

Chapter III: Radioactive Material Accountability

Policy

All radioactive materials possessed under the University of Chicago and University of Chicago Medical Center radioactive material licenses shall be accounted for and secured at all times. The University requires principal investigators to maintain accountability for all radioactive material purchased or received under their radioactive material protocol. The Office of Radiation with the support of the University Radiation Safety Committee will assist in maintaining accountability and compliance with the University license and IEMA regulation.

Authority and Responsibility

Office of Radiation Safety is responsible for:

- 1 Receiving the radioactive material orders and conducting the package receipt survey.
- 2 Entering the radioactive material order into the principal investigators inventory list.
- 3 Distributing the radioactive material packages to the research groups and providing a Receipt and Disposal Log for tracking usage and disposal of material.
- 4 Maintain the master inventory of radioactive material at the University of Chicago.
- 5 Providing a copy of the active radioactive material inventory report to each PI and their Lab Designee(s) on a quarterly frequency.
- 6 Track the completion dates of the physical inventory report by the researchers to ensure the University license conditions are met.
- 7 Remove inventory items identified by the submitted researcher inventory report as being disposed and accompanied by a completed receipt and disposal record.

Principal Investigator is responsible for:

- 1 Ensure Receipt and Disposal Logs are completed properly and maintained on file.
- 2 Ensure Receipt and Disposal Logs are submitted to the Office of Radiation Safety.
- 3 Ensure radioactive material is properly stored and security.
- 4 Conducting a physical inventory of radioactive material possessed and stored under their radioactive material protocol.
- 5 Providing complete and accurate information on the quarterly inventory record and drain disposal log.
- 6 Submitting the physical inventory sheet and drain disposal log to the Office of Radiation Safety by the due date.
- 7 Reporting any discrepancies to the Radiation Safety Officer or designee.

Laboratory Designee is responsible for:

- 1 Ensure Receipt and Disposal Logs are completed properly and maintained on file.
- 2 Ensure Receipt and Disposal Logs are submitted to the Office of Radiation Safety.
- 3 Ensure radioactive material is properly stored and security.

- 4 Conducting a physical inventory of radioactive material possessed and stored under their radioactive material protocol.
- 5 Providing complete and accurate information on the quarterly inventory record and drain disposal log.
- 6 Submitting the physical inventory sheet and drain disposal log to the Office of Radiation Safety by the due date.
- 7 Reporting any discrepancies to the Radiation Safety Officer or designee.

Employees/Laboratory Staff is responsible for:

- 1 Ensure Receipt and Disposal Logs are completed properly and maintained on file.
- 2 Ensure radioactive material is properly stored and security.

Radionuclide Receipt and Usage

The receipt and usage of radioactive material at the University of Chicago shall follow this procedure:

- 1 The Office of Radiation Safety picks up the radioactive material from the University of Chicago Hospital Receiving Dock located at 5835 South Cottage Grove Avenue during normal working hours. The Office of Radiation Safety discourages delivery of radioactive material during off-duty hours. If off hour deliveries are requested, the Radiation Safety Officer or Radiation Safety Officer Designee must authorize the shipment.
- 2 The Office of Radiation Safety will inspect and survey the package(s) as described in the Procedure for Safely Opening Radioactive Material Packages.
- 3 The radioactive material is entered into the principal investigators inventory list by the Office of Radiation Safety.
- 4 The Office of Radiation Safety secures the radioactive material packages until the packages are picked-up by the laboratory personnel.
- 5 The Office of Radiation Safety notifies the laboratory personnel when their radioactive material order has arrived and is ready for pick-up.
- 6 The Office of Radiation Safety will issue a Receipt and Disposal Log (also identified as Radionuclide Package Receipt and Disposal Record) with each radioactive material order placed by the principal investigator. The log incorporates receipt, usage and disposal information for radioactive material orders. This documentation process is what is called the “Cradle-To-Grave” concept for tracking radioactive material from the time the material is received on campus to the time of its disposal.
- 7 Whenever any radioactive material is removed from the vial the radioactive material user must record the date, the volume of material removed, approximate percent of activity disposed as radioactive waste, manifest numbers of the waste containers, and his/her initials.
- 8 When the contents of the stock vial are exhausted or no further aliquots will be removed, lab personnel must enter the residual or remaining activity and the disposal box manifest number of the corresponding stock vial on the Package Receipt and Disposal record. Each user must also record disposal container manifest numbers for waste generated on the usage log.

- 9 A copy of the completed Package Receipt and Disposal record must be submitted to the Office of Radiation Safety. Items listed on the radioactive material inventory will not be deleted until the completed Package Receipt and Disposal record is submitted. Receipt and Disposal records submitted to the Office of Radiation Safety with missing information will not be removed from the PI inventory until the missing information has been completed.

Radioactive Material Inventory and Drain Disposal Records

At a quarterly frequency each principal investigator (PI) is required to conduct a physical inventory of radioactive material possessed under their radioactive material protocol issued by the institutions Radiation Safety Committee and submit their drain disposal logs. The scope of this process is as follows:

- 1 Physically identifying each radioactive material item listed on the inventory report provided by the Office of Radiation Safety.
- 2 Submit the completed inventory report and completed receipt and disposal logs to the Office of Radiation Safety by the due date.
- 3 Provide a completed "Drain Disposal Log" of radioactive material disposed down the sanitary sewer system during the previous quarter by the due date.

Instructions for Completion

The following instructions are provided to assist the Principal Investigator group complete the inventory and drain disposal records.

Physical Inventory of Radioactive Materials

- At the end of each calendar quarter the Office of Radiation Safety will generate the inventory report of radioactive material possessed under each Principal Investigator's protocol. The current inventory report will be emailed to the Principal Investigator and to his/her laboratory designee(s). Please Note: A due date or deadline for submittal of the completed inventory will be identified in the inventory email.
- The PI or Laboratory Designee must physically identify all stock vials, kits, etc. on the list to ensure that there is one-to-one correspondence between the actual inventory in the laboratory and the Inventory Report. If the radioactive material that is remaining in the stock vial or kit could be used in an experiment place a check mark next to the item in the column indicating "Check if In Use".
- If an item that appears on the Inventory Report has been disposed (placed in the radioactive waste), the PI or Lab Designee must indicate this on the Inventory Report by placing a check mark next to the item in the column indicating "Check if Disposed".
- For unsealed radioactive material the completed Receipt and Usage Log (new version called "Receipt and Disposal Record") for the corresponding stock vial or kit MUST be submitted. Disposed items will not be removed from the inventory list without a completed Receipt and Usage Log. Please Note: The following sample forms are available on our website to assist you: Sample Receipt and Usage Log or (Sample Receipt and Disposal Record).

- If you plan to dispose of sealed radioactive sources (encapsulated sources); please contact the Office of Radiation Safety for proper disposal. The sealed sources must be transferred to the Office of Radiation Safety separately from the unsealed radioactive material.
- Either the PI or Lab Designee must sign the bottom of the Inventory Report.
- If you find a discrepancy between the Inventory Report and your actual inventory (e.g. items missing, additional items found not listed on the report), please contact the Office of Radiation Safety for assistance.
- The inventory report provides the following information: Principal Investigator (PI) and Lab Designee contact information; permit number and expiration date; and a listing of the approved isotopes and chemical forms for the PI's permit. If you note any discrepancies in the phone numbers, email addresses, etc. at the top of the Inventory Report, please indicate the correct information next to the item.
- When the inventory has been completed the Inventory Report and Receipt and Usage logs must be returned to the Office of Radiation by the due date. You may submit via fax (2-4008) or mail via Faculty Exchange to AMB M-031A, MC 2106. Please Note: If sending Faculty Exchange make sure you mail well in advance of the due date to ensure delivery to our office by the due date to avoid late charges.

Drain Disposal Log for Laboratories using Unsealed Radioactive Material

- The University is required by regulation to track the amount of radioactive material discharged via the sanitary sewer system. Therefore, each Principal Investigator laboratory shall track the daily drain disposal of radioactive material and submit the drain disposal log for each calendar quarter.
- If your lab conducted drain disposal during the previous calendar quarter the drain disposal log must be submitted to the Office of Radiation Safety with the Inventory Report. The drain disposal log will enable the Radiation Safety staff to maintain a master accounting ledger regarding the amounts of aqueous radioactive waste released from the laboratories along with a total activity for the University.
- Replace the previous drain disposal log with a log for the new quarter. Click on the following link for a copy or go to the forms page for the Drain Disposal Log New Quarter.
- If your lab did NOT conduct any drain disposal during the previous calendar quarter, please complete the drain disposal log for the previous quarter. Click on the following link for a copy or go to the forms page for the Drain Disposal Log Previous Qtr.. Complete the log by indicating the PI name, Lab Location and checking the box "Lab Conducted No Drain Disposal". *Submit the drain disposal log to the Office of Radiation Safety with the Inventory Report.

The Drain Disposal Log must be submitted to the Office of Radiation Safety whether or not you conducted drain disposal during the previous quarter. If you should have any questions regarding the inventory process or you drain disposal records, please feel free to call the Office of Radiation Safety at 773-702-6299.

Please Note the following:

- 1 The inventory form must be completed and returned to the Office of Radiation Safety by the due date (approximately fifteen working days from the notice letter).
- 2 Additional orders will not be placed if the inventory form is not returned within the prescribed time.
- 3 Late charges will be assessed for inventory forms not returned by the due date.
- 4 The University Radiation Safety Committee has authorized the Office of Radiation Safety to physically perform the inventory for principal investigators that fail to return their inventory. There will be a charge for this service.
- 5 These inventory records are required by State regulations and are maintained by the Office of Radiation Safety for review by regulatory inspectors.