

## **INDIVIDUAL USER RESPONSIBILITY**

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Each individual at Yale who has any contact with radioactive materials or radiation producing equipment has the responsibility to:

1. Keep his/her exposure to radiation As Low As Reasonably Achievable (ALARA), and well below the permissible exposures listed previously in Table 1 (page 8).
2. Wear the appropriate personnel monitoring equipment such as film badges, TLDs, or finger rings as prescribed by Radiation Safety. Such dosimetry devices should be returned promptly at the end of each monitoring period and when terminating isotope use or employment.
3. Survey their hands, shoes and body for radioactive contamination before leaving a radioisotope use laboratory. Documentation of these survey results (date, name, and contamination level) is recommended. Upon detecting skin contamination Radiation Safety should be notified immediately; see inside front cover of manual for emergency phone numbers.
4. Use appropriate protective measures when working with radioactive materials. Such recommended measures may include:
  - a. Wearing protective clothing (gloves, laboratory coat and eye protection) whenever working with radioisotopes, and leaving such clothing inside the laboratory area. Opened toe shoes should not be worn in isotope laboratories; other apparel may not be appropriate for work with isotopes as well, for example, shorts.
  - b. Use appropriate radiation shields. Consult with Radiation Safety for advice concerning appropriate shielding.
  - c. Use mechanical devices or remote handling devices when appropriate to reduce exposure to the extremities.
  - d. Use automatic or remote pipetting devices. **NEVER PIPETTE RADIOACTIVE MATERIALS BY MOUTH!**
  - e. Perform radioactive work within confines of an approved hood or glove box if it is suspected radioactive material may be released into the air. Some isotope work requires the use of a hood or a glove box.
  - f. Perform experiments involving radioisotopes in an efficient, expeditious manner in order to reduce external exposures and the chance of personal contamination.

5. Refrain from eating, drinking and/or smoking in areas where radioactive materials are present. **DO NOT STORE FOOD OR BEVERAGES** in refrigerators used for storing radioactive materials.
6. Maintain good work habits and safe laboratory techniques. Do not work with radioactive materials without protective gloves. Wear disposable gloves (two pairs when possible) and change them often. Wash hands and arms thoroughly after working with radioactive materials. See Appendix III for laboratory safety procedures, and consult Appendix IV for general safety information and handling precautions for work with radioisotopes.
7. Survey work areas frequently with wipe tests and/or survey meters. Document the date, contamination levels, location of the survey, and name of surveyor. See Appendix V for a Guide to Laboratory Survey Procedures. Any contamination found should be cleaned immediately. Radiation Safety may need to be informed of contamination resulting from accidental spills. Skin contamination should be reported immediately to Radiation Safety.
8. Survey all incoming shipments of radioactive materials for completeness of order and possible contamination. Document the date, name of person performing the survey and survey results. Open all packages on absorbent matting, in a hood ( if available), while wearing protective clothing. See Appendix VI for specific details on recommended procedures for handling packages containing radioactive material.
9. Keep the laboratory neat and organized. Radioactive work areas should be free from equipment and materials not required for immediate use. Keep or transport materials in such a manner as to prevent breakage or spillage (double container), and to insure adequate shielding. Keep work surfaces covered with plastic-backed absorbent material, preferably in a tray or pan, to limit and collect spillage in case of accident. Store liquid waste containers in secondary containers.
10. If radioactive material is to be moved between buildings, across campus, or to another institution or facility refer to Appendix VII for the required procedures on transporting and shipping radioactive materials. Radioactive materials must be packaged and shipped according to regulations. There are severe civil and criminal penalties for improper radioactive material transfers.
11. Label and isolate radioactive waste and equipment, such as glassware, used in laboratories for radioactive materials. Once used for radioactive substances, equipment should not be used for non-radioactive work, and should not be permitted to leave the area until demonstrated to be free of contamination.

12. Request Radiation Safety Section clearances before any repair of contaminated equipment in the laboratory by shop personnel or commercial service contractors.
13. Immediately report accidental inhalation, ingestion, skin contamination, or injury involving radioactive materials or personal contamination to the Principal Investigator and the Radiation Safety Section. Carry out recommended corrective measures. Individuals shall cooperate in investigations to evaluate their exposure. (See Appendix XX for proper actions in emergency situations.)
14. Promptly comply with requests from Radiation Safety concerning intake measurements, the submission of bioassay samples, determination of skin contamination levels, and scheduling for requested radiation emergency physical examinations.
15. Contact Radiation Safety immediately after decontamination procedures have been initiated when someone becomes contaminated with radioactive materials. Wash skin area gently with soapy water, or rinse eyes with water, while colleagues are contacting the Radiation Safety Office for advice. Measure activity on contaminated area with lab instrument after initial attempt at removal. During off-hours contact Campus Police (111) for emergencies. Campus Police has contact numbers for Radiation Safety Section personnel.
16. Carry out decontamination procedures when necessary, and take the necessary steps to prevent the spread of contamination to other areas.
17. Notify the Principal Investigator and the Radiation Safety Section of all declared pregnancies as soon as possible. The University's "Policy Regarding the Safe Use of Radioactive Materials by Pregnant Personnel" may be found in Appendix II.