

HOW TO MEASURE AIRBORNE PARTICULATE AND RADIOIODINE ACTIVITY	
<b>FUNCTION:</b> To assess levels of airborne particulate and radioiodine activity, so that appropriate respiratory protection may be selected.	
<b>DESCRIPTION:</b> An air sample is taken using a Portable Air Sampler. Airborne radioiodine activity is collected on the activated charcoal cartridge and particulates on a glass fibre filter. Conditions are assessed and appropriate signs are posted.	
STEP	OPERATION
1	Obtain the portable air sampler and follow the operational procedure. Filters and cartridges should be obtained as necessary.
2	Place the sampler in a position where a representative sample can be obtained. The same should be taken wherever any work is to be carried out.
3	After 5-minute sampling period is over, place the glass fibre filter and charcoal cartridge in separate envelopes or bags to avoid cross contamination.
4	Label each envelope with the time and location of the sample taken. If only one location is sampled, the filters may be left in the air sampler.
5	Take the filters to a smear counting station as soon as practicable. If noble gases were present in the sampled atmosphere, false iodine results will be indicated. Purge the filters by running the sampler in a clean atmosphere for one minute at high speed.
6	Check that the sample holder is empty. Press the START-RESET button on the scaler to give a background count. Wait 60 seconds until the count is finished.
7	Place the filter to be counted in the sample holder (dirty side up). Press the START-RESET button on the scaler.
8	2700 counts above background indicates 1 DAC of unidentified particulates. Find the number of DAC in your sample. Respiratory protection should be worn for anticipated exposures greater than 1 DAC-h.
9	Remove the sample drawer from the holder. Place the charcoal cartridge in the holder so that the tape is uppermost. Put the shielded probe on top of the cartridge and press the START-RESET button.
10	70 counts above background indicates 1 DAC of radioiodines. Find the number of DAC in your sample. Respiratory protection should be worn for anticipated exposures greater than 1 DAC-h.
11	Samples that indicate greater than 1 DAC on the smear counter may be taken to the Chemistry lab for Ge(Li) analysis. Used filter papers and charcoal cartridges not taken to the Chemistry lab should be placed in an active waste container.
12	Samples left in the Chemistry lab for analysis must be sealed in plastic. A heat sealer and plastic should be available in the lab. The following information must be provided with the sample: <ol style="list-style-type: none"> <li>Date and time sampled</li> <li>Duration of sampling, if other than 5 min.</li> <li>Room number or location in which the sample was taken.</li> </ol>
13	Signpost any airborne areas and notify Work Control. Results of surveys should be made available to all concerned.