

Chapter

1. Asbestos Exposure Assessment, Risk Identification, and Substitutes

Section

B. Asbestos Exposure Assessment and Control in Occupational Settings

No./Title

a-1. Determination of airborne fibre number concentration: A recommended method by phase-contrast optical microscopy (membrane filter method)

Author/Contributor

World Health Organization (WHO)

Bibliographic ID

Introduction

Asian context

WHO method is one of the representative PCM-based methods which can be taken into account as a national standard testing method of airborne asbestos in a work environment for Asian countries. This PCM-based method is inexpensive, time-efficient and suitable for the monitoring of airborne asbestos in work environment and its control.

Critical appraisal

This method does not provide positive confirmation of asbestos fibers. Alternative differential counting techniques should be used if discrimination is desirable. Supplementary methods for the differentiation of fiber types are discussed in Annex 2.

Unique keywords

Abstract

Background: This sampling and analytical method for asbestos in air, generally called the WHO method, was established and recommended by the WHO to unify various methodologies for the evaluation of airborne fibers, including asbestos in the work environment.

Objective: This method measures the airborne concentration of countable fibers using. Countable fibers are defined as particles with length $>5\ \mu\text{m}$, width $<3\ \mu\text{m}$ and aspect ratio (length: width ratio) $>3:1$. The collection of airborne asbestos fibers using calibrated sampling pumps with mixed-cellulose ester (MCE) filters and the analysis by PCM are described.



Annotation

Fact 1

- Annotation is not provided for this factsheet.

Fact 2



Fact 3



Fact 4



Fact 5



References

http://www.who.int/occupational_health/publications/airfibre/en/index.html