

How to Use a Survey Meter

The portable survey meter shall be used to monitor for gross contamination on objects, clothing and the skin. There are two types of instruments frequently used in the laboratory; a Geiger counter or a sodium iodide detector. The Geiger counter is used to check for contamination from P-32, other high energy beta emitters or gamma emitters, while the sodium iodide detector is used to monitor for I-125 contamination.

Meter with Geiger Pancake probe.
Iodide (NaI) probe



Meter with Sodium

Meter surveys must be done and recorded whenever P-32, Cr-51 and I-125 are in use. A meter with a NaI probe is more sensitive than the Geiger tube for Cr-51 and I-125. The meter surveys must be documented on a calendar. Efficiencies for the typical isotopes in use in a lab can be found on the calibration sticker on the side of the meter.

Large quantities of C-14, S-35 and P-33 can be detected by the more sensitive pancake probe.

Pre-Survey

1. Turn it on before entering suspected radiation area.
2. Perform battery check – There should be a battery test or check on face of the meter. If the battery indicator shows the battery is bad, change the batteries and perform the check again.

3. Check the meter with the check source. Compare meter reading with reference value written on meter to verify check source reading hasn't changed.

During the Survey

1. Turn to proper setting; note background reading in area known to be free of radiation sources.
2. Turn speaker "on" if so equipped.
3. Hold the detector about 1 inch from the surface to be surveyed and move about 1 inch/second. Make sure you do not let the probe touch a contaminated area or the probe itself could become contaminated and give incorrect readings.
4. During prolonged use, regularly check the condition of the batteries
5. Notify area users of results; emphasize changed or extraordinary conditions

After the Survey:

1. When finished, repeat battery & operational [check source] checks to verify meter is still working properly.
2. Then turn the meter off.
3. Record all results – Include date, location, instrument model & S/N, and your name, you can develop pre-printed forms if you like

³H and ¹⁴C users must perform wipe test surveys.

[For information on wipe test surveys](#)

[How does my survey meter work?](#)