

## Appendix IV Biological Waste Management

Laboratories working with recombinant materials, potentially infectious microorganisms, human and non-human primate cell lines, viral vectors, and other potentially infectious materials are required to decontaminate their liquid and solid biological waste materials prior to discarding the sealed bags in Regulated Medical Waste (RMW) box located in individual laboratories.

Properly sealed and labeled RMW boxes will be disposed through a licensed medical waste vendor in accordance with federal, state, and local regulations. The diagrams below, taken from the Stevens Institute biological safety training program, describe proper disposal methods for potentially infectious (or potentially contaminated) biological waste.



Solid waste may be decontaminated by autoclaving prior to depositing in RMW boxes located in individual laboratories. Alternatively, transfer pipettes, pipette tips, and other solid waste items may be chemically decontaminated while working in the biological safety cabinet by drawing a suitable disinfectant into the pipette or placing the items into a soaking tray filled with a suitable disinfectant. The decontaminated items may then be bagged and disposed in the RMW box.

# Biological Waste Management, Liquid Waste



**Chemical  
Disinfection**

**OR**

**Physical  
Disinfection**



**OR**



**Collect Liquid  
Waste**

**Add Liquid  
Chlorine Bleach  
to 10% of Total  
Volume. Let  
Stand 30  
Minutes.**

**OR**

**Autoclave**

**Carefully Drain  
Dispose with  
Plenty of Water**

**Avoid Autoclaving Flammable,  
Explosive, or Potentially  
Harmful Chemicals**



Liquid waste may be decontaminated by autoclaving or by mixing with an adequate amount of liquid chlorine bleach to achieve a 10% bleach solution and let stand for at least 30 minutes.

Following adequate contact time, the decontaminated liquid may then be carefully drain disposed. Liquid materials may also be decontaminated by autoclaving, however, the autoclaving process may partially solidify the liquid making it unsuitable for drain disposal.

Please note that only residual amounts of liquid waste may be discarded in the RMW box.

## **Biological Waste Management (BL-2)**



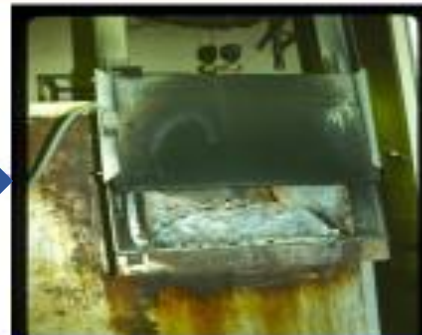
**Collect**



**Disinfect**



**Package as RMW**



**Off-Site Incineration**



Solid waste items such as transfer pipettes, pipette tips, soiled gloves, culture dishes and flasks used in certain laboratory protocols may be considered contaminated with recombinant or potentially infectious material.

Recombinant and BL-2 waste requires decontamination prior to being placed in the laboratory's RWM box for disposal. These items should be collected in an autoclave bag and stored in a closed leak-proof container (bucket or tray) while waiting to be autoclaved. Sealed autoclave bags should be transported to the autoclave on a cart and placed in an autoclavable tray (e.g., Nalgene) for processing. Heat tape or sterile indicator strip should be used to confirm decontamination.

Autoclaves exert temperature (heat and steam) and pressure to achieve decontamination over time. Typically, 121°C at 15 lbs/in<sup>2</sup> for a total of 60 are the preferred settings for waste decontamination.

Once decontaminated, waste bags are removed from the autoclave and placed in the laboratory's RWM box for off-site incineration.

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