

XXX Nuclear Laboratory

Radioactive Spill Procedure

Minor Spills

- a. NOTIFY persons in the area that a spill has occurred.
- b. PREVENT the spread of contamination by isolating the area and covering the spill, if appropriate. Place absorbent material (blue pads or paper towels) over the spill.
- c. If clothing is contaminated, remove that article of clothing and place in a plastic bag. If an individual is contaminated, rinse contaminated area with lukewarm water and wash with a mild soap, using gloves.
- d. Notify the radiation safety officer or appropriate individual of any unusual circumstances immediately.
- e. Wearing gloves, a disposable lab coat and booties (found in the Radioactive Spill Kit located in the Hot Lab), place absorbent paper and all other contaminated disposable material in appropriately labeled radioactive waste containers.
- f. Survey the area or contaminated individual with an appropriate radiation survey instrument and check for removable contamination or signs of peaches.
- g. DECONTAMINATE the area. Decontaminate the area, taking care not to spread the contamination. (Refer to Decontamination Procedures) Place all material into the plastic bag and dispose of as radioactive trash.
- h. If necessary, continue to decontaminate the area or individual until decontamination activities no longer result in reductions in removable activity.
- i. If necessary, leave absorbent paper labeled "Caution Radioactive Material" over the area to prevent loosening of any fixed contamination. If necessary, shield the spill area to reduce ambient exposure levels.
- j. MONITOR the area to insure that decontamination was successful.
- k. Check hands and clothing for self-contamination.
- l. REPORT the incident to the RSO for documentation and final area surveys. If personnel contamination is found, the skin dose will be evaluated.

Major Spills

- a. NOTIFY persons in the area that a spill has occurred.
- b. PREVENT the spread of contamination. Place absorbent material (blue pads or paper towels) over the spill.
- c. DO NOT attempt to decontaminate the area. Confine the movement of potentially contaminated personnel and equipment to prevent unnecessary spread of contamination.
- d. NOTIFY the RSO AND THE HEALTH PHYSICIST IMMEDIATELY. Necessary area and personnel decontamination will be directed by RSO.

Radiation Safety Officers Name: _____

Work Phone Number: _____

After hours contact information: _____

General Rules for Decontamination

1. Always wear gloves during decontamination procedures. Monitor the gloves frequently for radioactive contamination using a GM survey instrument. Change glove when necessary to prevent the spread of the contamination.
2. Always work to minimize the spread of contamination. Clean only contaminated areas, working from “cold” to “hot” areas. When working on slanted surfaces or places where liquids may spread, apply decontamination solutions to a paper towel, rather than the contaminated surface.
3. Appropriate decontamination solutions include commercial “decon” preparations, laboratory soaps and detergents or alcohol pads, depending on the nature of the contamination and surfaces to be decontaminated.
4. Place all waste into a radioactive waste bag. Dispose of all waste as radioactive waste according to the appropriate waste procedure.
5. If contamination is not removable, contact the RSO and Health Physicist for additional recommendations and/or corrective actions.
6. Notify the RSO of the location of the decontaminated area and the nature of the spill for documentation and follow-up.

Area or Equipment Decontamination

1. Remove any liquid present with paper towels or absorbent pads, being careful not to spread the contamination.
2. Wet the contaminated equipment with decontamination solution and wipe up. Remember to work from “cold” to “hot” areas, and to use a clean towel for each wipe. For small areas alcohol pads can be used.
3. Monitor the equipment with a GM survey meter or swipes to determine if decontamination is complete. Remember to take the isotope into account (i.e. I125 may need to be swiped and counted in a scintillation or gamma counter, while Tc99m can be checked with a GM meter).
4. If contamination is not easily removed, let the decontamination solution remain on the area for 5 to 10 minutes prior to cleaning.
5. Repeat decontamination until no significant variation from background is noted.

Small Equipment or Instrument Decontamination

1. Wipe off accessible surfaces with a damp paper towel or alcohol pad.
2. Place contaminated instruments in a container with decontamination solution. Let the instruments soak (overnight if possible).
3. Remove the instruments, rinse with water and wipe dry with paper towels.
4. Monitor the instruments with a GM survey meter or filter paper swipes to determine if decontamination is complete. Remember to take the isotope into account.
5. Repeat decontamination until no significant variation from background is noted.

Personnel Decontamination

NOTIFY the RSO immediately if skin or clothing is contaminated.

1. If clothing is Contaminated
 - a. Wearing gloves, removed the affected clothing and place in a plastic bag.
 - b. Survey skin to insure that no contamination is present
 - c. The RSO and consulting personnel will evaluate contamination levels and recommend the appropriate corrective actions.
2. Skin if Contaminated
 - a. Flush the affected area with water, being careful not to spread the contamination.
 - b. Wash the area gently with a mild soap, do not abrade the skin. (Many radionuclides are easily absorbed through broken skin or open wounds.)
 - c. The RSO and Health Physicist will evaluate contamination levels and recommend the appropriate corrective actions.

Written: _____	Date: _____
Revised: _____	Date: _____
Reviewed: _____	Date: _____