



University of Alberta Biomedical Research Laboratory Waste Management Guidelines

All biomedical research laboratories at the University of Alberta should be segregating and disposing of their biomedical waste as follows:

Regular Black Garbage Bags: The waste bins in the laboratory containing black garbage bags are emptied by Facilities custodial personnel. These bags are for the collection of non-contaminated paper and office waste only. Under no circumstances are any laboratory materials to be discarded into black garbage bags (for definition of laboratory materials see below). Even if the laboratory materials were not used with hazardous agents, it is impossible for personnel picking up the waste to know that and they will refuse pick-up.

Laboratory Materials: Laboratory materials are defined as any laboratory consumables used to conduct research and include disposable gloves, pipet tips, Petri plates, tissue culture plates, microcentrifuge tubes, etc. These materials are to be collected in appropriately-sized clear autoclave bags.

If any of the laboratory material added to the bag was used with microbial or eukaryotic cultures, human clinical specimens or risk group 2 biohazard agents then the bag must be autoclaved prior to disposal. Bags should be transferred to the autoclave room on a cart. The bags should be sealed for transfer and then opened just prior to autoclaving to allow the autoclave steam to penetrate the bag. Autoclaves must not be overloaded with material and bags of waste should not be densely packed into autoclave bins. Each bag should be marked with a piece of autoclave tape. For research involving viruses, eukaryotic cell lines or non-sporulating bacteria and fungi, the waste must be treated in the autoclave at 121°C for at least 45 minutes. After the autoclave cycle is complete, the sterilized waste should be allowed to cool to room temperature. The bags must then be resealed and dropped off at the designated location for sterilized autoclave waste pick-up by Building Services personnel.

If the laboratory materials were not used with microbial or eukaryotic cultures, human clinical specimens, or risk group 2 biohazard agents then the bag is to be sealed, labelled “Non-hazardous material” and placed at the designated location for sterilized autoclave waste pick-up by Building Services personnel.

Sharps Disposal: Sharps are defined as any laboratory material with a sharp edge that could puncture a plastic bag or potentially cause injury to someone handling the material. Sharps include needle/syringe assemblies, broken glassware and hard plasticware, glass pipettes, and hard plastic pipettes. In addition, intact glassware should also be discarded as a Sharp as it could potentially break during regular waste handling.

Sharps must be disposed in specially marked plastic containers with reliable lids; either commercially available Sharps containers or, in the case of smaller Sharps, old hard-plastic

chemical containers with screw-cap lids, such as a bleach jug, labelled “Sharps”. The containers are not to be overfilled and room must be left to allow the installation of the container’s lid.

If the Sharps were used with microbial or eukaryotic cultures, human clinical specimens or risk group 2 biohazard agents then the container must be autoclaved as for Laboratory Waste prior to disposal. One exception to this rule is unbroken hard plastic pipettes which may be sterilized by overnight treatment in an appropriate disinfectant, rinsed and then placed, point side down in a plastic bucket. After appropriate autoclave or chemical sterilization, the Sharps containers are to be placed at their designated location for pick-up by Environmental Health and Safety personnel.

If the Sharps were not used with microbial or eukaryotic cultures, human clinical specimens, or risk group 2 biohazard agents then the container is to be sealed, labelled “Non-hazardous material” and placed at the designated location for Sharps waste pick-up by Environmental Health and Safety personnel.

Chemical Waste: Chemical waste generated in the research laboratory must be disposed of as per Section 6 of the University of Alberta’s Laboratory Chemical Safety Manual (for a copy of the manual go to http://www.ehs.ualberta.ca/docs/EHS/Lab_Chemical_Safety_Manual.doc). To arrange pick-up of properly packaged chemical waste, the research group is to complete a Request for Disposal/Recycle of Radioactive and Chemical Materials form (see http://www.ehs.ualberta.ca/docs/EHS/Forms/Request-Disposal_Radioactive_Chemical_Waste.doc) and submit it to the Office of Environmental Health and Safety.

Radioactive Waste: Radioactive waste generated in the research laboratory must be disposed of as per Section I.13 of the University of Alberta’s Code of Practice: Use or Handling of Radioactive Substances (for a copy of the manual go to http://www.ehs.ualberta.ca/docs/EHS/Radioisotope-Code_of_Practice.pdf). To arrange pick-up of properly packaged chemical waste, the research group is to complete a Request for Disposal/Recycle of Radioactive and Chemical Materials form (see Chemical Waste for link) and submit it to the Office of Environmental Health and Safety.

Combination Waste: If planned research will generate materials containing a combination of radioactive, biological or chemical hazards (e.g., radioisotope-labelled risk group 2 bacteria), the research group should contact the Office of Environmental Health and Safety well in advance of their experiments to determine the best method for disposal of this material.

This document is meant to be a short communiqué on waste management at the University of Alberta. It is not intended to cover every possible waste scenario that could be generated in a biomedical research laboratory. Those with further questions concerning waste disposal at the University are encouraged to contact the undersigned.

Sincerely,

Daniel C. Dragon, Ph.D.
Biosafety Officer