

INFORMATION SHEET NO. 37: BIOLOGICAL WASTE DISPOSAL

November 2009

The purpose of this information sheet is to provide guidance to staff and students that use biologicals, as defined in “Using Biologicals and Animals at Monash University”, for research and teaching purposes to ensure that all waste generated is disposed of according to the requirements of:

- Environmental Protection Act (1970)
- Gene Technology Act (2000)
- Gene Technology Regulations (2001)
- Quarantine Regulations (2000)
- Australian Standard AS/NZS 2243.3– Safety in Laboratories Part 3: Microbiologicals (2002)
- [Using Biologicals and Animals at Monash University](#)

Heads of Academic/Administrative Units or controlled entities and supervisory staff have a particular responsibility for ensuring that all persons who generate biological waste package and place it correctly for disposal. This involves communicating local requirements to staff and students under their control and ensuring that appropriate training is provided. The designated Biosafety officer can provide specific advice on local requirements for disposing of such waste.

1. TYPES OF BIOLOGICAL WASTE

<u>Solid waste:</u>	petri-dishes, soil and plant material, gloves, benchcote, plasticware
<u>Liquid waste:</u>	bacterial cultures, tissue culture waste
<u>Contaminated sharps:</u>	syringes, scalpel blades, glass pasteur pipettes, broken glassware
<u>Putrescibles:</u>	animal carcasses and contaminated bedding
<u>Mixed waste:</u>	any of the above that is contaminated with other substances e.g. radiation

2. DISPOSAL METHODS**2.1 Solid Waste**

The preferred method of disposal is to use a licensed waste contractor, e.g. Chemsal, Stericorp, K&S Waste. This requires waste to be placed into yellow biohazard bags, which are then placed into dedicated waste bins provided by the licensed waste contractor. Arrangements must be in place for waste to be collected regularly by the licensed waste contractor for appropriate off-site treatment.

Alternatively, if a department has a dedicated autoclave facility and sufficient resources, solid waste can be autoclaved on-site and disposed of via landfill. The following protocol must be adhered to if this method is to be used.

- After completion of the autoclave cycle, the biohazard bag is double-bagged by placing it into a black opaque bag, sealed and labelled as “sterile” and with the department name.

- Bags are placed in designated general waste bins that are kept in a secure area. Bins are taken to the collection point just prior to removal by the general waste disposal contractor.
- The department must ensure that
 - Measures are taken to ensure that loads that have been processed can be differentiated from loads that have not (e.g. by use of autoclave tape).
 - The temperature of each cycle is monitored using one of the following: a thermocouple and recorder; a maximum thermometer; a chemical indicator; spore strips; or readings from the autoclave panel.
 - The effectiveness of decontamination by the pressure steam steriliser (autoclave) used by the facility is tested monthly with biological indicators (spore tests). A record of testing must be posted on, or adjacent to, the autoclave indicating the result and the date of the latest test.

2.2 Liquid waste

If the liquid waste is contained in disposable plastic ware, e.g. tissue culture flasks then it should be disposed of as solid waste into the biohazard bag ensuring that the lids are tightly closed to prevent leakage.

For liquid bacterial cultures that are contained in re-usable glass flasks, the flask and contents must be autoclaved so that the sterile culture can be disposed of down the sink and the flask washed and sterilised for re-use.

2.3 Contaminated sharps

All contaminated sharps must be placed in yellow sharps disposal bins for off-site incineration through a licensed waste contractor.

2.4 Putrescibles

Large animal carcasses, e.g. sheep must be placed into the designated waste bin for disposal through a licensed waste contractor, e.g. Chemsal, Stericorp, K&S waste

Small animal carcasses can be bagged and frozen for on-site incineration or disposed of via a licensed waste contractor. In some instances, e.g. QAP animal facilities, animal carcasses may need to be autoclaved prior to incineration.

2.5 Mixed Waste

In any instance where the waste type is unclear or biological waste is contaminated with radiation, please contact Occupational Health and Safety as detailed below for advice.

Please note that the weight of some bags/containers/bins of waste may constitute a manual handling hazard if and when they are relocated or moved. Refer to Monash University's [Movesmart pamphlet](#) for information on controlling the risks these hazards may pose.

For further information contact your local OHS&E consultant or Occupational Health and Safety by phone on 9905 1016 or by e-mail ohsehelpline@adm.monash.edu.au