



Infectious Waste Contingency Plan

Office of Environmental Health and Safety

January 2012

Table of Contents

I. Introduction.....	3
II. Facility Identification.....	3
III. Emergency Contacts.....	3-4
IV. Scope and Responsibilities.....	5
V. Infectious Waste Defined.....	5
VI. Procedures for Infectious Waste Generators.....	5-6
VII. Infectious Waste Storage – EHS.....	7
VIII. Infectious Waste Disposal – EHS.....	7-8
IX. Autoclaving – BGES.....	8
X. Spill Containment and Cleanup Procedures.....	8-10
XI. Training.....	10
XII. Records.....	11
XIII. Contingency for Disposal.....	11
Appendix A – Definitions.....	12-13
Appendix B – “Sharps” Management.....	14
Appendix C – Infectious Waste Inventory Form.....	15-16
Appendix D – Infectious Waste Storage Area Inspection Form.....	17-18
Appendix E – Spill Log Form.....	19-20

I. Introduction

In accordance with amendments set forth by the Ohio Environmental Protection Agency (OEPA) to the Ohio Administrative Code (OAC) Chapter 3745, Cleveland State University has declared itself a large quantity generator of infectious waste (generates greater than fifty or more pounds of infectious waste per month) and has developed this Infectious Waste Contingency Plan in order to comply with the provisions of Chapter 3745 that regulate the generation, management and disposal of infectious waste on campus.

II. Facility Identification and Contact Information

Cleveland State University
Science Research Building
2351 Euclid Avenue
Cleveland, Ohio 44115
216-687-2000

Generator Registration Number: 18-G-00234

Mailing Address:

Cleveland State University
Office of Environmental Health and Safety
2121 Euclid Avenue, PS 210
Cleveland, Ohio 44115
Attn: Robert S. Grindley, Director
216-687-9306

III. Emergency Contacts

Dial 9-1-1 for all campus emergencies. Cell phone users may also Dial 9-1-1 and tell the operator to transfer you to CSU Police.

Emergency Response Coordinator:

Bob Grindley
Director of Environmental Health and Safety
Plant Services Building Room 210
Office Phone: 216-687-9338
Cell Phone: 216-224-7624
Home: 216-691-3706

Alternate Emergency Response
Coordinator Robert Howerton
Environmental Health & Safety Officer
Plant Services Building Room 233
Office Phone: 216-687-3715
Cell Phone: 216-276-4324
Home: 440-943-4743

Alternate Emergency Response
Coordinator (Secondary) Daniel Cueno
Environmental Safety Officer
Plant Services Building 235
Office Phone: 216-523-7588
Cell Phone: 216-276-1395
Home: 440-522-5043

If emergency involves Science Research 289, you must contact:

Mrs. Michele Zinner
: Laboratory Manager, BGES
Science Research 289
Office Phone: 216-687-2443
Home Phone: 440-257-6240

In the event of a major spill or release, employees are instructed to contact Campus Safety Dispatch – they will in turn immediately notify the Emergency Response Coordinator. The Emergency Response Coordinator(s) are on-call twenty four (24) hours a day, seven (7) days a week. Once apprised of the situation, a determination will be made as to which, if any, external agencies require notification of the incident, and whether or not outside support is indicated.

Outside agencies that potentially may be called upon to provide support in the event of a major spill:

Agency	Telephone
Police, Fire, Medical Emergencies	9-1-1
District OEPA & Emergency Spills	(800) 282-9378
City of Cleveland, Department of Public Health	(216) 664-2300/(216) 664-4292
Cuyahoga County Health Department	(216) 443-7500
Cuyahoga Emergency Management	(216) 443-5700
Accu-Medical Emergency Number	(866) 696-8379

The Emergency Response Coordinator will inform appropriate University administration and personnel of incidents and emergencies involving infectious waste.

IV. Scope and Responsibilities

The Office of Environmental Health and Safety has been charged with the institutional responsibility for infectious waste management at CSU and has developed this plan to assist the University in maintaining compliance with applicable regulations as identified above.

Individual generators of infectious waste at Cleveland State University shall comply with the provisions outlined in this plan in order to manage infectious waste in their respective areas. Supervisors shall review the provisions of this plan with all personnel working in areas where infectious waste is generated.

V. Infectious Waste Defined

In general, material considered infectious waste are cultures and stocks of infectious agents including but not limited to microbiological cultures, helminthes and viruses, human blood and urine and pathological wastes. This also includes material that comes into contact with infectious waste and sharps. The complete definition is provided in Appendix A – Definitions.

VI. Procedures for Infectious Waste Generators

University areas that potentially may generate infectious include, but are not limited to the College of Science, College of Engineering, College of Education and Human Services, Health and Wellness Services, Athletics, Campus Police and EHS.

1. All employees that generate infectious waste are required to notify EHS (see definitions in Appendix A or contact EHS for assistance).
2. Infectious waste that also meets the definition of a hazardous and/or radioactive waste must be handled differently than infectious waste – contact EHS to determine appropriate storage and disposal procedures.
3. All labs and rooms that accumulate infectious waste must be labeled with the international biohazard symbol. Refrigerators and freezers that contain infectious agents shall also be labeled. (See Figure 1).



Figure 1

4. Individual generators shall segregate infectious waste from non-infectious waste at the point of generation. Never put non-infectious waste in an infectious waste container.
5. Infectious waste (other than “sharps”) shall be placed in bags designed for such use that are labeled with the international biohazard symbol, and then placed in a second such bag (double-bagged).
6. All sharps infectious waste must be accumulated in approved containers specifically designed for management and disposal of “sharps” and **must both be labeled with the international biohazard symbol and with the words “SHARPS”.**
7. Not all “sharps” are considered infectious. Please refer to Appendix B – “Sharps” Management to determine proper storage and segregation procedures.
8. Individual infectious waste generators are responsible for acquiring and maintaining appropriate biohazard bags and sharps containers for their areas.
9. Do not overfill bags or sharps containers greater than three-quarters (3/4) full - seal them and initiate a waste pickup as follows:
 - a. Complete an Infectious Waste Inventory Form downloadable from the EHS website (www.csuohio.edu/ehs). See Appendix C.
 - b. No waste will be accepted without a completed form.
 - c. Contact EHS at extension 3715,7588 or 9338 for pickup.
10. Individuals generating liquid or semi-liquid infectious waste that consists only of blood, blood products, body fluids, and excreta may discharge this material to a properly licensed sanitary sewer without any prior treatment.
11. In the event of an accidental release of infectious waste, the individual responsible for the spill shall initiate containment and cleanup procedures (See Infectious Waste Spill Containment and Cleanup Procedures below). All supervisors (including lab supervisors) shall periodically review these procedures with their staff in order to ensure continued familiarity with them.

VII. Infectious Waste Storage - EHS

Following pickup by EHS, infectious waste containers shall be transported to the University's Infectious Waste Storage Area located in Science Research 386. The containers are to be weighed and then placed in bins that meet OEPA specifications; these bins are provided by the infectious waste disposal contractor. Guidelines for storage are as follows:

1. Weigh each container and ensure it is not overfilled – record the weight and volume on the Infectious Waste Inventory Form, along with the date the material is placed in SR 386.
2. Place only bags or “sharps” containers in boxes – never place loose or un-bagged infectious material in the waste boxes.
3. Boxes are to be kept on pallets – never place or leave infectious waste containers on the floor
4. Do not place hazardous or radioactive waste in the boxes
5. Do not fill a box greater than its maximum weight capacity
6. Do not compact infectious waste
7. Once a box is considered full, be sure to tape the interior liner bag closed and seal the box as per instructions of the infectious waste disposal contractor.

VIII. Infectious Waste Disposal - EHS

Solid infectious waste in biohazard bags and “sharps” containers are transported off-site to be properly rendered non-infectious and disposed of. The University contracts with the following licensed infectious waste transporter to perform this service:

Accu-Medical
45 Byers Road
Marietta, Ohio 45750
(866)-696-8379
(740) 373-1165 FAX
Contact: Jimmy Parks

As part of their services the licensed infectious waste contractor shall:

1. Provide CSU with puncture resistant biohazard containers, labeled with the international biohazard symbol, for placement of solid infectious waste and “sharps”
2. Prepare accurate and compliant waste manifests that are reflective of the material being transported/disposed of
3. Perform all work in compliance with applicable federal, state and local regulations.

EHS shall perform weekly inspections of the SR 386 storage area to ensure the waste does not become putrescent or a food source or breeding grounds for insects, rodents or other vermin.

EHS will facilitate disposal of infectious waste materials on a monthly basis, and shall ensure the time between disposal shipments does not exceed thirty-five (14) calendar days per ODPH.

NOTE: Only the Director of EHS (or his or her designee) may sign a waste manifest on behalf of the University for removal and disposal of infectious waste.

IX. Autoclaving – BGES

Liquid infectious waste (biological material including stock cultures) is intended to be treated on-site and rendered non-infectious via autoclaving by BGES. Upon receipt in SR 289, liquid infectious waste shall be tagged with the date of receipt. Liquid infectious waste materials treated on-site will be processed as soon as feasible, but shall not remain untreated (in storage) for more than fourteen (14) calendar days.

X. Spill Containment and Cleanup Procedures

Only individuals who received bloodborne pathogen training are permitted to clean up a spill of infectious waste. Individuals reporting a spill should be prepared to provide the following information: type of spill (liquid, solid, etc...), quantity, location, and any other pertinent information.

University custodial personnel are not trained as part of the University’s Bloodborne Pathogen Program, and should not be approached to clean up an infectious waste spill. If an un-trained employee is made aware of an infectious waste spill, they are to contact EHS via the Campus Safety Dispatch by Dialing 9-1-1.

The following procedures shall be employed by trained responding personnel (non-EHS):

1. Isolate the spill by securing the area to prevent unauthorized entry
 - a. If spill is inside a room – close and lock the door and place a written notification that there is to be no entry until further notice.
 - b. If the spill is in a public area (hall, lobby, etc...) isolate the affected area using physical barriers such as chairs, couches, trash cans, etc... and place a written notification that patrons cannot enter the area. If necessary, remain in the area to prevent patron entry and request assistance from someone else to notify Campus Safety Dispatch.
2. Dial 9-1-1 and notify Campus Safety Dispatch of the incident, location (building, room/area) and whether or not the spill is inside a room or in a public area.
3. Obtain a spill kit from one of the following locations:
 - (a) SR 289 – BGES
 - (b) SI 336 – Chemistry
 - (c) SR 153 – Health Services
 - (d) SR 386 – EHS
 - (e) Campus Police
4. Spill Kit Contents:
 - a. Disposable Gown
 - b. Disposable Shoe covers
 - c. Disposable Latex/Nitrile Gloves
 - d. Disposable N95 or other comparable HEPA filtered mask
 - e. Disposable safety goggles
 - f. Absorbent Material (pads/wipes/pillows)
 - g. EPA-registered disinfectant (bleach or other)
 - h. Empty bottle for making 10% solution sodium hypochlorite
 - i. Biohazard bags
5. Verify the area is secured and isolated before beginning cleanup.
6. Put on the level of personal protective equipment deemed appropriate to safely and effectively handle and remediate the spill involved.
7. Disinfectants
 - a. For bacteriological spills, use Lysol Hospital Grade disinfectant (pre-made)
 - b. For blood, urine and all other infectious waste materials, prepare a 15% solution of sodium hypochlorite using concentrated household bleach
 - i. Carefully fill the empty spray bottle to the black line (pre-measured to achieve a 15% solution upon mixing with water) with household bleach.
 - ii. Fill the remaining volume of the spray container with tap water.
 - iii. Invert the container carefully to ensure adequate mixing

- iv. This solution must be made up fresh prior to each spill cleanup – do not use solutions from previous spills.
8. Place spill pillows (ABSORBENT MATERIAL) around the perimeter of the spilled material so they completely encircle the spill.
9. Spray area with disinfectant –begin at the perimeter of the spill and work inward. Allow the disinfectant to remain in contact with the spilled material for at least fifteen (15) minutes before proceeding to the next step.
10. Use the spill pillows (ABSORBENT MATERIALS) to mop up/ absorb the spilled material along with the disinfectant applied. Place in biohazard bag (double-bag)
11. Reapply a quantity of the disinfectant to the area where the spilled material originally was found. Allow the reapplication to remain in place for at least fifteen (15) minutes.
12. Using (Absorbent Material) mop up disinfectant and place material in biohazard bag.
13. Place used absorbent materials and all other waste generated during the cleanup into a biohazard bag (double-bag).
14. Any non-disposable items shall be cleaned using disinfectant use in the spill cleanup and allowed to air dry.
15. Remove personal protective equipment and place in biohazard bags (double-bagged) along with any other disposable equipment items. Process as any other infectious waste
16. Contact EHS to facilitate delivery of contents of biohazard bag(s) to the University's Infectious Waste Storage Area (SR 386).
17. If the spill is one cubic foot or greater, it shall be recorded using a Spill Log Form (Appendix E)
18. Facilitate re-stocking and/or replacement of spill equipment used by contacting EHS

XI. Training

Applicable departmental employees will be provided training on the provisions of this plan, which shall be included as part of the University's Bloodborne Pathogen Training Program,

XII. Records

EHS maintains all records for management for infectious waste at CSU, with the exception of the BGES treatment records and spore tests (retained by BGES). All records pertaining to infectious waste management shall be retained for thirty (30) years on-site, after which they shall be archived

XIII. Contingency for Disposal

1. Liquids

Should the autoclave be non-functional for a period longer than ten (10) calendar days, liquid infectious waste shall be triple bagged using approved biohazard bags and disposed of by Bio-Recovery Services, Inc.

2. Solid Waste and "Sharps"

Should Accu-Medical Services, Inc. be unable to pick up and remove solid infectious waste and "sharps" within the thirty-five (14) day period set forth in this document, said waste shall be autoclaved in the BGES unit that is maintained to EPA standards as set forth in OAC Section 3745-27-32. The autoclave cycle shall operate and subject infectious waste to a temperature of one-hundred twenty-one degrees Celsius (121⁰ C) at fifteen (15) pounds per square inch (psi) pressure for a minimum duration of one (1) hour. Cycle time beyond one (1) hour may be used depending on the quantity and density of the load to ensure the waste is rendered non-infectious. Spore testing shall be performed on a weekly basis using *Bacillus stearothermophilus* to test for effective sterilization. Temperature sensitive tape will be included with every load autoclaved to verify and document the cycle achieved 121⁰ C.

Appendix A

Definitions – OAC Chapter 3745

- A. “Infectious Agents” means a type of microorganism, helminthes, or virus that causes, or significantly contributes to the cause of increased morbidity or mortality of human beings.
- B. “Zoonotic Agent” means a type of microorganism, helminthes or virus that causes disease in vertebrate animals and that is transmissible to human beings and cause or significantly contributes
- C. “Infectious Wastes” includes all of the following substances or categories of substances:
 - 1. Cultures and stocks of infectious agents and associated biologicals, including, without limitation, specimen cultures, cultures and stocks of infectious agents, wastes from the production of biologicals, and discarded live and attenuated vaccines;
 - 2. Laboratory wastes that were, or are likely to have been, in contact with infectious agents that may present a substantial threat to public health in improperly managed;
 - 3. Pathological wastes, including, without limitation, human and animal tissues, organs, and body parts, and body fluids and excreta that are contaminated with or are likely to be contaminated with infectious agents, removed or obtained during surgery or autopsy or for diagnostic evaluation, provided that, with regard to pathological wastes from animals, the animals have or are likely to have been exposed to a zoonotic or infectious agent.
 - 4. Waste materials from the rooms of humans, or the enclosure of animals, that have been isolated because of diagnosed communicable diseases that are likely to transmit infectious agents. Also included are waste materials from rooms of patients who have been placed on blood and body fluid precautions under the universal precaution system established by the “Center for Disease Control and Prevention” in the Public Health Service of the United States Department of Health and Human Services.

5. Human and animal blood specimens and blood products that are being disposed of, provided that with regard to blood specimens and blood products from animals, the animals were or are likely to have been exposed to a zoonotic or infectious agent. "Blood products" does not include patient care waste such as bandages, or disposable gowns that are lightly soiled with blood or other bodily fluids, unless such wastes are soiled to the extent that the generator of the waste determines that they should be managed as infectious waste;
6. Contaminated carcasses, body parts, and bedding of animals that were intentionally exposed to infectious agents from zoonotic or human diseases during research, production of biologicals, or testing of pharmaceuticals, and carcasses and bedding of animals otherwise infected by zoonotic or infectious agents that may present a substantial threat to public health if improperly managed;
7. Sharp wastes used in the treatment, diagnosis, or inoculation of human beings or animals or that have, or are likely to have, come in contact with infectious agents in medical, research, or industrial laboratories, including, without limitation, hypodermic needles and syringes, scalpel blades, and glass articles that have been broken. Such wastes are hereinafter in this rule referred to as "sharp infectious waste" or "sharps";
8. Any other waste materials generated in the diagnosis, treatment, or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals, that the Public Health Council created in Section 3701.33 of the Ohio Revised Code (ORC), by rules adopted in accordance with Chapter 119 of the ORC, identifies as infectious wastes after determining that the wastes present a substantial threat to human health when improperly managed because they are contaminated with, or are likely to be contaminated with, infectious agents;
9. Any other waste materials the generator designates as infectious waste

Appendix B

“Sharps” Management

OEPA groups needles, razor/scalpel blades, lancets, broken glassware, pipettes, pipette tips and syringes to be sharps. Whether a sharp item is considered infectious depends on if that sharp item has come into contact with blood or other potentially infectious material. Upon completion of use, all sharp items shall be placed immediately into an approved sharps containers as described below:

An approved sharps container is a puncture resistant container that can be specifically designed and manufactured for the accumulation of sharps. There are two types of sharps containers used on campus, provided by EHS:

Infectious sharps are to be placed in approved sharps containers (red or white in color) that are labeled infectious waste and bear the international biohazard symbol.

Non-infectious sharps are to be placed in approved sharps containers (green in color) that are labeled non-infectious waste and do not bear the international biohazard symbol. For purposes of this program a metal can (e.g. coffee can) may be utilized for non-infectious sharps provided it is labeled as non-infectious.

Departments may obtained appropriate sharps containers by contacting EHS.

Appendix C
Infectious Waste Inventory Form

**Cleveland State University
Office of Environmental
Health and Safety**

Infectious Waste Inventory

Instructions: Please list the material to be removed on this form. Fill out **completely**, and then notify the Office of Environmental Health and Safety at extension 3715. **NO MATERIAL CAN BE ACCEPTED WITHOUT A COMPLETED INVENTORY FORM ATTACHED.**

Academic Waste _____ Research _____ Other: _____

Department _____ Building _____ Room _____

Container Type	Quantity	Size – S,M,L	Volume (EHS Only)	Weight (EHS Only)

Name of Responsible Person

Phone

Date

Appendix D

Infectious Waste Storage Area Inspection Form

Cleveland State University
Office of Environmental Health and Safety

Infectious Waste Storage Area Inspection Form
Science Research 386

DATE: _____ TIME: _____

*Puncture resistant containers are in good physical condition with lids down
 Yes No

*Biohazard bags are double-bagged and sealed Yes No

*Infectious waste materials are free from odors, putrescence and vermin
 Yes No

*Spill kit is available and adequately stocked Yes No

*Infectious waste present has not been in storage greater than 14 calendar days
 Yes No

Comments: _____

EHS Inspector Signature

Date

Appendix E
Spill Log Form

Cleveland State University Infectious Waste Spill Log

Building _____ Room/Area _____

Name of Employee Involved _____

Date/Time of Spill _____

Summary of Spill Events:

Comments: _____

Signature of Employee

Date of Report