

Data documentation for size and shape characteristics of Indian tremolite asbestos

Title

Size and shape characteristics of Indian tremolite asbestos

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Contributors

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Data Files

The csv version contains the same data as the corresponding xlsx file, but its structure has been modified to make well-formed csv. The csv file is provided as a software-independent alternative to the xlsx format.

1. wylie_tremolite_india.xlsx
2. wylie_tremolite_india.csv

Temporal Extent

Sample obtained and measured ca. 1980.

Spatial Extent

Tremolite mined in Rajasthan, India.

Abstracts

This material was characterized by the University of Maryland in collaboration with the US Bureau of Mines (USBM) as part of studies on the nature of asbestos. The sample was provided to the University of Maryland by the US Bureau of Mines. It is from Rajasthan State, India.

Indian tremolite is a sample composed primarily of the amphibole mineral tremolite. It has fibrous habit and brittle behavior. Most of the long particles are broken. In this location, tremolite occurs as both very fine asbestos fibrils, and coarser, brittle fibers known as byssolite, and fibers in between. The sample has been referred to as tremolite: byssolite and asbestos, and as tremolite-asbestos (?) to express the range of habits.

Sample preparation included dispersal in water and deposition on 0.1 μ m Nucleopore filters. A portion of the filters was copper coated and examined by SEM equipped with EDXA. Measurements of width were made at 20,000X and lengths at 10,000 to 15,000. 1.099 latex spheres co-mounted on the SEM stubs were used to calibrate measurements. Particles to be measured were chosen by moving the specimen tab in increments and recording the length and width of the particle whose center fell closest to the center of the field of view. Precision is estimated as $\pm 0.06 \mu\text{m}$.

Instruments

Scanning Electron Microscopy (SEM) with Energy-Dispersive X-Ray Analysis (EDXA) capability.

Variables/Parameters

length	particle length in micrometers - μm
width	particle width in micrometers - μm

Keywords/Topics

Tremolite
Byssolite
Asbestos
Amphibole group
Granulometry

Associated Publications

Analysis of these data or analysis of the same samples can be found in the following publications:

Wylie, A.G., and Schweitzer, P. 1982. The effects of sample preparation and measuring techniques on the shape and shape characterization of mineral particles: The case of wollastonite: *Environmental Research*, v. 27, p. 52-73, [http://dx.doi.org/10.1016/0013-9351\(82\)90057-3](http://dx.doi.org/10.1016/0013-9351(82)90057-3)

Wylie, A.G., 1988, Relationship between the growth habit of asbestos and the dimensions of asbestos fibers: *Mining Engineering*, Nov., p. 1036-1040.

Wylie, A.G., 1988, Discriminating amphibole cleavage fragments from asbestos: Rationale and methodology, *in* Proceedings of the VIIth: International Pneumoconioses Conference Part II: Pittsburg, PA., US Department of Health and Human Services (NIOSH) Publication no. 90108, p. 1065-1069. <http://www.cdc.gov/niosh/docs/90-108/>

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Data Repository

Digital Repository at the University of Maryland (DRUM)

<http://drum.lib.umd.edu>
drum-help@umd.edu

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2016

Availability

Open Access
