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<b>Title:</b>	<b>Chemical Waste Disposal Guidelines-Research</b>		
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## Introduction

### BIOMEDICAL WASTE

Biomedical Waste- includes:

- ⌘ materials such as human and animal anatomical waste (tissues, organs, body parts, animal carcass)
- ⌘ liquid or semi-liquid human and animal blood waste (i.e. in vacutainer)
- ⌘ items contaminated with human and animal blood that would release liquid or semi-liquid human or animal blood if compressed
- ⌘ microorganisms including bacteria, viruses, fungi and other infectious agents
- ⌘ human or animal cell lines
- ⌘ sharps waste and other items contaminated with infectious/hazardous agents

### GENERAL WASTE

Regular non-hazardous waste or recyclables- any waste or recyclable material that is not contaminated with infectious/hazardous biomedical samples/waste or radioactive materials. Laboratory plastic should be decontaminated and thoroughly washed and placed in the recycling area.

### CHEMICAL WASTE

Researchers should be cognizant of the types of chemical waste generated and ensure they follow proper disposal guidelines to protect staff and the environment. In order to minimize the total amount of chemical waste, avoid overstocking chemicals and order only what is needed

## Associated Procedure

### BIOMEDICAL WASTE

*Chemical deactivation/ autoclave of biomedical waste*

- ⌘ liquid waste in cell culture, bacteria, and virus room waste- deactivate with 1:10 diluted bleach for 20 minutes and dispose down the drain with copious amount of water. **DO NOT** autoclave any solution containing bleach
- ⌘ blood waste (less than 300 ml) must be deactivated with 1:10 diluted bleach for 20 minutes and then dispose down the drain with copious amount of water

### ***Biomedical Waste Container Guidelines***

Yellow bag- Biomedical waste generated in laboratories such as:

- ⌘ any soft edged material known to be contaminated with infectious/hazardous agents such as transfer pipettes, contaminated gloves paper towel/cloth, counter top absorbent pads and any absorbent material (i.e some waste from the Cell culture, Bacteria and Virus rooms)
- ⌘ any soft edge material that is contaminated with blood and/or blood products that would release liquid blood if compressed

Yellow receptacle/ sharps container- any biomedical waste that may puncture the yellow bags such as:

- ⌘ needles and syringes
- ⌘ scalpels
- ⌘ contaminated glass/broken glass, plastic pipette tips, laboratory glass or other materials capable of causing punctures or cuts

Red bag- all human and animal anatomical waste. Anatomical waste and animal carcass are collected in the Vivarium fridge and disposed by Vivarium staff.

If anatomical waste is fixed in formalin, separate anatomical waste from chemical waste. Dispose anatomical waste in red bag and formalin as a chemical waste for pick up. Refer to the Chemical Waste Pick-up section

### ***GENERAL WASTE***

#### *General Waste Container Guidelines*

Grey bags- gloves, paper towels, countertop absorbent pads and any absorbent materials that are not contaminated with infectious/hazardous agents, packaging for laboratory supplies etc. Most waste from the Wet bench Open Concept area, Analytical Laboratory Rooms and PCR Rooms can be placed in the grey bags.

Cardboard box lined with grey bag- Laboratory broken glass that is not contaminated with any infectious/hazardous agents must disposed of in designated boxes lined with grey bag located at the end of every other laboratory bench (the box and bench will be labelled)

Pipette tips that are not used for infectious/hazardous agents can be disposed of in designated boxes lined with grey bag located at the end of every other laboratory bench (the

box and bench will be labelled)

Recycle blue bin- clean laboratory plastic containers, non-contaminated paper and cardboard go in the blue box located at the end of every other laboratory bench (the blue box and bench will be labelled)

## **CHEMICAL WASTE**

### *Chemical Waste Disposal Guidelines*

Sink disposal

Sink disposal, followed by copious amount of water, is limited to:

- ε Buffer solution
- ε Detergents
- ε Mild acids/bases
- ε < 10% v/v methanol or ethanol solutions
- ε Bleach containing solutions (usually 1:10 dilution of stock)
- ε Any non-hazardous compounds

### *Chemical waste pick up*

For chemicals that cannot be disposed through sink disposal or regulated under the Environmental Protection Act O Reg. 347- Schedules 1 and 2, drop off your chemicals in the Biohazard Work room on each floor. A designated marked area in the room will be used as a pick up point for waste chemicals.

Indicate the following on the inventory sheet found in the room:

- ε Principal Investigator name
- ε Lab designate or person dropping off the chemical
- ε Lab extension number
- ε Chemical name
- ε Number of containers
- ε Volume of container
- ε Any precautions required for transportation

Stickers with the same information requirements are found in the room. Fill out the information and stick it on the container. If the container is in its original container, take a sticker and fill out the information about the Principal investigator, lab designate and lab extension number and stick it on the container but do not cover the original label with the chemical name and container volume.

## **INCOMPATIBLE CHEMICALS MUST NOT BE STORED TOGETHER**

The RCF Coordinators will contact Clean Harbors to arrange for chemical pick-up.

For any further questions on proper chemical disposal, check the MSDS sheet or call:

- ε Research Biosafety Officer at Ext. 77534
- ε Occupational Hygienist- Corporate Health and Safety Services at Ext. 5227.

## Ethidium Bromide

Liquid waste contaminated with ethidium bromide can be poured into the designated waste container and dropped off as chemical waste in the Biohazard Work Room. Materials contaminated with ethidium bromide (e.g gels and gloves) are considered chemical waste and must be segregated and placed in a leak proof plastic container also located in the Dark room 4th Floor (455). The RCF Coordinator will arrange pick up for the waste on the designated waste pick up day.

## Accidents or spills

Report the incident to your supervisor and fill out the online incident report (Event tracker on the Intranet).

## Revision Number

## Contact

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# REGULAR WASTE AND RECYCLE



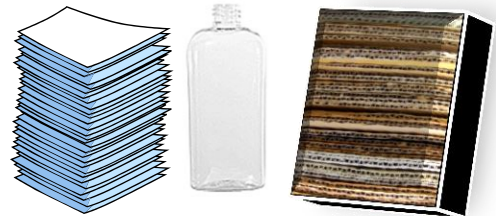
**Grey bag containers are located at each bench**

- gloves, paper towels, countertop absorbent pads and any absorbent materials that are **not contaminated** with infectious/hazardous agents
- packaging for laboratory supplies



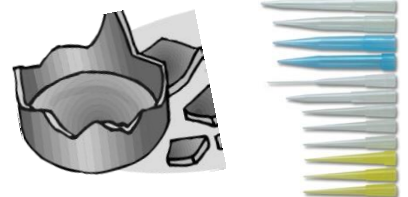
**Blue recycle containers are located at identified bench locations**

- clean laboratory plastic container
- non-contaminated paper and cardboard



**Card board box lined with grey bags are labelled and located at identified bench locations**

- uncontaminated laboratory broken glass
- pipette tips not used for infectious/hazardous agents



# BIOMEDICAL WASTE

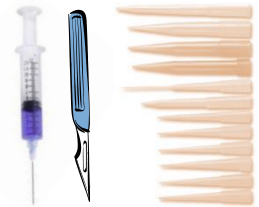
## Yellow bags

- Any soft edged material known to be **contaminated with infectious/hazardous agents** such as transfer pipettes, contaminated gloves, paper towel/cloth, countertop absorbent material
- Any soft edge material that is contaminated with blood and/or blood products that would release blood if compressed



## Yellow receptacle/sharps container

- Any biomedical waste that may puncture the yellow bags such as:
  - Needles and syringes
  - Scalpels
  - **Contaminated** glass/broken glass, plastic pipette tips



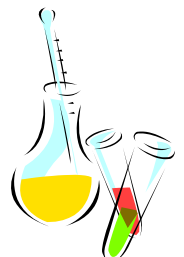
## Red bags

- All human and animal anatomical waste. Anatomical waste and animal carcass are collected in the Vivarium fridge and disposed by Vivarium staff



## Chemical deactivation/ autoclave

- Liquid waste- deactivate with 1:10 diluted bleach for 30 minutes and dispose down the drain with plenty of water.
- Blood waste- deactivate with 1:10 diluted bleach for 30 minutes and dispose down the drain with plenty of water



# CHEMICAL WASTE

## Sink Disposal followed by copious amount of water



- Buffer solutions
- Detergents
- Mild acids and bases
- < 10% v/v methanol or ethanol solutions
- Bleach containing solutions (usually 1:5 dilution of stock)
- Any non-hazardous compounds



## Chemical waste pick up



- For chemicals that cannot be disposed through sink disposal or regulated chemicals, drop off your chemical waste in the Biohazard Work Room on your floor. Fill out the inventory sheet found in the room and put an information sticker on each bottle.



## INCOMPATIBLE CHEMICALS MUST NOT BE STORED TOGETHER.

The RCF Coordinators will contact Clean Harbors approximately every month to arrange for chemical pick-up.

For any further questions on proper chemical disposal, check the MSDS sheet or contact the Research Biosafety Officer.



## Ethidium Bromide drop off in 4<sup>th</sup> floor Dark Room

- Liquid waste can be poured into designated container
- Gels and gloves are placed in leak proof plastic container

