

University of Ottawa

Biomedical Waste Disposal Procedures

Version 2016

Office of Risk Management



uOttawa

Subject:	Biomedical Waste Disposal Procedures	No.:	SOP 2004-10
Issued by:	Office of Risk Management (ORM)	Revised:	November 2016
Target Group:	Faculties and Services	Effective:	November 2016

PURPOSE

The purpose of this document is to define biomedical waste and to provide information on the handling and disposal of this waste stream. These procedures are intended to ensure the proper and safe management of biomedical waste at the University of Ottawa. Both provincial and municipal regulations, by-laws and consultative documents were referenced when drafting these procedures.

This procedure is developed to assist users (personnel, student, etc.) who utilize biological agents at uOttawa in the proper disposal of biological waste generated by their operations.

This procedure establishes the minimum requirements for Risk Group 1 and 2 (RG1 and RG2) biological waste management in a biological Containment Level 1 and 2 (CL1 and CL2) laboratories.

Contents

PURPOSE 1

1. DEFINITIONS..... 4

1.1. Biomedical Waste 4

1.1.1. Pathogenic 4

1.1.2. Non-Pathogenic 4

1.2. Types of Biomedical Waste..... 4

1.2.1. Biological Material 4

1.2.2. Laboratory Associated Waste 5

1.2.2.1. Microbiology Laboratory Waste 5

1.2.2.2. Biomedical Sharps Waste..... 5

1.2.3. Anatomical Waste..... 5

1.2.3.1. Animal Anatomical Waste..... 5

1.2.3.2. Human Anatomical Waste 5

1.2.4. Blood and Bodily Fluids..... 5

1.2.4.1. Animal Blood any Bodily Fluids 5

1.2.4.2. Human Blood any Bodily Fluids..... 5

1.2.5. Other Biomedical Waste 6

2. ROLES AND RESPONSIBILITES 6

2.1. Principal Investigators..... 6

2.2. Generators (students, lab or clinic personnel) 6

2.3. Service or Faculty/Department Biomedical Waste Representative (where applicable) 6

2.4. Office of Risk Management (ORM) 6

3. GENERAL GUIDELINES..... 6

3.1. Segregation 6

3.2. Containment (waste container for disposal and treatment)..... 7

Table 1.1 Waste Container Options 8

3.2.1. Laboratory Associate Waste 9

3.2.1.1. Microbiology Laboratory Waste 9

3.2.1.2. Biomedical Sharps Waste..... 9

3.2.2. Anatomical Waste (Human/Animal)..... 9

3.2.3. Blood and Bodily Fluids (Human/Animal)..... 10

3.3. Labelling 10

3.3.1. University of Ottawa Hazardous Waste Label – for Each Container 11

3.3.2.	University of Ottawa Incineration (necropsy) Tag – for Anatomical Waste	11
3.3.3.	Autoclaved Non-Biohazardous Waste Label.....	11
3.3.4.	Additional Labelling for Off-Site Disposal	11
3.4.	Handling/Transportation Rules.....	11
3.5.	On-Site Treatment at the University of Ottawa.....	12
3.6.	Collection for Off-Site Disposal	12
3.7.	Storage for Off-Site Disposal.....	12
3.7.1.	Biomedical Sharps Waste.....	12
3.7.2.	Anatomical Waste (Human/Animal).....	13
3.8.	Re-Supply of Biomedical Waste Containment.....	13
4.	RECORDS KEEPING	13
5.	SPECIAL WASTES	13
5.1.	Mixed Waste	13
5.2.	Radioactive Carcass Waste	13
5.3.	Cytotoxic Waste	14
5.4.	Ethidium Bromide	14
6.	LINKS & RESOURCES.....	14
	Appendix A – AN OVERVIEW OF BIOMEDICAL WASTE DISPOSAL PROCEDURES.....	15
	Appendix B – UNIVERSITY OF OTTAWA BIOMEDICAL WASTE HANDLING PROCEDURES FOR OFF-SITE DISPOSAL.....	16
	Appendix C - UNIVERSITY OF OTTAWA REQUEST FOR BIOMEDICAL WASTE SUPPLIES	18
	Appendix D – UNIVERSITY OF OTTAWA RADIOACTIVE CARCASS DISPOSAL LOG.....	19

☰ The information found within this document can be found on the Office of Risk Management (ORM) web page.

1. DEFINITIONS

Biohazardous Material is a term that is often synonymous with pathogenic, infectious, and biomedical. In terms of waste the proper term used by regulators is biomedical and for this reason it is being applied in this fashion at the uOttawa. This applies for human, animal, plants and aquatic animal regulated pathogens.

1.1. Biomedical Waste

A term applied to waste that is pathogenic, and may be applied to non-pathogenic waste depending upon the situation.

1.1.1. Pathogenic

Pathogens are a specific group of microorganisms, proteins, or nucleic acids that are capable of causing disease, and is categorized as either Risk Group 2, 3, or 4 (RG 2, 3, 4).

Infectious material is a subset of pathogenic material when in quantities exceed the dose limit known to cause disease, and may also include the material in which the pathogens are found.

1.1.2. Non-Pathogenic

A microorganism that is unlikely to cause human, plant or animal disease is categorized as Risk Group 1 (RG1). Examples of RG1 agents include *asporogenic Bacillus subtilis* or *Bacillus licheniformis*; adeno-associated virus (AAV) types 1 through 4; and recombinant AAV constructs, in which the transgene does not encode either a potentially tumorigenic gene product or a toxin molecule and are produced in the absence of a helper virus. A strain of *Escherichia coli* is an RG1 agent if it (1) does not possess a complete lipopolysaccharide (i.e., lacks the O antigen); and (2) does not carry any active virulence factor (e.g., toxins) or colonization factors and does not carry any genes encoding these factors.

1.2. Types of Biomedical Waste

There are five types of biomedical waste: biological material, laboratory associated, anatomical (human and animal), blood and bodily fluids and mixed waste.

Non-pathogenic (non RG 2, 3 or 4 biological agents) waste may be incorporated into the biomedical waste stream as deemed appropriate by ORM.

In general, CL 1 laboratories should handle their waste as non-hazardous (except if needles or contains Chemical or Radiation hazards) going directly to regular waste route through garbage bags. If a Level 1 lab still wishes to autoclave their waste before disposing or if their waste is genetically modified material or non-native which requires autoclaving because of Environment Canada regulations, they must label the bag as non-pathogenic material.

In the absence of secure or appropriate way for disposal a non-pathogenic material, please contact ORM to discuss appropriate disposal route.

1.2.1. Biological Material

Biological material refers to microorganisms, proteins, and nucleic acids, along with other biological matter that may contain microorganisms, proteins, and nucleic acids, and their toxins.

Includes: Viruses, bacteria, fungi, parasites, biological toxins, prions, nucleic acids, proteins and other micro-organisms or genetic systems, including the pathogens themselves) and any biological matter that

may contain them (e.g., blood, tissue) or their toxins that are known or suspected to cause disease in animals, humans, plants and/or the environment.

1.2.2. Laboratory Associated Waste

1.2.2.1. Microbiology Laboratory Waste

Microbiology laboratory waste consists of all laboratory cultures:

- Human and animal cell cultures;
- Stocks or specimens of microorganism and recombinant organisms;
- Live or attenuated vaccines developed for human use;
- Human diagnostic specimens (excluding feces, urine, vomitus and tears);
- Any laboratory material (e.g. petri dishes, culture flasks, gloves, swabs) that has come in contact with one the items listed above (solid and liquid).

1.2.2.2. Biomedical Sharps Waste

Needles, syringes with needles, lancets, scalpels, razor blades, and precision knives contaminated with pathogenic. Contaminated broken glass, Pasteur pipettes, test tubes, microscope slides, blood vials, microscope slides, cover slips, pipette tips or any other material capable of causing punctures or cuts.

1.2.3. Anatomical Waste

1.2.3.1. Animal Anatomical Waste

Animal anatomical waste is the waste related to an animal that is infected or suspected of being infected with any infectious substance, which includes animal bedding, animal carcass, tissues, organs or other body parts, other than teeth, nails, hair, feather, hooves or horns.

1.2.3.2. Human Anatomical Waste

Human anatomical waste consists of all human tissues, organs, and body parts, excluding hair, nails and teeth.

1.2.4. Blood and Bodily Fluids

1.2.4.1. Animal Blood any Bodily Fluids

Animal blood and bodily fluids waste means waste related to an animal treated for an infectious substance and it includes:

- Liquid or semi-liquid animal/human blood or blood products;
- Items saturated with liquid or semi-liquid animal/human blood or blood products;
- Body fluids visibly contaminated with animal/human blood;
- Body fluids removed for diagnosis during surgery, treatment or autopsy.

1.2.4.2. Human Blood any Bodily Fluids

Human blood and bodily fluids waste includes:

- Liquid or semi-liquid animal/human blood or blood products;

- Items saturated with liquid or semi-liquid animal/human blood or blood products;
- Body fluids visibly contaminated with animal/human blood;
- Body fluids removed for diagnosis during surgery, treatment or autopsy.

1.2.5. Other Biomedical Waste

Biomedical waste that also contains other hazardous material/substance such as: cytotoxic waste, radioactive, and chemical such as, ethidium bromide (see Chapter 5).

2. ROLES AND RESPONSIBILITIES

2.1. Principal Investigators

- Ensure all lab staff/students have received proper training to deal with biomedical waste.
- Communicate these guidelines to key personnel.
- Ensure labs are equipped with the proper containers and or bags and that they are ideally located.

2.2. Generators (students, lab or clinic personnel)

- Practice due diligence at all times when handling biomedical waste (i.e. insure appropriate containers securely closed, wear protective equipment)
- Ensure familiarity with the handling, treatment and disposal procedures of the waste you generate.
- The waste generator is the primary responsibility for proper packaging and labeling their waste container before sending them for treatment or disposal.

2.3. Service or Faculty/Department Biomedical Waste Representative (where applicable)

- Arrange for pick-up/drop off of waste with users.
- Transport or assist in transport of waste to designated storage areas.
- Log waste information in the appropriate log.

2.4. Office of Risk Management (ORM)

- Oversee the manifesting and off-site disposal for all biomedical waste.
- Provide guidance regarding the handling treatment or disposal of biomedical waste.
- Ensure compliance with uOttawa guidelines and legislative activities.

3. GENERAL GUIDELINES

3.1. Segregation

- Biomedical waste must be stored in a secure environment at all times.
- Whenever possible, biomedical waste must not be mixed with chemical, radioactive or other laboratory trash. This may be unavoidable (i.e. radioactive carcasses) and in such instances

special handling may be required (see Chapter 5 SPECIAL WASTES). For further information contact ORM.

- The various types of biomedical waste should be segregated from each other.
- Fluid waste should be contained separately from solid waste.

3.2. Containment (waste container for disposal and treatment)

Containers for biomedical waste must be appropriate for its contents (Table 1.1). There are several different kinds of containers and bags available for the containment and disposal of biomedical waste. Containers and bags are available through your faculty/service or sciences stores.

The following are some guidelines to remember when packaging waste:

- Double bag if necessary to prevent perforations.
- Add absorbent material if the possibility of large volumes of liquid exists.
- Ensure the bags are well sealed.
- Do not overfill the containers/bags **max 75% of the container volume.**
- If the outside of the bag is contaminated, double bag.
- Secondary containment should also be labeled with the biohazard symbol.

Note: For those types of biomedical waste which are not mentioned in this document, please consult the ORM for proper containers.

Table 1.1 Waste Container Options

Biomedical Waste Container Options Selection must be assessed to:				
<ul style="list-style-type: none"> Prevent the release of material Prevent possible exposure Accommodate the waste volume / mass Container must never exceed ¾ full Appropriately labelled 				
Type of Waste	Type of Container (example of)			
	Autoclave Bag 	Yellow puncture proof container 	Red puncture proof container (anatomical) 	Drum (anatomical) 
Biological Material (ampules, vials)	P	p **	p ***	-
Lab Associated: gloves, gowning, disposal pipettes/loops, etc.	X†	p †	p ***	-
Biomedical Sharps	-	X **	p ***	-
Anatomical (animal/human)	-	-	p ***	X****
Blood and Bodily Fluids	p *	p **	p ***	p†
Mixed Biomedical Waste	To be evaluated	To be evaluated	To be evaluated	To be evaluated
Special Notes	† if autoclave not available contact ORM * if not saturated or for treatment prior to disposal	† if autoclave not available contact ORM ** if autoclave not available	*** if anatomical or prion works - incinerate	**** Red biohazard bag lined in the drum † for saturated items
Disposal	To be autoclaved prior regular waste disposal	Bio-cage (at 4°C for blood) and then pick-up by specialised company	Bio-cage (at 4°C for anatomical waste) and then pick-up by specialised company	Bio-cage at 4°C or less and then pick-up by specialised company
Chart: X (First choice) P (Possible) *, **, ***, ****, † (See special note)				

If confused or uncertain contact the Risk Manager Specialist – Biosafety bio.safety@uottawa.ca

3.2.1. Laboratory Associate Waste

3.2.1.1. Microbiology Laboratory Waste



Solid

- Collect waste in a red or orange autoclave bag
- Label: University of Ottawa Hazardous Waste label

For more info refer to the “A Guideline for the Safe Use of Autoclaves”.



Liquid

- Use leak-proof containers which are able to withstand thermal or chemical treatment
- Label: University of Ottawa Hazardous Waste label



Microbiology laboratory waste that **cannot** be treated on-site and must be disposed off-site

- Disposed in approved containers
- Label: University of Ottawa Hazardous Waste label

Review of current practices indicates biological laboratory waste is treated in-house (autoclaved or chemically treated - see section 3.5). If in-house treatment is not suitable, contact ORM to discuss other means of disposal.

3.2.1.2. Biomedical Sharps Waste



- Deposited in approved sharps container
- Label: University of Ottawa Hazardous Waste label

3.2.2. Anatomical Waste (Human/Animal)



- Place waste in a red biohazard bag or a black garbage bag if the waste will immediately be stored at 4°C or less in a drum lined with red biohazard bags.
- Drums are approved heavy duty rigid cardboard.
- Label: Each bag must be tagged with a completed yellow incineration (necropsy) tag.

3.2.3. Blood and Bodily Fluids (Human/Animal)



Vials

- Deposited in approved sharps container
- Label: University of Ottawa Hazardous Waste label



Blood/Bodily Fluids

- Use rigid leak-proof container
- Store the container at 4°C
- Label: University of Ottawa Hazardous Waste label



Saturated Items

- Place waste in a red biohazard bag or a black garbage bag if the waste will immediately be stored at 4°C or less in a drum lined with red biohazard bags.
- Drums are approved heavy duty rigid cardboard.
- Label: Each bag must be tagged with a completed yellow incineration tag.

Note: The following are **NOT** considered as biomedical waste and it can be disposed of in the regular waste stream.

- Dispose of non-reusable lab items (plastic or glass), lab matting, and gloves that **have not been** in contact with infectious or biological material along with other solid waste.
- Place broken or unbroken glassware that **has not been** in contact with infectious materials in broken glass boxes with a plastic liner to prevent accidental cuts.
- Biomedical waste which has been decontaminated by using an autoclave thus it is **no longer** considered as infectious material.

3.3. Labelling

All containers for biomedical waste must display the **biohazard symbol** and the words 'Biohazard' in a color contrasting the container.



The various types of packaging and associated labelling used for different types of biomedical waste are outlined below.

3.3.1. University of Ottawa Hazardous Waste Label – for Each Container

The University of Ottawa Hazardous Waste label **MUST** be put on each container before its usage.



Information **MUST** be legibly and accurately recorded on the label:

- Professor name
- Building, room identification and phone number
- Contact person
- Date
- Contents: Biosafety Certificate number, Risk Group, Containment Level and content of waste

3.3.2. University of Ottawa Incineration (necropsy) Tag – for Anatomical Waste



Information **MUST** be legibly and accurately recorded on the tag:

- Is necropsy required?
- Date of death
- Principle Investigator: name, department, building, room and phone number
- In contents section: type of contaminants, specials comments, date and contact person

3.3.3. Autoclaved Non-Biohazardous Waste Label

If biomedical waste is decontaminated properly by using an autoclave, the biohazardous symbol on the autoclave bag must be defaced by the University of Ottawa 'Autoclaved Biomedical Waste-Non-Hazardous' label, which indicates the bag of waste is disposed of in the regular waste stream. (See [A Guideline for the Safe Use of Autoclave](#))

3.3.4. Additional Labelling for Off-Site Disposal

For some types of biomedical waste, i.e. anatomical waste, radioactive carcass waste, cytotoxic waste, pharmaceutical waste etc., additional labelling is required before sending to a waste disposal site. These labels are provided and attached by the ORM authorized personnel.

3.4. Handling/Transportation Rules

- Untreated waste should be handled as little as possible.
- Avoid contaminating exterior surface of waste container, or ensure exterior surfaces are decontaminated.
- Avoid transport of untreated waste through non-lab or high traffic corridors.

- Secondary containers must be used when transporting waste (especially for liquids). The secondary containers should be decontaminated after use.
- Whenever possible use carts with raised sides for transport.
- Ensure containers or bags are tightly closed or taped shut during transport.

3.5. On-Site Treatment at the University of Ottawa

If not sent off-site for disposal, all biological waste should be decontaminated prior to disposal (including Risk Group 1 agents). Decontamination of waste results in the destruction or removal of microorganisms to a lower level, such that there is no danger of infection to others. The two main choices for waste decontamination at the University of Ottawa are **autoclaving** (preferred) and **chemical disinfection**. Waste that has been decontaminated or disinfected is no longer considered biomedical waste. Therefore, once the biological waste is treated, it can be disposed of in the regular waste stream or chemical waste stream. (Please refer to the “A Guideline for the Safe Use of Autoclaves”.)

Note: Any waste that cannot be treated on-site (i.e. sharps, carcasses, tissues and body parts) remains biomedical waste and must be incinerated off-site.

3.6. Collection for Off-Site Disposal

Collection of biomedical waste may vary for different services or faculty/departments depending upon waste generation practices, available resources or management approaches. Labs can request for service to pick-up specific waste (biomedical sharps and some non-anatomical waste that cannot be autoclaved on-site). For other types of waste (anatomical waste etc.), they may have to be dropped off at the biomedical waste storage location (biomedical waste cage/cold room) by the lab workers.

*For more information, please refer to *Appendix B – University of Ottawa Biomedical Waste Handling Procedures for off-site Disposal*, or contact the biosafety specialist at by sending an email to bio.safet@uottawa.ca or calling ext. 3153.

Eventually the biomedical waste will be picked up by the external company from the biomedical waste storage location for off-site disposal. Any further preparation for transport (i.e. labelling, monitoring, and paper work) will be conducted by ORM.

3.7. Storage for Off-Site Disposal

Although biomedical waste should be treated as promptly as possible it can be held temporarily. Treatable waste should not be allowed to accumulate. Waste that is to be disposed off-site should be stored in designated areas which are secure and access is limited to delegated individuals.

3.7.1. Biomedical Sharps Waste



- Benchtop sharp containers must be placed in a defined cardboard box, double lined with two yellow bags, which displays the biohazard symbol.
- When boxes/containers are full they should be closed, packing taped shut on all sides (with a Packing tape that withstands condensation).
- Boxes should be held in designated biomedical waste cages

3.7.2. Anatomical Waste (Human/Animal)



- Drums, either while filling or when full must be held in cold storage at a 4°C minimum.
- Once full, drums should be closed and the lid should be taped securely.
- All drums which contain carcasses or anatomical waste must have an 'Anatomical' sticker affixed. These may be applied by ORM or the waste generator.

3.8. Re-Supply of Biomedical Waste Containment

- Autoclave bags: May be requested through the service or faculty/department technical support; or users on UOttawa main campus can obtain through Sciences Stores at D'Iorio Hall.
- Other containers (sharps containers, liners, pails and drums):
 - Maybe requested from the faculty/department technical support;
 - Maybe requested by submitting an online request form (refer to *Appendix B*);
 - Maybe requested by completing the *University of Ottawa Request for Biomedical Waste Supplies* form (see *Appendix C*) and submitting to bio.safety@uottawa.ca.

4. RECORDS KEEPING

As biomedical waste is potentially hazardous, it is important to document the nature of the waste. Labels attached to waste bags or sharps containers should detail the contents. While the ORM maintains records of the type of waste (e.g. tissue or sharp), the weight and the corresponding cost for disposal, each waste generator should have a system to track their own waste.

5. SPECIAL WASTES

5.1. Mixed Waste

Mixed waste may consist of any combination of biohazardous, chemical and radioactive waste. These combinations present various challenges and inactivation and disposal will be considered on a case-by-case basis or as required. As a general rule, the biological component should be inactivated first.

5.2. Radioactive Carcass Waste



- All carcasses labeled with radioisotopes **must** be disposed of separately from other biomedical waste.
- Carcasses must be placed in a black garbage bag and tagged with a yellow incineration tag.
- Carcasses must be held in a designated container which displays the radioactive trefoil and the words 'Radioactive' as well as the Biohazard symbol.
- The container must be held in a temperature controlled room/freezer (contact your hazardous waste representative

or ORM for locations).

Note: Radioactive Carcass Disposal Log (see *Appendix D*) must be completed and kept with disposal container and at the decay freezer.

5.3. Cytotoxic Waste

Cytotoxic waste is any material that may have come into contact with a cytotoxic drug. Cytotoxic waste has the potential for causing carcinogenic, mutagenic or teratogenic effects. Therefore, this waste must be handled with caution and **ORM must be consulted**. Waste of this nature cannot be treated by autoclaving and must be incinerated off-site. While cytotoxic waste is handled similarly to other biomedical waste there are some important differences:



- Cytotoxic waste **must** be segregated from other biomedical waste.
- Sharps containers or red biohazard bags used to contain cytotoxic material must be labeled as 'Cytotoxic Waste'.
- Packaging for disposal (boxes or drums) must also be labeled as 'Cytotoxic Waste'.
- Cytotoxic waste **must NOT** be refrigerated.

Note: when the waste consists of both cytotoxic and anatomical components (i.e. tissue from chemotherapy treated patient or animal) the anatomical classification assumes priority.

5.4. Ethidium Bromide

While ethidium bromide (EtBr) is not a regulated waste per se, due to its properties it may present a hazard if it is poured down the drain or placed in the regular garbage untreated. Correct procedures for the disposal of EtBr depend on the nature of the waste materials and the concentration of EtBr that they contain. Therefore, due to its many uses, it is not possible to have one all-encompassing mode of disposal. Please contact the ORM to discuss disposal approaches, which are tailored to the characteristics of your waste.

6. LINKS & RESOURCES

Block, S.S. (Ed.). (2001). *Disinfection, Sterilization, and Preservation*, (5th Ed.). New York: Lippincott Williams & Wilkins.

C-4: The Management of Biomedical Waste in Ontario, March 31, 2016. Ontario Ministry of Environment and Climate Change.

Appendix A – AN OVERVIEW OF BIOMEDICAL WASTE DISPOSAL PROCEDURES

	Biological Material or Lab Associated Waste		Biomedical Sharps waste	Blood and Bodily Fluid Waste			Anatomical Human or Animal Waste
Identification	Cultures, stocks or specimens of microorganisms, live or attenuated vaccines, human or animal cell cultures and laboratory material that has come into contact with these (solid and liquid).		Needles, syringes with needles, lancets, scalpels, razor blades, and precision knives. Contaminated broken glass, pipettes, test tubes, microscope slides, blood vials or any other material capable of causing punctures or cuts.	Fluid blood and blood products, items saturated or dripping blood, bodily fluids contaminated with blood and bodily fluids removed for diagnosis during surgery, treatment or autopsy. This does not include urine or feces.			Animals carcasses, tissues and body parts, infectious bedding, liquid or semi-liquid blood and blood products, bodily fluids, items contaminated with blood bodily fluids.
Segregation	<u>Solid</u>	<u>Liquid</u>	↓	<u>Vials</u>	<u>Fluids</u>	<u>Saturated items</u>	↓ <u>Radioactive carcasses</u>
Containment	Autoclave biohazard bag	Rigid, leak-proof container (i.e flask)	Approved sharps container	Rigid, leak-proof container	Black garbage bag	Black garbage bag	Black garbage bag
Labeling	University of Ottawa Hazardous waste label		University of Ottawa Hazardous waste label	University of Ottawa Hazardous waste label	University of Ottawa yellow necropsy label (individual bags)	University of Ottawa yellow necropsy label (individual bags)	University of Ottawa yellow necropsy label (individual bags)
Treatment	Autoclave or chemical decontamination		Off-site treatment	Autoclave or chemical decontamination or off-site treatment	Off-site treatment	Off-site treatment	Off-site treatment
Packaging for disposal	Once treated affix a 'non-hazardous waste' sticker Place inside a sealed black garbage bag	↓	Place inside approved cardboard box double lined with 2 yellow biohazard bags	⊗ For larger volumes (+ 300ml) contact ORM	Place inside approved cardboard drum double lined with 2 red biohazard bags	Place inside approved cardboard drum double lined with 2 red biohazard bags	Place inside approved cardboard drum double lined with 2 red biohazard bags
Storage	↓	↓	Designated biomedical waste cage	Store in designated cold storage (at least 4°C) if send out for off-site disposal	Store in designated cold storage (at least 4°C)	Store in designated cold storage (at least 4°C)	Store in designated cold storage (at least 4°C) Allow to decay in designated freezer
Records	Autoclave cycle records	↓	↓	Autoclave cycle records if an autoclave is used	↓	↓	Radioactive carcass disposal log
Disposal	Regular garbage	Pour down drain*	ORM will arrange for off-site disposal	Pour down drain* or send for off-site disposal	ORM will arrange for off-site disposal	ORM will arrange for off-site disposal	ORM will arrange for off-site disposal

* In accordance with the sewer use by-laws.

Detailed information is available in the *Biomedical Waste Disposal Procedures*.

Appendix B – UNIVERSITY OF OTTAWA BIOMEDICAL WASTE HANDLING PROCEDURES FOR OFF-SITE DISPOSAL

Purpose

Biomedical waste is regulated by the Ontario Government’s Ministry of Environment and Climate Change. For biomedical waste which cannot be decontaminated on-site (such as by autoclaving), the University of Ottawa has a contract with Stericycle for the off-site disposal of biomedical waste. This document gives brief guidelines about how to handle/prepare the biomedical waste generated in your lab for off-site disposal and how to request your biomedical waste containment replacement.

1. General Information

Biomedical Waste Generating Site	Main Campus	RGN Campus	Lees Campus
Biomedical Waste Generating Buildings	LMX, VNR, BSC, DRO, GNN, MRN, CRG, CBY, SITE, ARC	RGN	LEES
Stericycle Pick-up Schedule 🕒	Bi-weekly, Wednesday 11:30 – 15:30	Weekly, Monday 9:00 – 13:00	Please contact ORM to schedule a pick-up time
Stericycle Pick-up Location	DRO Loading Dock (DRO 130)	RGN Loading Dock (RGN 1129 B1)	LEES-C Loading Dock

2. Biomedical Waste Handling Procedure

- Make sure you are using the correct containers for your waste. **Do not** fill the container to more than **75%** of the container’s volume.
- Ensure that each biomedical waste container is **labelled** with a completed “University of Ottawa Hazardous Waste” tag.
- Ensure that all containers are **sealed**.
- Sharps containers can be picked up by submitting an online request form (refer to Section 4).
- Other biomedical waste should be transferred by the lab to the drop-off location (refer to Section 4) by using a trolley.

3. Containment Re-Supply

Please refer to Section 4 to learn how to request your containment re-supply from your faculty/department. If you need to place an order from Stericycle, please follow the procedures below:

- Fill the *University of Ottawa Request for Biomedical Waste Supplies* form and submit to bio.safety@uottawa.ca.
- Supplies are usually delivered on the same day as waste pick-up; make sure you submit your form **3 weekdays** prior to the waste pick-up day. The ORM will inform you to pick up your supplies once they arrive.

4. Off-Site Biomedical Waste Disposal and Containment Re-Supply for Different Faculties/Departments

Faculty/Department	Biomedical Waste Disposal	Containment Re-Supply
Main Campus		
ACVS (VNR)	– Waste is dropped off at the DRO loading dock by the lab on the waste pick-up day before 11:30am.	– Place an order by contacting ORM.
Faculty of Education (LMX)	– Sharps containers* and small non-anatomical biomedical waste box pick-up can be requested by submitting an online request form . – Contact ORM if other biomedical waste needs to be disposed of.	– Sharps container and small non-anatomical biomedical waste box (with 2 yellow liners) replacement can be requested by submitting an online request form . – Other containers should be request from ORM.
Faculty of Engineering (CBY, SITE)		
Faculty of Science (BSC, DRO, GNN, MRN, CRG, ARC)		
RGN Campus		
ACVS	– Waste is dropped off and stored in the freezer room (CTE room) located in RGN 1129-B1.	– Place an order by contacting ORM.
Faculty of Health Science	– Sharps containers pick-up can be requested by submitting an online request form . – Other biomedical waste should be dropped off at the biomedical waste cage in RGN 1129-B1 by the lab.	– Sharps container replacement can be requested by either <ul style="list-style-type: none"> • Submitting an online request form or • Requesting from the <i>André Bergeron</i> or <i>Bruno Berriault</i> – Other containers should be requested by contacting ORM.
Faculty of Medicine		
NRI/OHR/KRC		
LEES Campus		
Faculty of Health Science	– Contact ORM for waste pick-up schedule.	– Place an order by contacting ORM.
*Appropriate sharps containers are the <u>4.5L yellow benchtop sharps containers</u> and the <u>23L yellow pails</u> .		

ORM contact information:

Email: bio.safety@uottawa.ca; Tel: 613-562-5800ext. 3153

Appendix C - UNIVERSITY OF OTTAWA REQUEST FOR BIOMEDICAL WASTE SUPPLIES

REQUESTER INFORMATION

Name		Department	
Email		Phone	

TYPES OF SUPPLIES REQUESTED

Non Anatomical Supplies	Unit	Quantity Requested
Plastic Yellow Sharps Containers 4.5 L	Case of 32	
Plastic Yellow liners for Sharps containers 30" x 38"	Roll of 10	
Plastic Yellow Sharps Pail 23 L	Each	
Small Cardboard Boxes 14" x 14" x 24"	20 per bundle	

Anatomical Supplies	Unit	Quantity Requested
Plastic Red Pail 23 L	Each	
Small Fibre Drums for Anatomical waste	Each	
Large Fibre Drums for Anatomical waste	Each	
Plastic Red liners for Small Fibre Drums 30" x 38"	Roll of 10	
Plastic Red liners for Large Fibre Drums 37" x 50"	Roll of 10	

Labels	Unit	Quantity Requested
Anatomical Labels (4"x4")	Roll of 500	

DELIVERY

Address		Department	
E-mail		Phone	
Desired Delivery Date			

Send completed forms to Risk Management Specialist at bio.safety@uottawa.ca

For any other supplies, please contact the Risk Management Specialist at extension 3153 or by sending email to bio.safety@uottawa.ca

