

Radiological Spills

Major Spill Incidents

For spills of millicurie amounts of a short-lived radioisotope, microcurie or greater amounts of a long-lived radioisotope, spill in an uncontrolled area, or a bodily injury, contact the Radiation Safety Officer (RSO) during normal business hours (8:00 a.m. to 5:00 p.m. work days) call the office at 644-8802 or 644-6895. To obtain emergency medical care, follow the procedures described in [Workers' Compensation](#). After normal working hours, weekends or holidays, call the FSU Police at 644-1234, 911, or use an emergency telephone. Provide the following information at a minimum:

- Your name;
- Building and location;
- Estimated seriousness of incident/injury.

Stay on the line until all necessary information has been provided. If you called FSU Police, they will notify the FSU Department of Environmental Health and Safety and the appropriate emergency response personnel.

If the RSO cannot be reached, other Radiation Safety personnel or a member of the Radiation Control and Policy Committee must be notified.

Contamination/Exposure Control for Localized, Non-volatile Liquid Spills

Minor Incidents-(Spill of microcurie amounts of radioactivity and no personal injury)

Spills of a few microcuries of radioactive materials with no personnel contamination or damaged equipment are not required to be reported to the RSO. Laboratory personnel should be well enough trained to decontaminate and monitor minor spills. Any time the required reporting of an incident is questionable, call the RSO for guidance.

When liquid radioactive material is spilled, specific action must be taken. Listed below, in order of priority, are steps to be taken in handling a spill of this nature:

- Request help from lab workers, if available.
- Make a quick evaluation of the extent of the airborne potential -
 - If there is potential for an airborne problem, shut off the air handling system and leave the immediate area, keep involved personnel in the general area, prevent the entry of non-essential personnel, and contact the RSO.
 - If there is no airborne potential, proceed to monitor personnel and the area to establish the extent of the contamination. If the radiation levels in the area exceed two millirem per hour, shield the source or leave the area.
- Control the area. Avoid the spread of contamination. If your shoes are contaminated and you must leave the area, go to the outer perimeter of the contaminated area and remove your shoes, rope off the area, and post signs warning of the radiation incident. Avoid leaving the area unattended or unlocked.
- Notify the RSO. Provide general details and the location of the incident. Maintain control of the area.

- Decontaminate the workers involved under the supervision of Radiation Safety personnel, if possible. Skin should be decontaminated immediately and contaminated clothing should be promptly removed. Skin and clothing contamination shall be reported to the RSO immediately so a dose determination can be made. Decontamination supplies and waste containers are provided by the RSO.
- Decontamination of the area should begin as soon as possible, but after personal injuries are taken care of. The decontamination procedure for a spill is to start at the perimeter (the least concentrated area), absorbing the radioactive liquid while working toward the center of the spill area (the most concentrated area). After the major portion of the liquid is absorbed, further decontaminate the area using a decontamination agent. Continue to verify contamination areas with using detection equipment (G-M meter). Repeated decontamination efforts of the area will be performed until wipe tests (counted by Radiation Safety personnel) indicate the activity to be within the permissible limits.
- Assist in preparing a final report by later giving detailed information of the incident to Radiation Safety personnel.

Contamination/Exposure Control for Powdered, Volatile Liquid or Gaseous Spills

Refer to the emergency response procedures for [chemical emergencies, exposures, and spills](#).

- Turn off ignition sources and air handling equipment, if possible.
- Evacuate the area immediately.
- Assemble personnel immediately outside the room and instruct them to stay in one location, to prevent the spread of contamination.
- Close and lock the room doors to prevent re-entry.
- Attempt to seal accessible openings into the laboratory to prevent further escape of airborne activity to outside areas.