

Chapter

1. Asbestos Exposure Assessment, Risk Identification, and Substitutes

Section

B. Asbestos Exposure Assessment and Control in Occupational Settings

No./Title

a-7. Asbestos by TEM. NMAM 7402

Author/Contributor

National Institute for Occupational Safety and Health (NIOSH)

Bibliographic ID

Manual of Analytical Methods (NMAM) 4th ed. DHHS (NIOSH) Publication Aug 1994

Introduction

Asian context

The NIOSH 7402 method is one of the representative differential counting methods of airborne asbestos using TEM. However, this TEM-based method is expensive and its long turnaround restricts availability for monitoring of work control.

Critical appraisal

This method provides positive confirmation of asbestos fibers in PCM-countable fibers but should be applied with the PCM method. The accuracy of this method is not covered in this method.

Unique keywords

Abstract

Background: This method, generally called NIOSH 7402, provides detailed procedure for sampling and analyzing fibrous particles in air using TEM. This method has been developed by NIOSH and evaluated according to established experimental protocols and performance criteria and generally applicable to monitoring of workplace exposure to asbestos.

Objective: This method is a supplementary differential counting method of asbestos and measures the ratio of asbestos to total PCM-countable fibers using TEM. The collection of airborne asbestos fibers using calibrated sampling pumps with MCE filters and analysis by TEM are described. Countable fibers are defined as particles with length $>5\ \mu\text{m}$ and aspect ratio (length: width ratio) $>3:1$.



Annotation

Fact 1

- Annotation is not provided for this factsheet.

Fact 2



Fact 3



Fact 4



Fact 5



References

<http://www.cdc.gov/niosh/docs/2003-154/pdfs/7402.pdf>