



Radioisotope spill response procedure

Overview

Accidental releases of radiological material can present an immediate hazard to those in the area of the spill. Because of the long half-life of some radioisotopes and the penetrating power of ionizing radiation, a spill that isn't properly decontaminated can continue to present a hazard to those in the area for many years past the initial incident. It is of utmost importance to immediately report any spill to EHS to request guidance and assistance to ensure any immediate and long-term risks are mitigated.

Before beginning work with any radiological material, be sure you know how you will detect it. For example, you will not necessarily be able to detect Tritium using a hand-held Geiger-Mueller counter. In the event of a spill, you would have to depend on wipe tests and liquid scintillation counting to locate, delineate, and confirm complete decontamination.

Depending on the severity of the spill and radiological properties of the material spilled (e.g., energy, alpha, beta, or gamma emitter), shielding may be required to protect yourself during clean up. If the spill is large, reduce your exposure time by taking shifts with lab mates and EHS staff.

In the case of a radioactive spill, you are required to contact the Radiation Safety staff immediately.

Radiation Safety contact information

| | SFU Local | Cell |
|--|-----------|----------------|
| Director, Research and Laboratory Safety | 2-7265 | (604) 375-3310 |
| Radiation Safety Officer | 2-3633 | (604) 512-7238 |
| Radiation Safety Technician | 2-3506 | (604) 551-5692 |

Radioisotope spill kit contents

All of the items listed below are available at SFU Science Stores. It is recommended to purchase a large enough plastic bucket that all of the spill kit contents will fit inside for storage. This allows for quick response to a spill. Check the contents and condition of your spill kit once a month.

- Radioisotope spill response procedures (this document)
- Plastic bucket
- Alcohol swipes
- Garbage bags
- Heavy polyethylene bags to be used as shoe covers, or 'footsies'
- Electrical or duct tape for securing plastic bags as shoe covers
- Scintillation vials
- Flagging tape
- Paper towels
- "Caution – Radioactive Materials" warning signs
- Count-Off spray (or other suitable decontaminant)
- Diapers and spill pads
- Marking pens
- Protective gloves (nitrile, latex, vinyl, or neoprene)

