Serpentine Rock Specimens

Posted by mpalatsides on Mon, 2014-12-01 10:43

Serpentine Rock Specimens: Do serpentine and serpentinite contain asbestos? Do collections containing these samples need to be removed. Based on information from our supplier we have removed ours. However, there is still conflicting information that is being received.

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5
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6
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Senior Secondary
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Laboratory Technicians

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Answer by j.turnbull on question Serpentine Rock Specimens

Submitted by j.turnbull on 08 December 2014

Thank you for posting this question. Hopefully this response will help to resolve some of the questions that remain about the possibility of some school rock specimens containing asbestos.

Background

The term 'serpentine' refers to a specific group of complex silicate minerals formed by metamorphic processes. Serpentinite is a rock variety containing significant serpentine minerals.
The material commonly known as 'asbestos' is not a single mineral, but a general term to describe a number of different complex silicate minerals that share the common property of having long fibrous crystals. This fibrous property that led to their commercial use is also the property that has resulted in the health problems that have seen the use of asbestos banned in most countries.

Three asbestos minerals have been used commercially.

- Chrysotile (white asbestos)
- Crocidolite (blue asbestos)
- Amosite (brown asbestos)

Of these, chrysotile is a member of the serpentine mineral group, the other two belong to the amphibole group.

Chrysotile accounts, by far, for the greatest commercial asbestos use, with peak usage in the 1950–1980 period, when it was widely used in building construction, automotive brake linings and gaskets as well as in products such as linoleum sheeting and tiles. Most significant buildings of this era will contain asbestos materials. The use of asbestos was phased out in the 1980s and has been banned in Australia from the end of 2003.

**Serpentine and asbestos**

Chrysotile (white asbestos) is a member of the serpentine mineral group. So, while chrysotile is a serpentine mineral, not all serpentine (or serpentinite) will contain chrysotile. However, the possibility that serpentine specimens in schools may contain chrysotile cannot be discounted. The presence, or absence, cannot be determined by visual observation and requires a laboratory analysis.

**Recommendation**

The potential hazard from serpentine that contains chrysotile is from breathing in its dust. As serpentine is generally not very friable, the risks should therefore be very low. The risks can be managed either by elimination (disposing of the specimen) or by sealing it, so that it can not form any dust.

As serpentine is not a common rock-forming or commercial mineral and is not important in the school science curriculum, the Science ASSIST recommendation is that, as a precaution, specimens of serpentine or serpentinite are removed from school use and disposed of.

**For latest information and disposal procedures please see AIS: Asbestos minerals in schools**

**Further advice**

For further information about the management of asbestos containing materials in your state or territory, see the Safework Australia website which lists the various state and territory authorities:


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Serpentine Rock Specimens

Submitted by assistsupport on 18 November 2015

Please refer to our new resource AIS: Asbestos minerals in schools

Source URL: https://assist.asta.edu.au/question/2546/serpentine-rock-specimens