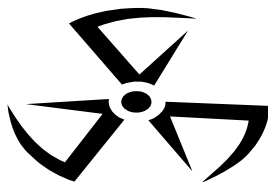


# EH&S Fast Facts

## RADIOACTIVE DECONTAMINATION



In laboratories where radioactive materials are used on a regular basis, contaminating spills and/or splashes may result. In most cases, the problem will be relatively minor and quick action by lab personnel can eliminate any potential complications. Follow the guidelines below for radiation safety.

### Remember

- Minor spills and contamination ( $\mu\text{Ci}$  amounts) of radioactive material can be decontaminated by lab personnel - situations involving 1 mCi or greater amounts, or problems with removing smaller amounts should be reported to EH&S
- Before beginning decontamination, wear double gloves/ lab coat, always work from the outside in to avoid spreading contamination, be careful not to track contamination around the room or building, have a suitable receptacle ready (plastic bag) to deposit contaminated materials (gloves, paper towels), wear shoe covers to prevent contamination of personal clothing, and designate a clean area to change from protective clothing to personal clothing

### Bench Top & Equipment Decontamination

- Locate and define the extent of contamination with a radiation survey meter and/or wipe tests
- Mop any liquid using paper towels, sponges..., and dispose of cleaning materials as radioactive waste (broken glass goes in a can or other hard-walled receptacle and in radioactive waste boxes)
- Soap/ water, detergent, or any number of commercially available decontamination solutions can be used to remove dry contamination from most surfaces
- Monitor the affected area, repeat decontamination procedures if necessary

### Glassware Decontamination

- Bath solutions or rinse water from decontamination procedures may be reclassified as non-radioactive waste if it satisfies the following criteria:
  1. Gamma emitters – count rate  $< 1,000$  cpm when measured at the surface using a NaI scintillation detector calibrated for the energy(s) of the radiation being measured
  2. Beta emitters (energy  $> 1.5$  MeV) – count rate  $< 2 \times$  background when measured at the surface using a thin window GM detector
  3. Beta emitters (energy  $< 1.5$  MeV) – count rate  $< 1,000$  dpm when a characteristic sample is counted in a liquid scintillation counter sensitive to energies of 0.01 to 1.5 MeV)
- After removing any visible residues, soak glassware in a decontamination solution for 24 hours (commercially prepared cleansers or detergents with chelating or complexing agents are acceptable)
- Rinse, monitor, and repeat procedure if the levels of contamination remain unacceptable

### Personnel Decontamination

- For skin & hair: wash with detergent - make a soapy paste- with additional soap and water, spread the soapy paste over the skin with **gentle** scrubbing motions (more effective than just using soap and water)
- For eyes, ears, nose mouth, wounds: flush affected area with large amounts of water and call Radiation Safety
- If internal: call Radiation Safety

### When is Something Decontaminated?

- When the results of wipe tests or assays reveal activity levels to be less than 2 times background

Visit [www.ehs.ucr.edu](http://www.ehs.ucr.edu) for additional information or call EH&S at 827-5528 for non-removable contamination.