

## Radiation Screening Test

This test assures the HazCat operator that the unknown substance is not a radiation hazard. Alpha, beta and gamma radiation is detected when the test is performed as directed. The monitor counts radiation events in total. Alpha radiation and, to a lesser extent, beta radiation are blocked by the wall of a container or even a sheet of paper. Gamma radiation will penetrate all common containers. The test must be done on the watch glass to obtain an accurate result for alpha, beta and gamma radiation.

The monitor will detect natural background radiation, which varies by location. A positive result is achieved by a relative increase in the radiation count. Haztech Systems recommends an action threshold of 300 counts per minute (cpm).

1. Set the power switch to AUDIO.
2. Check the battery by setting the sensitivity switch to BATT. If the needle does not move into the battery range, replace the battery.
3. Set the sensitivity switch to x1.
4. Establish the natural background radiation count by observing the monitor for a minute. This only needs to be done once for the testing location. Leave the monitor turned on for the entire HazCat session since battery life is extensive.
5. Place a pea-sized amount of the unknown substance on the watch glass.
6. Do not allow the substance to touch the monitor. Hold the screened window of the radiation monitor  $\frac{1}{4}$ - to  $\frac{1}{2}$ -inch above the unknown substance as shown in the illustration and observe the radiation count.

### 7. Observations:

- a. **No change from natural background radiation or less than 300 counts per minutes (cpm):** Continue to identify the unknown substance via the HazCat Solids or Liquids Main Chart.
- b. **More than 300 counts per minute (cpm):** Radioactive source indicated. Stop testing. Isolate the unknown substance. Contact a radiation expert.
- c. **Readings off the scale anywhere in the testing area:** Serious radiation hazard, probably a gamma source, indicated. Stop testing. Isolate the unknown substance. Use the monitor to assure decontamination of people in the affected area. Contact a radiation expert immediately.



*Hold the radiation monitor  $\frac{1}{4}$  to  $\frac{1}{2}$ -inch above the unknown substance. This uranium source produces enough radiation to cross the recommended action threshold of 300 cpm.*

Additional documentation and information available from Haztech Systems, Inc.  
**800-543-5487** or [sales@hazcat.com](mailto:sales@hazcat.com)