**Chemical Description of Asbestos**

**Asbestos** (pronounced lay [/](http://en.wikipedia.org/wiki/Wikipedia:IPA_for_English)[æsˈbɛstəs](http://en.wikipedia.org/wiki/Wikipedia:IPA_for_English#Key)[/](http://en.wikipedia.org/wiki/Wikipedia:IPA_for_English) or [/](http://en.wikipedia.org/wiki/Wikipedia:IPA_for_English)[æzˈbɛstəs](http://en.wikipedia.org/wiki/Wikipedia:IPA_for_English#Key)[/](http://en.wikipedia.org/wiki/Wikipedia:IPA_for_English)) is a set of six naturally occurring [silicate minerals](http://en.wikipedia.org/wiki/Silicate_minerals) used commercially for their desirable physical properties.[[1]](http://en.wikipedia.org/wiki/Asbestos#cite_note-Alleman.26Mossman1997-0) They all have in common their eponymous, asbestiform habit: long, (1:20) thin fibrous [crystals](http://en.wikipedia.org/wiki/Crystal). The [inhalation](http://en.wikipedia.org/wiki/Inhalation) of [asbestos fibers](http://en.wikipedia.org/wiki/Asbestos_fibers) can cause serious illnesses, including malignant [lung cancer](http://en.wikipedia.org/wiki/Lung_cancer), [mesothelioma](http://en.wikipedia.org/wiki/Mesothelioma) (a formerly rare [cancer](http://en.wikipedia.org/wiki/Cancer) strongly associated with exposure to amphibole asbestos), and [asbestosis](http://en.wikipedia.org/wiki/Asbestosis) (a type of [pneumoconiosis](http://en.wikipedia.org/wiki/Pneumoconiosis)). Long exposure to high concentrations of asbestos fibers is more likely to cause health problems. This is most common among the miners of asbestos, since they have the longest exposure to it. The [European Union](http://en.wikipedia.org/wiki/European_Union) has banned all use of asbestos[[2]](http://en.wikipedia.org/wiki/Asbestos#cite_note-1) and extraction, manufacture and processing of asbestos products.[[3]](http://en.wikipedia.org/wiki/Asbestos#cite_note-2)

Asbestos became increasingly popular among manufacturers and builders in the late 19th century because of its sound absorption, average [tensile strength](http://en.wikipedia.org/wiki/Tensile_strength), its [resistance to fire](http://en.wikipedia.org/wiki/Flame-retardant), heat, electrical and chemical damage, and affordability. It was used in such applications as [electrical insulation](http://en.wikipedia.org/wiki/Electrical_insulation) for hotplate wiring and in [building insulation](http://en.wikipedia.org/wiki/Building_insulation). When asbestos is used for its resistance to fire or heat, the fibers are often mixed with [cement](http://en.wikipedia.org/wiki/Cement) (resulting in [fiber cement](http://en.wikipedia.org/wiki/Fiber_cement)) or woven into fabric or mats.

Asbestos mining began more than 4,000 years ago, but didn't start large scale until the end of the 19th century. The world's asbestos mining peaked around 1975, when asbestos was being mined in some 25 countries, but is today less than half of what it was in the mid 1970s. For a long time, the world's largest asbestos mine was the Jeffrey mine in the town of [Asbestos, Quebec](http://en.wikipedia.org/wiki/Asbestos,_Quebec).[[4]](http://en.wikipedia.org/wiki/Asbestos#cite_note-Book-3)