

# Florida Tech Radiation Safety Rules & Emergency Procedures

## IMPORTANT DEFINITIONS

**Contamination** –Radioactive material that is not contained and under the control of an authorized user.

**Spill** – Loss of control of radioactivity outside of a designated containment area. A spill involves radioactive contamination beyond the designated radioactive use area, which includes contamination on the floor, shoes, lab coat, and any equipment that is not designated as “Radioactive.”

### Emergency Procedure

**Minor Spills** – Radioactive spills involving less than 50  $\mu\text{Ci}$  of activity and/or a survey meter reading of less than 5mR/hr at a distance of one foot.

**NOTIFY:** Notify persons in the lab that a spill has occurred.

**PREVENT THE SPREAD:** Cover the spill with absorbent paper.

**REPORT:** Report incident to Florida Tech’s Radiation Safety Officer (RSO). In the event that staff from the Radiation Safety Office cannot be reached, use the “Radiation Emergencies” contact list in the lab.

**CLEAN UP:** Use disposable gloves, lab coat, and eye protection. Cover the spill with absorbent material as quickly and as completely as possible to prevent spreading. To localize the contamination, wipe inward toward the center of the spill. Do not wipe back and forth or in a random fashion. Carefully fold absorbent paper and wipe up spill. Insert into a plastic bag and dispose of in the radioactive waste container. Include all other contaminated materials such as disposable gloves.

**SURVEY:** With a survey meter, check the area around the spill, and your hands and clothing for contamination. A swipe survey must be performed to demonstrate that decontamination results are below the limit three times background (open window). Retain all survey and wipe results for future reference and examination by RSO.

**Major Spills** – Radioactive spills involving MORE than 50  $\mu\text{Ci}$  of activity and/or a survey meter reading of MORE than 5mR/hr at a distance of one foot. Major spills require immediate RSO notification.

**CLEAR THE AREA:** Notify all persons not involved in the spill to vacate the room.

**PREVENT THE SPREAD:** Cover the spill with absorbent pads, but do not attempt to clean it up. Confine the movement of all personnel potentially contaminated to prevent the spread.

**SHIELD THE SOURCE:** If possible, the spill should be shielded, but only if it can be done without further contamination or without significantly increasing your radiation exposure.









**CLOSE THE ROOM:** Leave the room and lock and stay by the door(s) to prevent entry.

**CALL FOR HELP:** Notify the RSO immediately. In the event the RS Office cannot be reached, utilize the “Radiation Emergencies” contact list on lab door.








**PERSONNEL DECONTAMINATION:** Contaminated clothing should be removed and stored in a plastic bag for further evaluation by the RS Office. If the spill is on the skin, flush thoroughly and

### General Radiation Safety Rules

#### **For all experiments/labs using radioactive material:**

-  You must designate and label a use area for working with radioactive material.
-  You must use spill trays and/or absorbent coverings.
-  Used only containers/equipment labeled Caution – Radioactive Materials.
-  Do not eat, drink or smoke in use laboratory.
-  Never use your mouth when pipetting.
-  Use fume hood for handling potentially volatile materials (e.g., H-3, S-35, I-125).
-  Wear lab coat, disposable gloves, safety glasses and any assigned dosimetry.
-  Record activity removed on appropriate radioisotope use sheet.

#### **Prior to leaving lab at completion of radioisotope use day:**

-  Conduct a proper survey/wipe in use area (at least 6 places).
-  Count all wipes on LSC open/wide window.
-  Ensure all radioactive material is stored so exposure rate is less than 0.2 mR/hr at 1 foot.
-  Clean surfaces if results are above three times background cpm & resurvey.
-  Record results and maintain in lab radiation records notebook.
-  Place radioactive waste in proper container and record estimated activity.
-  Wash your hands and survey your shoes and clothing.

**RSO: Selvin McLean**

**Work #: (321) 674-8889**

**[smclean@fit.edu](mailto:smclean@fit.edu)**

**If you cannot reach the RSO, call  
Florida Tech Security at (321) 674-8111**

### Security of Radioisotopes

- ✓ Control access to lab; close and lock all entry doors when the lab is unattended. Keep source vials under lock and key.
- ✓ Maintain an inventory of all radioactive materials and report any missing inventory to RSO immediately.
- ✓ It is important to know who is in the lab; persons without justification for being in lab shall be asked to leave. Any suspicious activity in labs or unusual inquiries about radioactive materials must be immediately reported to supervisor, building security, or RSO.

#### STOLEN, LOST OR MISSING RADIOACTIVE MATERIAL

1. Immediately notify the RSO.
2. RSO will notify management and appropriate local authorities.
3. Conduct a complete search of the area with an appropriate survey meter capable of detecting the radioactive material.
4. RSO will contact the Bureau of Radiation Control at (407) 297-2095.
5. Within 30 days after making the initial report, submit a written report to the bureau that includes all of the information identified in subsection 64E-5.343(2), Florida Admin. Code.

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**Care of injured has priority:** Apply first-aid where applicable using caution not to aggravate the injury. Stay with the victim until the emergency medical personnel arrive to advise them as to the extent of any possible radioactive material contamination.

In case of injury, fire or after hour’s emergencies, telephone the Local Police at 911. Provide the dispatcher:

- 1) Your name,
- 2) Your location and phone number,
- 3) The type emergency and/or injury and
- 4) If any radioactive materials are involved.