

Chapter

1. Asbestos Exposure Assessment, Risk Identification, and Substitutes

Section

B. Asbestos Exposure Assessment and Control in Occupational Settings

No./Title

a. Methodologies related to environmental monitoring of asbestos

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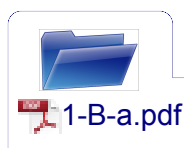
Bibliographic ID

Introduction

Asian context

Critical appraisal

Unique keywords

Abstract

More than 30 different standard methods have been issued by various governmental agencies and standard organizations to standardize laboratory analysis results by using the same analytical procedures. Because positive identification of asbestos requires analysis of the morphology, chemical composition and crystal structure of fibers due to the attributes of asbestos minerals, various analytical techniques are used in these standard methods. Among these analytical techniques, microscopy is the most important tool used for the detection of fibrous morphology. For the counting analysis of airborne fibers, microscopic techniques such as phase contrast microscopy (PCM), transmission electron microscopy (TEM) and scanning electron microscopy (SEM) are widely used. For the analysis of bulk asbestos such as asbestos in commercial products and building materials, polarized light microscopy (PLM), TEM and SEM are generally used. As non-microscopic techniques, X-ray diffraction (XRD) and differential thermal analysis (DTA) have also been adopted in several standard methods. Different techniques have their own strong and weak points and different methods have their own applications. Therefore care should be taken to select and apply a standard method. The following present a review of existing standard testing methods related to asbestos in air or bulk materials for the monitoring of asbestos in occupational settings.

Annotation

Fact 1

- Annotation is not provided for this factsheet.

Fact 2



Fact 3



Fact 4



Fact 5



References