

St. Michael's

Inspired Care. Inspiring Science.

Title:	Biomedical and Biohazardous Waste Disposal Guidelines		
Program or Department:	Research	Document Type:	PROCEDURE
Effective Date:	January 01,2015	Author	Steven Hayes
Next Review Date:	January 01,2016	Reviewing Body:	Research Biosafety Committee
Emergency Code:		Approving Body:	Research Biosafety Committee
Keywords:	biomedical,biohazardous , waste , disposal , bleach	Document Number:	000001047

Introduction

Introduction

Biomedical waste is one of the types of waste regulated by the Ministry of the Environment through the Environmental Protection Act. Due to the potential hazard that this type of waste represents, it must be segregated and handled appropriately. 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
- cytotoxic waste, consisting of cytotoxic drugs (anti-neoplastic and cancer drugs), medicinal chemicals or waste containing any of these compounds (including tubing, tissues, PPE etc.)

Policy Statement

Associated Procedure

Chemical deactivation/ disposal 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 or autoclave before disposing in regular garbage
- blood waste must be deactivated with 1:10 diluted bleach for 20 minutes and then dispose down the drain with copious amount of water
- cytotoxic waste must be deactivated with 1:10 diluted bleach for 20 minutes before disposing of the waste in red bags marked with the cytotoxic symbol. Treated waste should be delivered to the Vivarium for destruction by incineration

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 pad 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 (includes serological pipettes)

Red bag- all human and animal anatomical waste, as well as cytotoxic waste. Anatomical waste and animal carcass are collected in the Vivarium fridge and disposed by Vivarium staff. Note that bags containing cytotoxic waste must be have a cytotoxic label affixed to it. Labels are available from the Vivarium

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 CONTAINER GUIDELINES

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.

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 labeled).

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 labeled).

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

CHEMICAL WASTE

Introduction

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.

Chemical Waste Disposal Guidelines

Sink disposal

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

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

- Principal Investigator name
- Lab designate or person dropping off the chemical
- Lab extension number
- Chemical name
- Number of containers
- Volume of container
- 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.

The RCF Coordinators will contact Clean Harbors every two weeks to arrange for chemical pickup.

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

Ethidium Bromide

If at all possible it is highly recommended that alternates to Ethidium Bromide be used!

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).

References

Biomedical Waste Disposal Policy and Procedure (1029-002-01.doc)

Canadian Biosafety Standards and Guidelines, PHAC, 1st. Ed., 2014

Canadian Council of Ministers of the Environment. (1992). Guidelines for the Management of Biomedical Waste in Canada

CSA Standard Z316.6, Evaluation of Single-Use and Reusable Medical Sharps Containers for Biohazardous and Cytotoxic Waste (R4.8.3)

Revision Number

Contact

This document is the property of St. Michael's Hospital. This material has been prepared solely for internal use. St. Michael's does not accept responsibility for the use of this material by any person or organization not associated with St. Michael's. No part of this document may be reproduced in any form for publication without permission from St. Michael's Hospital. Valid only on date printed: January/20/2015