humans and other primates
- 2 ___ laboratory and veterinary waste containing human disease-causing agents
- 3 ___ used discarded sharps
- 4 ___ blood and/or blood products
- 5 ___ body fluids from humans and other primates
- 6 ___ absorbent materials saturated with 4 or 5 (bandages, gauzes, sponges)
- 7 ___ non-absorbent disposable devices contaminated with 4 or 5

II. BIOMEDICAL WASTE MANAGEMENT

- ◆ Biomedical waste, identified in Section I, shall be segregated from other waste and packaged at the point of origin as specified in the FIU Biomedical Waste Plan.
- ◆ Used sharps shall be discarded into a single use or reusable sharps containers meeting the specifications of Section 64E-16.005 of the FAC 64E-16 and the FIU Biomedical Waste Plan.
- ◆ Filled sharps containers and bags shall be closed and labeled (Florida International University and address) at the point of origin.
- ◆ Sealed bags and sharps containers are removed from the Unit and placed in the designated storage container(s)/area located _____.

III. TREATMENT AND DISPOSAL

- ◆ Biomedical waste generated at this Unit is picked up and disposed of by **United Medical Industries ID #7341**. Containers are removed _____ time(s) per week/month.
- ◆ In case of a disruption in service, contact the Biosafety Officer at 348-3387
- ◆ Persons handling packages or spills of biomedical waste shall wear the proper personnel protective equipment as specified in Subpart Z of 29 C.F.R. 1910.1030(d)(3), which includes, but is not limited to, gloves, gowns, laboratory coats, and face shields or masks and eye protection. All surfaces contaminated with spilled biomedical waste shall be cleaned with an industrial detergent to remove visible soil and shall be disinfected with one of the following agents:
 - steam for a minimum of 30 seconds.
 - rinse for at least three minutes with one of the following chemical disinfectants at the minimum concentration listed:
 - Hypochlorite solution containing 100 parts per million available free chlorine
 - Iodine solution containing 25 parts per million available iodine
 - Chemical germicides that are registered by the Environmental Protection Agency as hospital disinfectants and are tuberculocidal when used at recommended dilutions.
- ◆ The liquid waste created by these operations shall be disposed into a sewage system. All solid material from a spill shall be placed in a biomedical waste bag. All solid biomedical waste spills shall be handled with the use of tongs, broom, dust pan, and or _____.

IV. RECORDKEEPING

- ◆ All biomedical waste management records shall be maintained for 3 years. Among these records are treatment records, manifests, transporter receipts, training records, and other related documents. These records shall be on file in room _____ and the FIU Environmental Health and Safety, Campus Support Complex Building Room 162, 305-348-2621/2622.
- ◆ If autoclave is used to treat waste on-site, _____ (name of responsible technician) is responsible for maintaining autoclave training, use, testing, and maintenance logs.

V. TRAINING

- ◆ Employees who handle biomedical waste as part of their daily work responsibilities shall be trained in the proper management of biomedical waste before these duties commence and annually thereafter.
- ◆ Training is available through the EH&S “Online Anytime” Safety Training program or classroom training is available upon request. If training is not provided by EH&S, then the training curriculum must be approved by EH&S and copies of all training records must be forwarded to EH&S.



Biohazardous Waste Location Registration Form

Generator Information

Name _____ Phone _____
 Department _____ Generation Site: _____
 Storage Location: _____ Type of Facility: Clinic Lab Other
 Online Biomedical Waste Training Completed: Yes No Date of Completion: _____

Biohazardous Waste Description

Human Anatomical Waste

- Quantity per month _____ lbs
- Storage _____ red bag _____ red container

Animal Waste

- Quantity per month _____ lbs
- Storage _____ red bag _____ red container

Microbiology/Biotechnology Waste

- Quantity per month _____ lbs
- Storage _____ red bag _____ red container

Waste Sharps

- Quantity per month _____ lbs
- Storage _____ red bag _____ red container

Solid Infectious Waste

- Quantity per month _____ lbs
- Storage _____ red bag _____ red container

1. Have you designated a safe and secure location for the temporary storage of biohazardous/biomedical waste in your laboratory? YES NO

Describe how access will be controlled to areas where biohazardous/biomedical materials will be used or stored? _____

The undersigned generator agrees to operate the biomedical waste generating facility described in this form in accordance with the Florida Administrative Code 64E-16. The information contained in this application is true and correct, and must be submitted annually. Biomedical waste shall be handled in accordance to the FIU Biomedical Waste Plan in compliance with F.A.C. 64E-16.

Generator name (print)

Generator Signature

Date

Fax completed form to the Biosafety Officer at (305) 348-3574

| EH&S USE ONLY | | | |
|---------------------|---------------|-------------|-----------------|
| EH&S Registration # | Date Received | Date Issued | Expiration Date |
| | | | |



BIOHAZARDOUS WASTE DISPOSAL REQUEST

Please complete SECTIONS 1 and 2 and fax to the Biosafety Office at 7-3574. If you have a special pick-up request, complete SECTIONS 1 and 3.

SECTION 1

Generator's Name _____ Phone _____

Generator's Department _____

SECTION 2

A. Change in Current Service

Change the following at _____:
(Bldg./Room)

frequency, from: _____ to: _____

contact information: _____

B. Add New Service

Location _____ Frequency _____
(Bldg./Room) (Weekly/Biweekly/Monthly)

Number of Containers _____ Container Size: 15 Gal 30 Gal

START service to the above location effective _____
(Date)

C. Discontinue Service

Location _____ Frequency _____
(Bldg./Room) (Weekly/Biweekly/Monthly)

END service to the location indicated below effective _____
(Date)

SECTION 3

SPECIAL PICK-UP REQUEST

Date required: _____ Location: _____

Number of Containers _____ Container Size: 15 Gal 30 Gal

Generator's Signature _____ Date _____