

PROCEDURES FOR DISPOSAL OF RADIOACTIVE WASTE

Radioactive materials (open or sealed sources, animal carcasses in which radioactive substances have been incorporated, contaminated equipment or laboratory materials) awaiting disposal shall be stored in the radioactive storage and waste room (SC 119). Access to this room is limited to authorized personnel only (the RSO). Radioactive waste collections will be arranged by the RSO in conjunction with a contracted disposal service. Materials for waste collection (containers and garbage bags) will be supplied. Every radioisotope permit holder is reminded that it is a federal requirement to maintain records regarding the use, storage and disposal of all radioactive materials at the university.

Each radioisotope Permit Holder is responsible for the control, containment, and identification of radioactive wastes generated within approved locations/laboratories, and for arranging the removal of waste containers through the Radiation Safety Officer.

In general, laboratory radioactive wastes should be segregated and contained. Material must not be put into waste collection containers if there is any possibility of a chemical reaction. Radioactive waste containers should be clearly labelled with the radiation symbol and labelled with "Caution – Radioactive Waste"

SHORT LIVED ISOTOPES (HALF-LIFE <150 DAYS)

Each radioisotope lab should keep its waste segregated into two streams. Non-radioactive (regular waste) and radioactive waste. Each of these are explained in greater detail below.

1. Non-radioactive: Non radioactive waste refers to all waste that could not possibly have come in contact with radioactive substances. Disposal shall occur through the normal waste systems (chemicals to chemical waste, glass to glass waste etc...). Monitoring should occur from time to time to ensure that no radioactive substances are being disposed of accidentally.
2. Radioactive: Radioactive waste refers to those wastes produced in a lab which have come in direct contact with radioactive substances such as pipet tips, gels, centrifuge tubes disposable containers, scintillation vials, etc... Disposal shall be through the following procedure.
 - a. Solid waste shall be placed into two thick garbage bags as supplied by the RSO. Liquid waste should be bulked as much as is possible in proper storage containers. The containers should then be placed in a box which contains absorbent material to reduce the risk of accidental release.
 - b. Contact the RSO who will then arrange with you the storage of the waste until sufficiently decayed for disposal.

3. A radioactive waste label shall be attached to the bag and the following information shall be supplied:
- a) Name of Permit Holder
 - b) lab room number
 - c) Trent Permit number.
 - d) Isotopes present
 - e) Half-life of the longest lived isotope contained therein.
 - f) Approximate activity of waste, for example If the waste represents all the isotope from one lot, than the activity of the lot shall be used as the activity of the waste.
 - g) If in a liquid form, label the container with the name of the solvent or carrier as well as on the waste label.
 - h) Enter the waste label number into the Waste Log Book, and copy the information to the log book.

If unsure treat the waste as radioactive.

LONGER LIVED RADIOSIOTYPES (HALF- LIFE >150 DAYS)

Radioactive waste which contains longer lived isotopes will be stored by the RSO until disposal through a licenced service is arranged. The waste will be labelled with the following information, double bagged and stored in an appropriately shielded container until disposal

- a) Name of permit Holder
- b) Lab/room number
- c) Radioisotope permit number
- d) Isotopes present
- e) half-life of the longest lived isotope contained therein.
- f) Activity of waste
- g) If in a liquid form, label the container with the name of the solvent or carrier as well as on the waste label.
- h) Enter the waste label number into the waste log book.

If other chemicals are present in the waste as well as the radioactive substance, a copy of the appropriate Material Safety Data Sheet(s) should be passed on to the RSO upon acceptance of the waste into the storage facility.