

## Emergency routines for spills of radioisotope material

Reference number (Dnr):                      Version:                                      Date (prod./rev.):  
  1.0    2022-02-21  
1.x / Rev 2022.02 (15)   2022-02-21 15:21

Neo/Departments of: Biosciences and Nutrition (BioNut);  
Clinical Science, Intervention and Technology (Clintec);  
Laboratory Medicine (LabMed); Medicine Huddinge  
(MedH/HERM, LipidLab); Medicine Solna (MedS);  
Neurobiology, Care Sciences and Society (NVS)

Created by:  
Neo Work Environment Group / HO

Approved by:  
**DRAFT**

## Emergency routines for spills of radioisotope material

Every lab should have some basic material to handle spill, absorption pads, Vermiculite and some deactivation agents if needed readily at hands. Smaller spill kits and other spill handling material can be picked up from service group storage, 8618, to be locally stored in your lab. A spill trolley for larger spills is located in the service group chemical storage, 8810.

### **Emergency procedure for spills of HAZARDOUS material**

If hazardous material is spilled, it is important to act quickly so that no one will be harmed:

1. Warn other people in the area.
2. Seal off the area, use the "Caution" sign in the spill kit<sup>1</sup>
4. When clean-up help is needed call for local help and/or contracted company.
5. Clean-up the area **only** if you can do it without any major risk.
6. Put on the necessary protective equipment, lab coat, gloves<sup>2</sup> suitable for the hazard in question, goggles, boots, and shovel or similar.
7. Put an **absorbent pad**<sup>3</sup> on the spill. **Vermiculite** may be used, but that will be a bit messy (You may also use paper, if the spill is not too large)



### **In case of Personal contamination**

- Remove all contaminated clothing as quickly as possible, including shoes
- Check remaining clothes and skin with a radiation safety instrument
- Place contaminated clothing in a shielded space in a well-sealed plastic bag for depletion
- Wash contaminated skin with a mild soap and warm water without scrubbing. You find shower in corridor and in changing room at 5th floor. Never use solvents or rubbing alcohol, which impair the skin's natural protection. Wash until additional washing gives no results when checked with a radiation safety instrument.

#### **If the contamination remains:**

- Contact Sofia Skyttner, KI's radiation protection expert, 0737-12 15 79, [sofia.skyttner@ki.se](mailto:sofia.skyttner@ki.se)
- Identify what happened and calculate the dose received
- If necessary, contact the occupational health service for a medical examination
- If the Swedish Radiation Safety Authority's annual dose threshold is exceeded, the person in question may not continue working with radioactive substances for the remainder of the year
- Complete a local anomaly report
- Review procedures and methods to minimize the risk of recurrence.

### **Spillage without personal contamination**

- Soak up the spill with absorbent material. Avoid rubbing, as there is a danger of spreading the contamination. Start cleaning from the edges and work towards the middle of the contaminated area to avoid spread.
- Clean the surface with soap and water, soaking up all liquid with absorbent material. Decontamination fluid such as Count-Off can be used.

<sup>1</sup> or download it from <https://staff.ki.se/media/332/download>

<sup>2</sup> See Neo - gloves, chemical resistance (<https://staff.ki.se/media/86335/download>) to choose appropriate gloves.

<sup>3</sup> Absorbent pads and vermiculite can be found in the spill kit and a kit should preferably be located in the lab. Containers with vermiculite should also be placed in the labs.

- Use a radiation safety instrument to make sure that the area is clean, and that the contamination has not spread.
- Keep cleaning until the instrument gives no further reading. Clean the surface with plastic-backed paper if the contamination persists. Measure with a radiation safety instrument and note the result on the upper surface of the paper and in the laboratory logbook. Write the date and the name of the contaminated radionuclide and sign the paper with your name and telephone number.

### ***Emergency measures in case of accidents or incidents***

- All laboratory incidents / near accidents, with or without bodily injury, have to be reported using Karolinska Institutets internal incident reporting system, <https://staff.ki.se/report-an-incident>
- Sometimes reporting to the Swedish Work Environment Authority (Arbetsmiljöverket) and/or to the Swedish Social Insurance Agency (Försäkringskassan) is also needed, see <https://staff.ki.se/near-accidents-and-work-related-injuries> for more information

### ***Advising/Contacts***

- KI Radiation Safety (<https://staff.ki.se/radiation-safety>)
  - Radiation protection expert  
Sofia Skyttner [sofia.skyttner@ki.se](mailto:sofia.skyttner@ki.se)
  - Phone: 0737 12 15 79
- NEO radiation safety representative:
  - Johan Dethlefsen, [johan.dethlefsen@ki.se](mailto:johan.dethlefsen@ki.se)
  - Office: Neo floor 8, 8620
  - Phone 08 524 81218
- Neo Work Environment and Lab Safety
  - Coordinator,  
Håkan Ottosson [hakan.ottosson@ki.se](mailto:hakan.ottosson@ki.se)
  - Office: Neo floor 8, 8820
  - Phone: 070 262 7034

### ***Related Documents and information web pages***

Near-accidents and work-related injuries:

en: <https://staff.ki.se/near-accidents-and-work-related-injuries>

sv: <https://medarbetare.ki.se/tillbud-och-arbetskador>

KI Waste Management: <https://staff.ki.se/waste-management>

Neo Documents: <https://staff.ki.se/safety-in-neo>

- Neo - In Case of an Emergency, <https://staff.ki.se/media/559/download>
- Neo – Spill of hazardous material, <https://staff.ki.se/media/125355/download>
- Neo - Waste handling, <https://staff.ki.se/media/557/download>
- Neo - gloves, chemical resistance (<https://staff.ki.se/media/86335/download>)

### ***Revisions***

#### **Version 1.0 (2022.02)**

- First version based on “Emergency routines for spills of radioisotope material ANA Futura”, <https://medarbetare.ki.se/media/64625/download> combined with some info from “Spill of Hazardous material”

#### **Version 1.x (2022.xx)**

-