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1.0 PURPOSE

Biomedical waste is regulated by the Ministry of the Environment and Climate Change through the Environmental Protection Act (*EPA*, Regulation 347). Due to the potential hazard that this type of waste represents, it must be segregated and handled appropriately. Biomedical Waste includes:

- Human anatomical waste - tissues, organs, liquid or semi-liquid human blood waste (i.e. in vacutainer) and items contaminated with human blood that would release liquid or semi-liquid human blood if compressed.
- Animal waste - tissues, organs, body parts, animal carcass, bedding, fluid blood and blood products, items saturated with dripping blood and body fluids.
- Microbiology lab waste - bacteria, viruses, fungi and other infectious agents, human or animal cell lines used in research and laboratory material that come in contact with any of these.
- Waste sharps - clinical and laboratory materials and other items contaminated with infectious/hazardous agents that are capable of causing punctures or wounds.
- Cytotoxic waste - Items contaminated with drugs designed or selected for their capacity to selectively destroy cells of a certain type, including antineoplastic drugs and cancer drugs that selectively kill dividing cells - tubing, tissues, needles, gloves, vials, preparation materials, ampoules, cleaning materials and personal protective equipment.

2.0 PROCEDURE

Chemical deactivation/ disposal of biomedical waste-

Undiluted commercial bleach is sold at a concentration of 5.25% sodium hypochlorite (50,000 mg/L of free chlorine). A 5000 mg/L (5000 ppm) sodium hypochlorite solution (1:10 dilution) is recommended for chemical disinfection.

- Cell culture, bacteria, and virus room liquid waste must be deactivated with 1:10 diluted bleach for 30 minutes and disposed down the drain with copious amount of water.
- Blood waste must be deactivated with 1:10 diluted bleach for 30 minutes and then disposed down the drain with copious amount of water.

Biomedical Waste Container Guidelines

Yellow bag-

- Soft edged microbiology waste including contaminated transfer pipettes, gloves paper towel/cloth, counter top absorbent pad and any absorbent material.
- 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 via an external vendor.
- Cytotoxic waste - bags containing cytotoxic waste must have a cytotoxic label affixed to it. Labels are available from the Vivarium or Room 545. Cytotoxic waste must be deposited to the Vivarium for disposal by an external vendor.
- 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 disposal guidelines.

Red receptacle sharps container-

- Items contaminated with cytotoxic waste that may puncture the red 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.

3.0 DEFINITIONS



ANATOMICAL SYMBOL



CYTOTOXIC SYMBOL



4.0 REFERENCES

<https://www.ontario.ca/page/c-4-management-biomedical-waste-ontario>

https://publications.gc.ca/collections/collection_2015/ec/En108-3-1-42-eng.pdf

<https://www.publichealthontario.ca/en/health-topics/environmental-occupational-health/water-quality/chlorine-dilution-calculator>

Canadian Biosafety Standards and Guidelines, PHAC, 2nd. Ed., 2015

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