

GUIDANCE ON CONTAMINATION MONITORING

When to monitor

- Check the area before you start!
- When finishing a particular procedure
- When you leave the laboratory
- When you suspect a spill or contamination
- During the monthly (or other interval) recorded laboratory checks by the RPS or other person

How to monitor

- Use the right monitor for the radionuclide in use (see Appendices 2 and 5)
- Check that the monitor has been calibrated (“examined and tested”) within the last twelve months, and that an in-date sticker is attached to the monitor. If not, immediately draw this matter to the attention of your RPS
- Perform the battery test when using the monitor (check for at least 30 seconds)
- Leave the monitor loudspeaker on
- Establish the background count rate for the monitor in the area that you are working, by holding the probe in an area well away from ionising radiation sources
- Hold the probe close to the surface to be monitored (2/3 mm) but avoid touching the surface in case you contaminate the face of the monitor
- Take care not to puncture the fragile window over the face of the detector
- Slowly scan over the area to be monitored - remember that if contamination is present the monitor may take a few seconds to reach its full reading.

What to monitor

- Monitoring the person: Hands, lab coat (at the front especially) and the face (if appropriate).
- The work area: Immediate bench/tray area, floor underneath/in front of the bench, handles of cupboards, disposal sink, fridge or other store, and particularly, centrifuges and incubators. Also light switches, telephones and keyboards.
- Always monitor when opening a package of radioactive materials.
- Monitor any package of materials you are consigning for transport.
- Always monitor when leaving a supervised or controlled area (don't forget the soles of your feet!)
- Monitor any equipment or other materials being taken out of a supervised or controlled area.

Use of swabs (wipes)

- Swabs (wipes) must be used when monitoring for Tritium, or where using conventional contamination monitors in areas where the external dose rates are high and these result in a high background reading on the monitor.
- As contamination may be present first put on gloves.
- Wipe the area in question using a moistened tissue or filter paper and present this to the contamination monitor in an area of background dose rates to determine if there is any removable contamination.
- For Tritium (or other low energy beta emitters) count the wipe using a liquid scintillation counter. Guidance on this technique can be found separately in appendix 15.

Recording of Monitoring

Written records of contamination monitoring must be made and kept for at least two years. The frequency at which written records are made is a matter for discussion between the RPS and the University Radiation Officer/RPA. Written records of monitoring should be made, on a formal basis, at least once a month. It is very desirable to always record the results of personal contamination monitoring, even if the record simply consists of a quantified 'tick' (for example of monitoring of feet and hands when leaving supervised and controlled areas) This type of record is very useful in confirming that it is not likely that contamination could be removed from the area. An example of a monitoring form is shown in Appendix 7. It is essential that the records define the monitor used (Serial or Departmental number), the instruments background count, and units of measurement (e.g. CPS/CPM).

Dose -Rate Monitoring

Depending on the radionuclides in use, and the outcome of the prior risk assessment, it may be necessary to routinely or occasionally monitor accessible dose rates, particularly from stored stocks of gamma emitters or any large uses of any radionuclide. These dose rates should be predicted in the risk assessments, but should be checked. Contact your RPS or RPA/RPO for further advice.