

College of Biological Science - Standard Operating Procedure			
Wipe Test Protocol – SCIE Radioisotope Rooms			
Date:	10-Mar-08	Prepared by:	A Doane
Revision:	New	Supersedes:	n/a

Purpose:

To provide directions on post-experiment and periodic wipe testing.

Application:

This procedure is specific to the shared intermediate level labs in the New Science Complex (SCIE 1402A, 2402A, 4402A).

Safety Precautions:

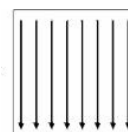
- ⚠ Access to the ILL is restricted to trained personnel only.
- ⚠ Exercise all precautions required for the handling of open source radioactive materials.

Notes:

- **Wipe tests must be completed after every experiment.**
- Ensure all materials in the ILL are labeled appropriately, including a label indicating the PI's name and room number of main lab.
- The radioisotope room is not to be used for equipment storage.
- Records of wipe tests must be kept in the radioisotope room, not in your main lab.

Procedure:**BETA-EMITTERS**

- Label scintillation vials 1-8 to indicate wipe test location (see map on record sheet).
- For beta-emitters, use a clean, dry filter paper to wipe an area of approximately 100cm² in each sample location. For flat surfaces, wipe the filter paper over a 10cm x10cm square, in one direction taking care not to cover the same area more than once (see right).
- Perform wipes in the following locations, placing used wipes in labeled vials as you go.
 1. Fume hood – wipe back and forth along the front edge
 2. Bench top – wipe a 10cm x10cm square
 3. Sink – wipe around edge of sink
 4. Select 4A, 4B, or both
 - Perform wipe 4A on fridge handle if you accessed fridge
 - Perform wipe 4B on cabinet handles if you opened a cabinet below the fumehood
 5. Cabinet above bench – wipe cabinet handles
 6. Floor – wipe 10cm x10cm square below fume hood or bench (as appropriate)
 7. Door handle – wipe flat surfaces of handle
 8. Random
 - Select a location not listed above (e.g., wall, fume hood sash, lid to waste bin)
- Dispense 4mL of scintillation fluid into each vial. Wait at least 2 hours to allow chemiluminescence to decay prior to analyzing.
- Analyze samples on a liquid scintillation counter (LSC) using an appropriate protocol.



- Record results on record sheet – printouts are to be kept for reference.

GAMMA-EMITTERS

OPTION A

- Use the above beta-emitters protocol and analyze on LSC. Note that this will register gammas (via photoelectric and Compton scatter), but the results are not directly interpretable as gamma DPMs

OPTION B

- Label 12x75mm plastic disposable tubes from 1-8, to indicate swab location.
- Use a clean, dry swab (Q-tip) to wipe an area of approximately 100cm² in each location.
- Swab each of the areas listed. Insert the end of the swab into the tube, then break off the handle.
- Analyze samples on a suitable gamma-counter using an appropriate protocol.
- Record results on record sheet – printouts are to be kept for reference.

Applicable Policies & Regulations:

- University of Guelph Safety Policy 851.09.01
- RSOG – 041, A Plain English Guide to Nuclear Contamination and Radiation Field Monitoring

