

HUMBOLDT SCIENTIFIC, INC.

June 1, 2014

2525 Atlantic Ave
Raleigh, NC 27604

WIPE TEST PROCEDURE

1.0 GENERAL

The supplied kit contains:

- | | |
|--------------------------|---------------|
| A. Forceps | Part # 000181 |
| B. Filter Paper | Part # 000175 |
| C. Plastic Bags | Part # 000178 |
| D. Prepaid process forms | Part # 000174 |

The intended use of this kit is to wipe sealed radioactive sources or surfaces which come into contact with the source to determine if there is any removable activity (contamination) which would indicate a possible leaking capsule as defined by the USNRC and/or Agreement States.

The legally established criteria is such that any removable activity greater than 0.005 micro curies constitutes a leaking capsule and regulations require that the source be removed from service, repaired, and decontaminated or otherwise disposed of in accordance with existing regulations. In any event, the regulatory agency having jurisdiction over the physical location of the leaking source must be notified.

Regulations require that the wipe test must be made and processed every six months or as stated on your Radioactive or Byproduct Material License. The results of the test must be maintained for a required period of time as provided by local regulations (we recommend that all results be retained for the period of ownership plus two years).

2.0 PROCESSING ACCURACY

Humboldt Scientific, Inc. is licensed to process the wipes and maintain an instrument, calibrated against standardized sources of alpha, beta and gamma radiation, which is capable of detecting removable activity at levels of 50 picocuries or less.

3.0 SAFETY

In order to maintain accuracy, the filter paper must not be contaminated by foreign materials and, after wiping the source, it must not be allowed to touch the user's skin or other objects.

It is not necessary to wipe the actual body of the sealed source not is it desirable in the case of capsules containing very large amounts of radioactive materials. Wiping an area which would become contaminated by a leaking capsule will keep the user's absorbed dose of radiation to a minimum. If it becomes necessary to expose the capsule, the time required to make the wipe should be kept to a minimum and where possible, only the hands should be exposed while maintaining adequate shielding between the user's body and the exposed capsule.

4.0 SOLVENTS

Many solvents have been prepared to facilitate the removal of any radioactive materials most of which contain common detergents. We recommend simple ethyl alcohol as it dries quickly and is an efficient cleaner.

5.0 PROCEDURE

5.1 Prepare the enclosed form by filling in all pertinent information regarding the source serial number(s) and device model and serial number which contains the sealed source(s). More than one source may be wiped with a single filter paper provided the sources contain different radioactive materials emitting different types of radiation; example, Cs-137 emits beta and gamma while Am-241 emits alpha and gamma. The measuring instrument can easily separate the alpha radiation from other types.

The date in the upper left corner of the form must be entered by you on the day the wipe was made. The date in the middle of the box will be entered by Humboldt Scientific, Inc. on the day the wipe is processed.

Clearly write your return address in the space provided and include your name and phone number in the space provided. Do not make any entry in the enclosed box indicated the removable activity.

5.2 Using the forceps to hold the filter paper, wet it with alcohol and wipe areas that would become contaminated from a leaking capsule. As an example, the sealing screw retaining the Am-241-Be neutron source inside the case of a nuclear moisture/density gauge and wiper ring on the base of the gauge which cleans the rod holding the Cs-137 gamma source when it is pushed out for use and retracted for storage.

5.3 Place the filter paper inside of the supplied plastic bag without allowing it to contact any other surface.

5.4 Retain the yellow (middle) copy of the form as temporary proof of the wipe and mail the rest (white and pink copies) of the form to Humboldt Scientific, Inc.

6.0 REPORT

After processing, we will mail you the white copy as your leak test certificate and retain the pink copy for our records.

7.0 LEAKING-SOURCE REPORTS

7.1 Any removable activity less than 50 picocuries will be reported as zero.

7.2 Any removable activity greater than 50 but less than 500 picocuries will be reported as the measured amount.

7.3 Any removable material greater than 500 picocuries but less than 0.005 micro curies will be reported as the measured amount and you will be contacted by telephone and an additional wipe requested.

7.4 If greater than 0.005 microcuries is removed, both you and the licensing agency will be contacted by telephone.