

Beryllium Surface Sampling Procedure

Purpose

To establish a standard procedure for sampling of any surface area for the presence of unbound beryllium particulate.

Sampling Methods

Whatman 41/Distilled Water
Pre-packaged Respirator Cleaning Wipes
High Volume Sampler

Sampling Procedure

All three of the above sampling methods involve the capture of unbound particulate from a surface. All methods require that an area to be sampled be defined or approximated. The most common area size sampled is one square foot. After obtaining a sample, place it in a clean bag or container. Record all pertinent data including the size of area, location, and physical observations on a sample sheet. Code the sample and the sheet.

The person obtaining the sample should wash their hands thoroughly before beginning this procedure. The person should avoid direct hand contact with any surface possibly contaminated with beryllium. Disposable gloves may be worn providing the same precaution is taken.

Whatman 41/Distilled Water Sampling Method

This method is best used on smooth surfaces due to the fragile nature of the filter when wetted. Wet the filter with distilled water and wipe the surface to be sampled using wiping strokes which contain any unbound particulate towards the center of the area. Repeat this step with as many filters as is necessary to capture the majority of this loose particulate. The number of filters used is at the discretion of the individual performing the sampling.

Pre-packaged Respirator Cleaning Wipes Method (Recommended Method)

These wipes are foil packaged moist towelettes which can be used on smooth, semi-smooth, or irregular shaped surfaces. These wipes hold together much better than the Whatmann filters and are the recommended method. Any pre-packaged moist wipe, compatible to the analytical digestion procedure, can be used. The wiping procedure is the same as Whatmann 41/distilled water.

High Volume Sampler Vacuum Method

When a surface is highly irregular, or is fabric or carpet, a high volume sampler with a Whatmann 41 filter can be used to capture the loose particulate from the surface. Use the sampler as a vacuum passing it over the pre-determined area being sampled. Be certain to keep it as close as possible to the surface without damaging the filter. Record the area size but do not record the flow rate or duration of sample as it is irrelevant to a mass per unit area sample. This method is not recommended for smooth or semi-smooth surfaces which can be wet wiped.

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