

Chapter VIII: Radioactive Waste Management Program

Policy

All radioactive waste shall be managed in accordance with the University radioactive material license and all state, federal, and local regulations.

Authority and Responsibility

Office of Radiation Safety is responsible for:

- 1 Managing the radioactive waste program;
- 2 Maintaining a centralized waste management facility;
- 3 Providing waste containers to the researchers;
- 4 Tracking and maintaining records of radioactive waste; and
- 5 Picking up radioactive waste from laboratories.

Principal Investigators, Employees, Students and Departments are responsible for:

- 1 Complying with all aspects of the radioactive waste management program;
- 2 Scheduling waste pickup from laboratory and delivery of waste containers; and
- 3 Properly recording waste placed in the container on the container manifest.

Radioactive Waste Management Procedures

The Office of Radiation Safety manages the University's centralized waste management program following these procedures:

- This program only allows for short term storage of radioactive waste within the research laboratories.
- The Office of Radiation Safety will assign the appropriate waste containers to each research group.
- It is the responsibility of each research group to utilize the appropriate shielding material for the storage of radioactive waste within their research lab.
- Radioactive material users are required to complete the manifest affixed to each waste container with the date the radioactive waste was placed in the waste container and the activity. * Contact the Office of Radiation Safety at 2-6299 for pick-up when a waste container is full. Radioactive waste pick-ups are conducted on Tuesdays and Fridays. When contacting the ORS for a waste pick up, the following information must be provided:
 - Principal Investigator's name;
 - Caller's name and phone number;
 - Isotope of waste;
 - Physical form of waste;
 - Waste container manifest number to be picked up; and
 - Room number for pickup/delivery of containers
- The Office of Radiation Safety will manage, track, and perform final disposal of radioactive waste removed from the research laboratories.

Dry Solid Waste

- Radioactive waste containing radioisotopes with half-lives less than 90 days must be packaged into one of the approved waste containers issued by the Office of Radiation Safety.
- Radioactive waste containing radioisotopes with half-lives greater than 90 days must be packaged into one of the approved waste containers issued by the Office of Radiation Safety. In addition, the waste must be sorted into one of the following content categories: incinerable, compactable, and noncompactible.

Please Note: Laboratory personnel must properly package and manifest the waste by recording the date waste was placed into the container and its activity. If the manifest is not properly completed the container cannot be removed from the lab until the information is added to the waste manifest.

- Once dry solid radioactive waste containers are full, laboratories must call the Office of Radiation Safety for pickup of the container. Replacement containers will be issued to the research laboratory upon their request.

Manufacturer's Stock Solution Vials

Stock solution vials regardless of half-life must be segregated from all other waste streams and placed into a container issued by Radiation Safety. Laboratories are required to properly package and manifest these vials. The Office of Radiation Safety will pick-up these vials for subsequent storage and disposal.

Aqueous Liquid Waste

- Laboratories are prohibited from discharging liquids into laboratory sinks beyond the current applicable limits:
 - One microcurie (1 μCi) per day of any radioisotope having a half-life greater than thirty (30) days.
 - Ten microcuries (10 μCi) per day of any radioisotope having a half-life less than thirty (30) days.

The applicable limits are noted on the Radioactive Aqueous Waste Drain Disposal Log

- Laboratories are allowed to discharge aqueous liquid waste daily at the limits listed above. These limits are daily discharges per sink drain.
- Lab personnel conducting drain disposal must record discharges on their Aqueous Drain Disposal Log. The record must list the date, isotope, volume, activity and the initials of the individual conducting the disposal. In addition, the Office of Radiation Safety will require labs to submit their drain disposal logs each quarter.
- The sink must be labeled as a sink used for Drain Disposal. These signs can be obtained from the Office of Radiation Safety.
- Aqueous liquid in excess of these limits must be collected in an approved carboy and must also be properly manifested. Carboys must be transferred to the Office of Radiation Safety for disposal. Replacement containers will be issued to the research laboratory upon their request.

Scintillation Media

- Scintillation vials containing activities of 0.05 $\mu\text{Ci/ml}$ or less of H-3, C-14, or I-125 may be disposed of as chemical hazardous waste. Laboratories within the medical complex are to contact the Medical Center Safety Office (2-1733) for disposal details. Laboratories outside the medical center are to contact the University Environmental Health & Safety Office (2-9999) for disposal details.
- Scintillation vials containing regulated isotopes (all isotopes except 0.05 $\mu\text{Ci/ml}$ or less of H-3, C-14 or I-125) must be disposed by the users via the Office of Radiation Safety. Contact Radiation Safety for waste disposal consultation.
- Bulk scintillation cocktail (all isotopes) must be disposed by the users via the Office of Radiation Safety. Contact Radiation Safety for waste disposal consultation.

Biological Waste

- Each researcher must be approved to perform animal experiments involving the administration of radioactive material to animals. In addition, each researcher must consult with the Office of * Radiation Safety concerning the generation of animal carcass waste, feces, bedding, etc. to ensure proper disposal.
- The following are guidelines to follow:
 - Radioactive animal carcasses may not be stored in the Carlson Animal Resource Facility (CARF) without permission from the Office of Radiation Safety.
 - Laboratories must be able to provide sufficient freezer space for carcasses containing radioisotopes with half-lives of less than ninety days. These carcasses must remain in storage for decay to background radiation levels (minimum storage period of 10 half-lives).
 - Laboratories must label the animal waste prior to storage in the freezer. The waste must be labeled with "Caution Radioactive Material" tape, isotope, date of storage and activity.
 - Laboratories must contact the Office of Radiation Safety for monitoring of this waste prior to its release for disposal to ensure proper documentation is maintained for the release survey.
 - Contaminated animal waste, such as feces, bedding, etc. must be transferred to the Office of Radiation Safety for decay-in-storage or off-site disposal.
 - The use of isotopes of H-3, C-14 or I-125 with a specific concentration of 0.05 $\mu\text{Ci/gram}$ or less of animal tissue, averaged over the weight of the entire animal may be disposed of as if it were not radioactive.
 - The use of H-3, C-14 or I-125 with a specific activity of greater than 0.05 $\mu\text{Ci/gram}$ averaged over the weight of the entire animal MUST be disposed of as radioactive waste via the Office of Radiation Safety.
 - The waste generated from all other isotopes administered to animals MUST be disposed of as radioactive waste via the Office of Radiation Safety.

Organic Liquids

Please contact the Office of Radiation Safety to discuss the use of organic solvents for your radioactive experiments prior to its use.