

Naturally Occurring Asbestos

What Visitors to National Forests Need to Know

General Information

Asbestos is the name given to a group of fibrous minerals that occur naturally in rock formations in the environment. Naturally occurring asbestos is the term applied to the natural geologic occurrence of various types of asbestos, and has been found to be present in the majority of counties in California. It is commonly found in ultramafic rock formations, including serpentine, and in the soils where these rock types are located. Serpentine, the California State Rock, is found widely throughout the state. It is typically grayish-green to bluish-black in color and its surfaces often have a shiny or wax-like appearance and a slightly soapy feel.

Presence on National Forests

The Forest Service has prepared maps which identify the locations of ultramafic and serpentine rock formations on national forest lands. Not all ultramafic and serpentine rock contains asbestos. Maps also identify locations where naturally occurring asbestos has been detected to date. These maps should not be considered as providing the definitive locations of all naturally occurring asbestos on the national forests in California but they should give you an idea of where potential risks may exist. The maps were prepared based on best available information from federal and state agencies such as the California Air Resources Board, California Geological Survey, U.S. Geological Survey, and Forest Service and will be updated as new information becomes available. The maps are available hard copy at local Forest Service offices and online at: www.fs.usda.us/goto/r5/noa.

Asbestos Exposure & Health Facts

Naturally occurring asbestos may be a health risk if disturbed and asbestos fibers are released into the air. When asbestos-containing rocks are crushed or broken through natural weathering processes or through human activities, asbestos-containing dust can be generated. Once asbestos fibers are released into the air, they may remain airborne or in the soil for a long time. Airborne asbestos fibers may pose a health hazard because of the potential risks associated with inhalation of the fibers.

When these fibers are inhaled, over time they may

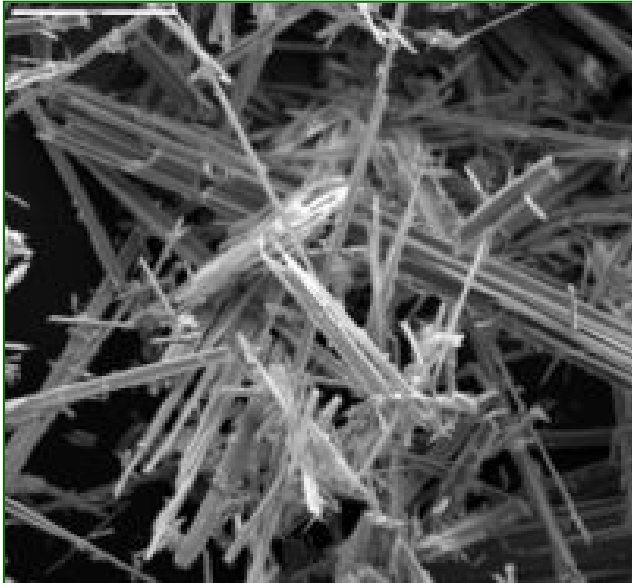


Examples of Serpentine Rocks

cause mesothelioma (a rare cancer directly associated with asbestos exposure), lung cancer (smoking significantly increases the risk of lung cancer if one is exposed to asbestos), and non-cancer diseases such as asbestosis. All forms of asbestos fibers can cause cancer and are classified as known human carcinogens. Any exposure to a carcinogenic compound involves some risk; therefore, no "safe" exposure level has been established for asbestos. No one knows how many fibers are needed to cause cancer or other lung disease.

Diseases caused by asbestos may not be observed for twenty or more years. Being exposed to asbestos does not necessarily mean you will develop health problems. Many factors influence a person's chances of developing disease. A doctor can help you find out whether you are at risk for health problems from asbestos exposure.

Since naturally occurring asbestos is present on some national forest lands, there is a potential for your exposure to asbestos fibers on your visit to national forests in California. Natural weathering and routine human activities may disturb asbestos-bearing rock or soil and release asbestos fibers into the air. Examples of dust-generating activities include, but are not limited to:



Magnification of Asbestos fibers

- ◆ Driving over unpaved roads, trails or soils
- ◆ Riding horses or moving livestock on unpaved roads, trails, or soils
- ◆ Recreational activities on unpaved roads, trails, or soils where dust may be generated, such as riding off-road vehicles, riding bicycles, running or hiking
- ◆ Digging or shoveling dirt
- ◆ Mining and quarrying operations

Health risks associated with exposure to naturally occurring asbestos are not yet fully understood. Recent studies and investigations by the U. S. Environmental Protection Agency in El Dorado County and at the Bureau of Land Management's Clear Creek Management area near Hollister, the U. S. Agency for Toxic Substances and Disease Registry, and by the University of California at Davis are increasing our understanding of the potential health risks associated with naturally occurring asbestos.

Reducing Your Exposure to Naturally Occurring Asbestos

Health risks to people are dependent upon their exposure to asbestos. The longer a person is exposed to asbestos and the greater the intensity of the exposure, the greater the chances for a health problem. If naturally occurring asbestos is not disturbed and asbestos fibers are not released into the air, then it will not pose a health risk. National forest visitors wishing to reduce their potential exposure to naturally occurring asbestos should consult the maps produced by the Forest Service or the State of California which identify the currently known areas of ultramafic and serpentine rock and naturally occurring asbestos and use the following best management practices in these areas to *Reduce Your Risk by Reducing Your Exposure:*

- ◆ Be aware of windy conditions and avoid dusty conditions to reduce exposure
- ◆ Limit dust generating activities, such as riding off-road vehicles, riding bicycles, running or hiking, riding horses or moving livestock, etc.
- ◆ Avoid handling or disturbing loose asbestos-containing rock types
- ◆ Drive slowly over unpaved roads, with windows and vents closed, to minimize dust generation (California Air Resources Board recommends that vehicle speeds not exceed 15 miles per hour on unpaved roads where asbestos is present)
- ◆ Avoid or minimize the tracking of dust into vehicles
- ◆ Do not use compressed air for cleaning your vehicles after your visit. Use a wet rag to clean the interior

These best management practices are based on guidance from various federal and state agencies such as the U. S. Environmental Protection Agency; U. S. Department of Health and Human Services, Agency for Toxic Substances and Disease Registry; and the California Air Resources Board. This list should not be considered as being all inclusive.

This information was obtained from state and federal resources listed below.

For more information, visit:

- ◆ U. S. Environmental Protection Agency.
www.epa.gov/asbestos
- ◆ U. S. Department of Health and Human Services
www.atsdr.cdc.gov/noa/
- ◆ California Air Resources Board
www.arb.ca.gov/toxics/asbestos/asbestos.htm
- ◆ California Geological Survey
<https://www.conservation.ca.gov/cgs/minerals/mineral-hazards>
California Office of Environmental Health Hazard Assessment
<https://oehha.ca.gov/air/asbestos-fact-sheet-information-health-risks-exposures-asbestos>
- ◆ El Dorado County Environmental Management Dept.
<https://www.edcgov.us/Government/AirQualityManagement/Pages/asbestos.aspx>
- ◆ University of California, Davis Health System
https://health.ucdavis.edu/synthesis/issues/fall_winter_06/features/outreach.html

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