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Wipe Testing Procedure

University of Maine System

Wipe Testing Procedure

Required Materials

- Gloves, Goggles, Dosimeter
- 10 mL plastic scintillation vials; enough to test each surface of work area, plus one for a negative control (surfaces include bench, barriers and walls, floors, and apparatus involved in work area)
- Enough clean cotton swabs, 1 for each vial
- One-vial containing dH_2O (or other solvent to solvate active compound); to wet cotton swabs
- Bottle of scintillation cocktail with 5 mL automatic dispenser

Procedure

- Label all necessary vials to represent surfaces; include a negative control by wiping the paper waste.
- Dawn gloves, goggle, and dosimeter.
- Moisten a cotton swab with dH_2O by submersion.
- Wipe the surface to be tested by drawing the moistened swab in a zigzag pattern across the surface. (if the surface is irregular, draw the swab to cover a reasonable amount of that surface) ***Be sure not to bias the swabbing area!***
- Place the drawn swab into its appropriately labeled vial. Break off enough of the swabs stick to allow placement of the vials cap (after addition of scintillation cocktail) and to allow the proper removal of the swab (using tweezers) after scintillation counting.
- Set the automatic dispenser on the bottle of scintillation cocktail to 5 mL. Dispense that volume of scintillation cocktail into each vial as samples are gathered. Cap each vial after adding the cocktail and set aside until all sample are collected.
- Upon completion of gathering samples, ensure that all vials are tightly capped to guard against leaking. Remove gloves if you are certain that no scintillation cocktail has coated the exterior of the vials.
- Gather the prepared samples and take them to the liquid scintillation counter. Fill out the user log with the proper information. For the procedure/ID column write "wipes".
- Place samples in rack with sample numbers facing the machine i.e., sample # 1 will be to your left.
- Note sample locations on a separate piece of paper, allowing you to assign printout sample numbers once the counting has been completed. When filling the racks, it is best to place the controls in the position prior the sample set positions (in other words, place the controls in first space adjacent to each sample set, if you have more than one set of samples).

- Find the program cards labeled "program-2" and "stop program" in the draw under the scintillation counter. They should be in a set of plastic sleeves (but, one may have to look around in other racks, or on the counter to find them). Place the "program-2" card in the appropriate slot on the front of the (first) white rack, and the "stop program" card in the appropriate slot on the red rack (no samples should be placed in this rack).
- Once the racks are set up properly, open the cover of the scintillation counter and insert them into the machine ensuring the correct orientation (numbers facing away from you, number one to the left) and the "program-2" card is in the first rack. The rack tabs fit into a groove that runs along the middle partition of the scintillation counter. Once all the white racks have been securely placed into the scintillation counter, place the red rack (same orientation) with the "stop program" card behind the other racks. Again with the tab inserted into the partition groove. Close the cover of the scintillation counter.
- Align the printer paper so that the printout begins at the top of the next clean sheet of paper. Use the form forward/line forward (FF/LF) button to accomplish this (if you attempt to use the "roller knob", be sure not to tear the guide pins through the guide holes).
- ***Double check*** that everything is as it should be before pressing the "auto-count" button on the front face of the scintillation counter. After the printer has recorded the preliminary data for you procedure, write your name and date on the top of the printout. Each sample counted takes approximately 10 minutes to be completed. Calculate how long your samples will run for, and note this time.
- Once the time for counting the samples has expired, remove all the racks from the scintillation counter and tear off the printout at the perforation of the last page. Remove the program cards from the racks and place them in their respective sleeve found in the draw. Note the sample labels on the printout, next to the proper data.
- Take these racks/samples to Room ____ in Hitchner hall where you'll find a fume hood labeled "radioactive". Wearing fresh gloves and goggles, slowly turn on the cold water tap at the left of the hoods exterior (it is the green one), locate the tweezers (usually found in a beaker with other cotton swabs), and locate the box labeled with radioactive tape.
- With gloves on, remove the caps from the vials (one at a time so as not to spill anything) then, remove the cotton swab from the vial placing it in the beaker.
- Fill the vial with cold water and pour down the drain. Rinse the vial 3 more times. Place the cap tightly back on the vial and discard into the labeled box.
- Repeat steps 17 and 18 until all the samples are emptied. (if the box becomes full, discard its contents into a normal waste-basket)
- Take the racks back to the scintillation room and place them back on the shelf.
- Examine the printed data. If any channel comes up with a resultant count per minute (cpm) three times greater than the background (negative control), inform the RSO to your findings. Otherwise, place results into the correct file.