

Chapter

1. Asbestos Exposure Assessment, Risk Identification, and Substitutes

Section

B. Asbestos Exposure Assessment and Control in Occupational Settings

No./Title

a-13. Determination of numerical concentration of inorganic fibrous particles – SEM method

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Introduction

Asian context

SEM is less positive than TEM in its ability to differentiate between asbestos and non-asbestos fibers. However the SEM-based method is applicable to the discriminatory counting of airborne fibers at a lower cost than the TEM-based method.

Critical appraisal

This method provides a specified and refined technique using SEM that permits characterization of both fiber size and type.

Unique keywords

Abstract

Background: This method provides detailed procedure for sampling and analyzing inorganic particles in ambient atmospheres using SEM.

Objective: The method specifies the use of gold-coated, capillary-pore, track-etched membrane filters, through which a known volume of air has been drawn. Using energy-dispersive X-ray analysis, the method can discriminate between fibers with compositions consistent with those of the asbestos varieties (e.g., serpentine and amphibole), gypsum and other inorganic fibers. Annex C in this method provides a summary of fiber types which can be measured. Countable fibers are defined as particles with length $>5\ \mu\text{m}$, width 0. 2-3 μm and aspect ratio (length: width ratio) $>3:1$.



No available PDF

Annotation

Fact 1

- Annotation is not provided for this factsheet.

Fact 2



Fact 3



Fact 4



Fact 5



References