

Environmental Health & Safety Policy Manual		
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Radiation Spill Response Procedure		

1.0 PURPOSE:

This procedure is used to guide LSU Health Sciences Center personnel for rapid, appropriate, and safe response to liquid and dry powder radioisotopes releases.

2.0 SCOPE:

These procedures address the proper response to incidents involving minor or major spills, leaks, or accidental discharges of liquid or dry powder radioisotopes.

3.0 RESPONSIBILITIES:

3.1 Environmental Health & Safety (EH&S) shall:

- Provide assistance, additional clean-up materials, and personal protective equipment (PPE) as needed to personnel to safely clean up minor spills in their work areas.
- Respond to and assess all major spills and perform decontamination tasks.

3.2 Principal Investigators/Supervisors shall:

- Ensure employees understand these radiation spill procedures.
- Ensure that appropriate and adequate PPE supplies and cleaning materials are readily available.

3.3 Employees shall:

- Be trained on the proper use and handling of radioisotope liquids and dry powders.
- Wear prescribed PPE while working with all radioisotope liquids and dry powders.
- Promptly report all major radioisotope spills to University Police at 568-8999, who will then notify EH&S.

4.0 SPILL PROCEDURES

4.1 Minor Spill Classification and Response

Incidents which involve the release or spillage of less than 100 microcuries (uCi) of a radionuclide in a nonvolatile form can generally be regarded as a **minor spill**.

Actions to take by lab personnel:

- Alert personnel in the immediate area to evacuate pending spill clean-up.
- Wear protective equipment, including safety goggles, disposable gloves, shoe covers, and long-sleeve lab coat during clean-up.

- Place absorbent paper towels over liquid spill. Place towels dampened with water or decontaminant cleaner over spills of solid materials.
- Use forceps or gloved hand to place towels in plastic bag. Dispose of plastic bag into a radiation waste container.
- Monitor area, hands, and shoes for contamination with an appropriate survey meter. Repeat cleanup until contamination is no longer detected.
- If needed, contact the Radiation Safety Officer at 568-6586 or safety@lsuhsc.edu.
- Complete the Radiation Decontamination Survey form, Appendix A. Ensure that lab schematic areas are drawn and labeled numerically. Record initial wipe test results and then final wipe test results after decontamination. Ensure that all survey readings are less than 200 DPM / 100 square centimeters. Forward a copy to the EH&S Department and save the record within laboratory files.
- Complete proper incident/accident reporting as per [EHS 400.06 - Incident / Accident Reporting](#) procedures.

4.2 Major Spill Classification and Response

Incidents that involve the release or spillage of more than 100 microcuries (uCi) of a radionuclide in a nonvolatile form are **major spills**.

Actions to take by lab personnel:

- Attend to injured or contaminated persons and remove them from exposure.
- Direct personnel in the laboratory to evacuate.
- Close the doors and prevent entrance into affected area.
- Call the Campus police at 568-8999, who will then notify EH&S.
- Document names of potentially contaminated personnel and have them stay in one area, away from the spill, until they have been monitored and shown free of contamination. As necessary, remove contaminated clothing and wash contaminated skin with warm, soapy water, being careful to not damage the skin.

Upon arrival at the scene, EH&S shall:

- Assist with decontamination of any personnel exposed to radioactive contaminants.
- Perform decontamination of lab areas and equipment.
- Assist with completion of the Radiation Decontamination Survey form, Appendix A.
- Provide a written report within three working days to the LSU Radiation Safety Systems Officer detailing the of the incident and decontamination actions taken.
- Complete proper reporting as per [EHS 400.06 - Incident / Accident Reporting](#) procedures.

5.0 TRAINING

5.1 Environmental Health and Safety personnel shall:

Provide Radiation User Safety Training. Develop and provide/participate in periodic spill response drills.

5.2 Principal Investigators and personnel working with radioisotopes shall:
Be trained on laboratory-specific radiation spill clean-up training at initial mandatory Radiation Safety training required of all personnel who handle radioisotopes.

6.0 RECORD KEEPING

6.1 Radiation Safety Officer shall:
Maintain all spill documentation indefinitely.

6.2 Employees
Principle Investigators/Laboratory Employees will document all minor radiation spill incidents and provide copy to Radiation Safety Officer.

7.0 APPENDIX

Appendix A. Radiation Decontamination Survey Form

Appendix A – Radiation Decontamination Survey Form

PI: _____ Department: _____ Building & Lab #: _____

Gamma Counter - Manufacturer/Model/Serial #: _____

LSC – Manufacturer/Model/Serial #: _____
Note: LSC must be used to protect H₂ & C₁₄.

Survey Meter – Manufacturer/Model/Serial # _____

Background: _____ mR/Hr or cpm Battery Check: _____ Calibration Date: _____

Counter Information Type (Check one) gamma counter or LSC:

Isotopes used in Lab: (Check all that apply)
 C-14 Ch-51 H-3 P-32 I-125 S-35 _____

Area Schematic:

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20



Rewipe of # _____ Rewipe of # _____

*** Results should read less than twice background in cpm.**
Inform the Radiation Safety Officer if it exceeds this amount.
(Contaminated areas must be decontaminated immediately and documented)

Performed By: _____ Date: _____