

Terms of business

- Wipe test kits are charged for at the time of issue, and the charge includes subsequent counting and reporting on the radioactivity content of **one** of the two sample collection media provided (either bud or pad).
- Credits will not be given for wipe test kits returned as unused as their radiological status cannot be guaranteed and they cannot be reissued.
- Charges will be levied at the published price existing at the time of issue. Supply against a customer order does not indicate acceptance by NRL of any price given on that order.
- Payment is due on the 20th of the month following the date of invoice.
- Any wipe test kits supplied remain the property of NRL until payment in full is received.
- We will analyse only NRL-supplied sample media. Any samples must be accompanied by an original, completed NRL Wipe Test: Client Reporting Form.
- Wipe test kits do not have an expiry date. Customers, however, should be aware that the sterility of the bud cannot be guaranteed after the date stamped on the packaging.
- Sample media will be kept for 3 months after counting, and then disposed of at our convenience.
- Placement of an order for wipe test kits indicates acceptance of these Terms of business.
- Performance.
 1. Upon receipt of your wipe and the completed reporting form NRL will perform an activity measurement on the sample by counting the wipe in a standard geometry using calibrated GM detectors.
 2. A test report will be issued within two working days of receipt of the sample.
 3. Any report issued relates to the sample as received by NRL.

WIPE TEST KIT



National Radiation Laboratory
108 Victoria Street, PO Box 25 099
Christchurch, New Zealand

Phone +64 3 366 5059
Fax +64 3 366 1156

Email wipe_test@nrl.moh.govt.nz

www.nrl.moh.govt.nz

February 2009



Wipe tests for the detection of radioactive contamination

Wipe tests are a straightforward method for determining whether or not radioactive contamination is present.

Routine wipe tests in the following situations are simply good safety practice:

- of surfaces used in unsealed radioactive material dispensing areas to provide assurance that unacceptable spillage has not occurred;
- of (or around the housing of) sealed radioactive sources to provide assurance that the containment has not been breached.

Some regulatory regimes require evidence that such tests are being carried out.

Ensuring that appropriate materials, methods, and suitable, appropriately calibrated measurement equipment are available to perform such tests can be a burden.

The NRL Wipe Test Kit

The *NRL Wipe Test Kit* is available as a complete solution.

It has been designed for ease of use, will measure most commonly used alpha, beta and gamma emitting contaminants, and is especially suitable for wipe testing sealed radioactive sources.

The kit and measurement methods used have been approved for regulatory purposes in New Zealand and test methods are accredited to ISO 17025.

The kit comprises all required equipment and instructions to perform a wipe test safely. Analysis of the sample at NRL is included in the purchase price.

Kit contents

The kit contains two different wipes (a pad and a sterile bud) to allow wiping on all kinds of surfaces, even in restricted areas. Impervious gloves are provided to ensure protection of the operator. Once completed, the supplied data sheet and sample are sent to NRL for analysis using the prepaid envelope provided.



Analysis at NRL

NRL operates dedicated detection equipment for wipe test analysis. Traceable calibration sources and purpose-built sample holders ensure the quality of the measurement.

After results are calculated, a full test report will be issued.

Technical specifications

Radiation type	Alpha, beta and gamma radiation
Energy thresholds	Beta radiation > 40 keV Gamma radiation > 30 keV
Routinely measured radionuclides	Carbon-14, Sulphur-35, Cobalt-60, Strontium-90, Technetium-99, Iodine-129, Caesium-137, Europium-152, Plutonium-239, Americium-241

Reporting quantity	<p>Activity: If the measured value is above background at a level of confidence of 95%, then the activity of the radionuclide is reported. The reported uncertainty is based on the combined standard uncertainty (u_c) multiplied by a coverage factor (k) = 2 (providing a level of confidence of 95%) as described by International Organization for Standardization, Guide to the expression of uncertainty in measurement, ISO, Geneva (1995).</p> <p>Minimal Detectable Activity: Reporting of a 'less than' result means that the measured value was consistent with a background measurement. The minimal detectable concentration with a level of confidence of 95% for both errors of the first and second kind is calculated as described in ISO11929-1: Determination of the detection limit and decision threshold for ionizing radiation measurements – part 1.</p>
Reporting time	Final reports are mailed within 2 working days of sample receipt at NRL.