

Wipe Test and Evaluation (All Users)

Wipe Test

The Wipe Test is defined as the wiping of the incoming package and vial/container with “wipes”, which will be subjected to scintillation counting for evidence of possible leakage and/or contamination. This procedure **MUST** be completed by the Authorized User within three (3) hours after receipt of the radioactive materials per 10 CFR 20.1906. If the materials are received during non-business hours, secure them in an appropriate holding area and submit the required material as described below at the beginning of the next business day. The following steps must be followed:

Materials Required:

- a. disposable gloves
 - b. three (3) wipes and envelopes supplied by RSO
 - c. copy of the Shipping Manifest
 - d. copy of the Certified PO (on file in Radiation Safety Office)
 - e. current original Inventory Certification (for open orders only and on file in RSO)
 - f. new Radioisotope Disposition logsheet
1. Wear disposable gloves.
 2. If applicable (see Specific Isotopes USE section), use the proper mini survey meter to monitor the outside of the shipping box prior to opening. If the reading is above 0.05 mrem/hr, secure the radioactive materials and contact RSO for instructions.
 3. Use one (1) wipe to swipe all four exterior panels of the interior shipping box. Place the wipe in the envelope provided and label the envelope “outside”.
 4. Use one (1) wipe to swipe all four interior panels of the interior shipping box. Place the wipe in the envelope provided and label the envelope “inside”.
 5. Verify that the vial/container of radioactive material is sealed and is not cracked, leaking, and/or broken.
 6. Use one (1) wipe to swipe the outside of the vial/container of radioactive material. Place the wipe in the envelope provided and label the envelope “vial.”
 7. On each envelope, write (1) lab room # in which the radioactive material is used/stored, (2) distributor of the isotope, (3) date of the shipment, (4) date of the Wipe Test, (5) activity of the contents of the vial/container (found on the Shipping Manifest) and (6) name of the person performing the wipes.
 8. Fill in the blanks for PO#, Radionuclide, Authorized User and Date Received on a new Radioisotope Disposition logsheet.

9. Hand carry (DO NOT MAIL) the wipes, the shipping manifest, and the Radioisotope Disposition log to RSO, Physical Sciences 560.
10. At the Lab Safety evaluation, the RSO will verify all POs, Disposition Logs, Waste Disposal Records and current Inventories.

Evaluation

The Evaluation is defined as the analysis of the wipes with a liquid scintillation counter or equivalent. This procedure is performed by the RSO. The following steps must be followed:

Materials Required:

- a. disposable gloves
 - b. four (4) clean scintillation vials and caps
 - c. scintillation cocktail
 - d. liquid scintillation counter
 - e. RSO logbooks: "Testing of" and "Test Results"
1. Wear disposable gloves.
 2. Label each sample with the current RSO Sample # as stated in the Scintillation "Testing of" Logbook. Sequential numbering should correspond with the "outside", "inside", "vial", respectively.
 3. Prepare a background sample by placing a new unused wipe into one (1) of the scintillation vials. Fill the vial with 10.0 ml of scintillation cocktail. Replace the cap firmly. Place the Scint Vial into a counting rack. Label the cap 'BKG'.
 4. Remove the "outside" wipe from the envelope and place it into one (1) scintillation vial. Fill the vial with 10.0 ml of scintillation cocktail. Replace the cap firmly. Label the cap with the appropriate RSO Sample #.
 5. Repeat step #4 for the "inside" and "vial" samples, respectively.
 6. Run the counter on UNKNOWN isotope setting for twenty (20) minutes for each scintillation vial. This will count a channel range between 1 and 1000 and should reduce the percent error to ~5%
 7. Analyze the sample counts to determine that they are at or below background levels. If the results read at or below background, proceed to Step 8.

If, levels are greater than background, further testing is required to determine the type and extent of contamination.

8. RSO will verify the Certified PO, Authorized Incoming Disposition Log, and the shipping manifest.
9. RSO will
 - a. complete the *Initial Activity* section from the shipping manifest and the *Wipe Test and Evaluation* section of the Radioisotope Disposition Log with the RSO Sample # and Count.
 - b. indicate on the PO both the Sample # and the results of the wipe test.
 - c. maintain the results of the counting in the RSO Scintillation Logbooks.
 - d. initial and date the USE Authorization section and return the Radioisotope Disposition Log to the user.
10. The user may use the radioactive materials as specified in the User's Application to Use Hazardous Materials.