



Biomedical Waste Plan

Florida Institute of Technology (Florida Tech)

Environmental Health & Safety (EH&S)

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Contents

Revision History	3
Introduction	4
Purpose	5
Definitions.....	5
Procedure for Containment & Identification of BMW	6
BMW Red Bag Information:	7
Co-Mixing.....	7
Labeling	7
Storage of Biomedical Waste.....	8
Onsite Treatment Method of BMW	8
Transport OF BMW	9
Satellite Offices.....	9
Procedures for Decontaminating BMW Spills.....	10
Contingency Plan for Emergencies	10
Training.....	11
Records	12
Reference.....	12

REVISION HISTORY

Revision Number	Revision Date	Revised By	Description of Change
00	2019-07-12	Charles Cherrito	Initial plan creation and implementation.
01	2019-12-05	Charles Cherrito	Updated waste transporter to MSE Group.
02	2021-01-21	Charles Cherrito	Periodic review.
03	2021-05-26	Charles Cherrito	Periodic review. Updated vendor pick-up locations.
04	2022-03-14	Charles Cherrito	Annual Review. Updated third-party transporter (deleted MSE Group and retained Medigreen). Other minor edits.
05	2022-08-18	Charles Cherrito	Added HSRC building.
06	2022-10-18	Charles Cherrito	Updated transporter to Daniels.
07	2023-01-03	Charles Cherrito	Updated transporter to Red Bag, LLC.
08	2023-01-09	Charles Cherrito	Minor edits.
09	2023-09-05	Charles Cherrito	Updated biomedical waste transporter vendor.

INTRODUCTION

This biomedical waste plan is Florida Institute of Technology's (Florida Tech) plan for management of biomedical waste production, safety, and disposal. Biomedical waste requires careful containment and disposal before collection and consolidation for treatment. The Occupational Safety & Health Administration (OSHA) has dictated initial measures for discarding regulated medical-waste items. These measures are designed to protect the workers who generate medical wastes and who manage the wastes from point of generation to disposal ([29 CFR 1910.1030](#)).

The State of Florida under [Chapter 64E-16 Florida Administrative Code \(FAC.\)](#) outlines the minimum sanitary practices relating to the management of biomedical waste—including segregation, handling, labeling, storage, transport, and treatment. This chapter applies to all facilities that generate, transport, store, or treat biomedical waste to ensure that the waste is properly handled to protect public health. Further, this chapter prescribes minimum standards for permitting biomedical waste generators, storage, and treatment facilities, and for permitting/registering biomedical waste generators and transporters.

PURPOSE

The purpose of this plan is to ensure that proper management of handling, storing, treating, and transporting of biomedical waste at Florida Tech and to provide protection for environmental-service staff, waste handlers, and laboratory staff from risks associated with potentially infectious biomedical waste.

Lastly, Florida Tech strives to remain in compliance with all Federal and/or State laws, as well as Chapter 64E-16; and to implement industry best practices.

DEFINITIONS

Biomedical Waste (BMW)

Any solid or liquid waste which may present a threat 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. The following are also included:

- Absorbent materials saturated with blood, blood products, body fluids, or excretions or secretions contaminated with blood or blood products that have dried. Absorbent materials include items such as bandages, gauze, sponges, wound care material, and cast material.
- Non-absorbent materials disposable devices that have been contaminated with blood, internal body cavity fluids, or secretions visibly contaminated with internal body cavity blood, but have not been treated by an approved method. Non-absorbent materials include items such as flexible tubing, disposable gloves, intact glass, and intact hard plastic.

Examples of biomedical waste that *may* be found at Florida Tech include (but not limited to):

- Bandages
- Centrifuge tubes
- Gauze
- Gloves
- Needles
- Petri dishes and plates
- Pipettes
- Razor blades
- Scalpels
- Syringes with needles

Sharps

Objects capable of puncturing, lacerating, or otherwise penetrating the skin. Sharps include items such as needles, razors, contaminated broken glass (slides and test tubes), and contaminated broken plastic.

PROCEDURE FOR CONTAINMENT & IDENTIFICATION OF BMW

Filled red BMW bags and filled sharps containers will be sealed at the point of origin. After sealed, they are not to be reopened. Ruptured or leaking containers of biomedical waste should be placed in a larger container without disturbing the original seal. All packages containing biomedical waste shall be visibly marked with the international biological hazard symbol and one of the following phrases: “BIOMEDICAL WASTE”, “BIOHAZARD”, “INFECTIOUS WASTE”, or “INFECTIOUS SUBSTANCE”. The symbol will be red, orange, or black and the background color shall contrast with that of the symbol or comply with OSHA’s Bloodborne Pathogens Standard.

BMW red bags must also exhibit the following physical properties:

- The international biological hazard symbol must be at least six inches in diameter on bags 19”x14” or larger, and at least one inch in diameter on bags smaller than 19” x 14”.
- Impact resistance of 165 grams and tearing resistance of 480 grams in both the parallel and perpendicular planes with respect to the length of the bag.
- Incidental sum concentration of lead, mercury, hexavalent chromium, and cadmium will be no greater than 100ppm for dyes used in the coloration of red bags.

Additional Requirements:

- All sharps are required to be disposed of into leak proof, puncture-resistant containers;
- All non-sharp BMW shall be disposed of in red, impermeable bags.

SPECIAL NOTE

A sharps container is considered full when materials placed into it reach the designated fill line, or, if a fill line is not indicated, when additional materials cannot be placed into the container without cramming or when no additional materials are to be placed in the container.

Segregation and Handling

BMW will be identified and segregated from other waste from its point of origin (where it is generated).

BMW RED BAG INFORMATION:

BMW bags are supplied by Florida Tech's third-party BMW transporter, and are compliant in design and construction as required by Chapter 64E-16.

Unused Biohazard Bag Locations:

Unused BMW bags are typically stored with unused bio-containers at each BMW storage location (locations are denoted in "The Storage of Biomedical Waste" section of this plan); however, there extra inventory may be located at the following location:

Office of Environmental Health & Safety (EH&S) - Quad 407; Room 108

CO-MIXING

- Biomedical waste mixed with hazardous waste shall be managed as hazardous waste;
- Biomedical waste mixed with radioactive waste shall be managed in a manner that does not violate the provisions of Chapter 64E-5, FAC;
- Any solid waste, other than hazardous and radioactive, that has been mixed with biomedical waste shall be managed as biomedical waste.

LABELING

- Biomedical waste shall be labeled prior to transport off-site at the generating facility.
- The label shall be securely or permanently printed on each bag and sharps container and be clearly legible.

The following information is what is included on our current labels:

GENERATOR:

Florida Institute of Technology
150 West University, Boulevard, Melbourne, FL, 32901
Permit: 05-65-1438694

- ✓ If a bag or sharps container is placed into a larger bag prior to transport, the label for the exterior bag shall comply with the above labeling information.
- ✓ The outer containers shall be labeled with the transporter's name, address, registration number, and 24-hour phone number prior to transport (which will be provided by the transporter).

STORAGE OF BIOMEDICAL WASTE

BMW shall be stored for no longer than 30-days. The 30-day period shall commence when the first non-sharps item of biomedical waste is placed into a red bag or sharps container, or when a sharps container containing only sharps is sealed.

Indoor storage shall have restricted access from general traffic flow patterns and be accessible only to authorized personnel using locks, signs, and/or location. Outdoor storage areas and containers shall be secured from vandalism and shall be conspicuously marked with a greater or equal to 6 inches in diameter international biological hazard symbol. All areas primarily used for the storage of BMW shall be constructed of smooth, easily cleanable materials that are impervious to liquids, vermin and insect free, and maintained in sanitary conditions.

Currently, there are three BMW storage areas on the main campus:

1. Link Building (3rd Floor, Breezeway);
2. Olin Life Sciences Building (1st Floor, Utility Hall);
3. Health Sciences Research Center—HSRC (Room 127)

ONSITE TREATMENT METHOD OF BMW

Not applicable for Florida Institute of Technology.

TRANSPORT OF BMW

Florida Tech has contracted with an off-site transportation company, which is registered with the Department of Health. Florida Tech's registered BMW transporter is:

GreenMed Express, LLC

866-791-8734

2110 W King Street, Cocoa, FL 32926

Permit: #05-64-2033068

FLDOH: TR#7874

On-site relocation of full sharps containers to a secure storage area before shipment is routinely performed by Florida Tech EH&S personnel. Before transport, the sharps containers are sealed. Before shipment, the sharps containers are affixed with a generator tag.

- Below are the designated areas biomedical waste is stored before pickup and disposal by the contracted vendor. The storage area chosen is whichever is closest—to further reduce the risk of a spill.
 - ✓ Link Building (3rd Floor Breezeway)
 - ✓ Olin Life Sciences Building (1st Floor Utility Hall)
 - ✓ Health Sciences Research Center—HSRC (Room 127)

SATELLITE OFFICES

Not applicable for Florida Institute of Technology.

PROCEDURES FOR DECONTAMINATING BMW SPILLS

Surfaces contaminated BMW shall be decontaminated. The procedure is as follows:

- Don protective PPE (gloves, at minimum, and preferably the addition of a lab coat).
- Broken glass is never to be picked up with the hands. Glass should be removed using dustpan and a whiskbroom only (mechanical means). Place all contaminated glass and/or sharps in a sharp's container
- Utilizing a 10% bleach solution or equivalent disinfectant, pour over spill and allow for an undisturbed contact time of 30-minutes.
- Discard gloves.
- Wash hands
- Don new gloves
- Dry floor by soaking up disinfectant with paper towels
- Discard gloves and wet paper towels in a biomedical waste red bag
- Wash hands thoroughly
- Report incident to EH&S at ehs@fit.edu

Liquid waste created by chemical disinfections procedures shall be disposed of into the sanitary sewer system. The preferred disinfectant and contact time to be utilized at Florida Tech is a common bleach solution (10% solution) for a minimum contact time of 30 minutes. Alternative disinfectants or methods to be utilized for spill clean-ups must receive EH&S approval.

If the BMW is in a liquid form, the waste may be disposed of into a sanitary sewer system after disinfection with a 10% bleach solution in a one to one ratio of BMW to bleach, respectively. Liquid BMW may also be disposed of through another system only if that system has been approved to receive such waste by the Department of Environmental Protection (DOH).

CONTINGENCY PLAN FOR EMERGENCIES

Florida Tech's contingency plan for disposal of BMW, in the event our current methods fail, even temporarily, will be to contact:

Brevard County Health Department - Environmental Health Services

2725 Judge Fran Jamieson Way Suite A116, Viera, FL 32940-6605

Phone: (321) 633-2100

TRAINING

Florida Tech utilizes an online training system for BMW training. In addition, this Biomedical Waste Plan will be available online for all personnel. Although not routine, there may be times when more in-depth training is required (in-person, PowerPoint, etc.).

Personnel whose duties include the handling of BMW will receive appropriate training before their duties commence. Refresher training will be performed annually by all personnel handling BMW, and more often should compliance or safety issues arise.

Florida Tech will provide documentation that employees have been properly trained, and such documentation will be maintained as described within the Records section of this Plan.

RECORDS

All BMW records are retained for 3 years (either online, hard-copy, or a combination) and shall be available for review by the Department of Health. Florida Tech will also maintain an accessible current copy of the below documents:

- Florida Tech's Biomedical Waste Plan
- BMW Operating Permit (Florida Tech)
- BMW Transporter Operating Permit & Registration (Vendor)
- Contract (Master Services Agreement—MSA) of Registered Biomedical Waste Transporter
- Most recent copy of Chapter 64E-16, FAC
- Biomedical Waste Manifests and/or Receipts of Chain of Custody Form
- Inspection Reports
- Training Records

BMW records are located at the following location:
Office of EH&S – Quad 404; Room 108.

REFERENCE

OSHA's Bloodborne Pathogens Standard: [29 CFR 1910.1030](#).

Biomedical Waste: [Chapter 64E-16](#)

Control of Radiation Hazard Regulations: [Chapter 64E-5](#)