

What is Natural Occurring Asbestos or NOA?

The Agency for Toxic Substance Disease Registry defines “naturally occurring asbestos” or NOA as a mineral that is a natural component of soils or rocks. Unlike Asbestos in commercial products, NOA can be released from rocks or soils by human activities, such as construction, or natural weathering processes. If naturally occurring asbestos is not disturbed and fibers are not released into the air, then it is not a health risk.

<https://www.atsdr.cdc.gov/noa/index.html>

Asbestos can be released from rocks if rocks are broken or crushed. Asbestos can also be released from asbestos-containing soils that are stirred up such as in open pit mining or quarrying. The presence and prevalence of asbestos fibers in soils overlaying rocks containing asbestos is not known and needs to be evaluated.

What Does NOA Look Like?

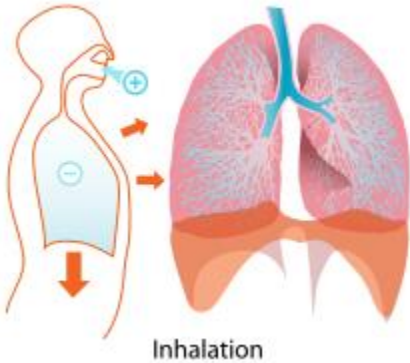


Amphibole ([/ˈæmfɪboʊl/](#)) is an important group of [inosilicate minerals](#), forming prism or needlelike crystals.

Amphiboles can be green, black, colorless, white, yellow, blue, or brown.

<https://en.wikipedia.org/wiki/Amphibole>





Smaller, straighter fibers are more hazardous, because they are more likely to reach the deepest parts of the lungs and enter the bloodstream, causing asthma, strokes, heart attacks, mesothelioma, asbestosis or cancer of the lungs.

<https://pubs.usgs.gov/of/2007/1182/>

The U.S. Geological Survey has reported *Historic Asbestos Mines, Historic Asbestos Prospects, and Natural Asbestos Occurrences in the Rocky Mountain States of the United States including Colorado.*

Is NOA Dangerous?

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2718408/>

Epidemiologic studies have confirmed that occupational exposure to asbestos causes mesothelioma (1-7). However, almost all population-based studies have found that many mesothelioma cases had no known occupational exposure to asbestos. Some of these cases could be due to domestic and neighborhood exposure to asbestos, or even environmental exposure to naturally occurring asbestos (NOA).

How are people exposed to asbestos?

People can be exposed to asbestos in different ways:

- **Inhaling asbestos:** Most exposures come from inhaling asbestos fibers in the air. This can occur during the mining and processing of asbestos, when making asbestos-containing products, or when installing asbestos insulation. It can also occur when older buildings are demolished or renovated, or when older asbestos-containing materials begin to break down. In any of these situations, asbestos fibers tend to create a dust made of tiny particles that can float in the air.
- **Swallowing asbestos:** Asbestos fibers can also be swallowed. This can happen when people consume contaminated food or liquids (such as water that flows through asbestos cement pipes). It can also occur when people cough up asbestos they have inhaled, and then swallow their saliva.

Many people are exposed to very low levels of naturally occurring asbestos in outdoor air as a result of erosion of asbestos-containing rocks. **The risk of this is higher in areas where rocks have higher asbestos content.** In some areas, asbestos can be detected in the water supply as well as in the air. It can get into the water through several sources, such as rock or soil erosion, corrosion of asbestos cement pipes, or the breakdown of roofing materials containing asbestos that then enter the sewers after it rains.

<https://en.wikipedia.org/wiki/Asbestos>

Inhalation of asbestos fibers can cause serious and fatal illnesses including lung cancer, mesothelioma, and asbestosis (a type of pneumoconiosis).^{[4][5]} Concern of asbestos-related illness in modern times began with the 20th century and escalated during the 1920s and 1930s. By the 1980s and 1990s, asbestos trade and use were heavily restricted, phased out, or banned outright in an increasing number of countries.^[6]

Despite the severity of asbestos-related diseases, the material has extremely widespread use in many areas. Continuing long-term use of asbestos after harmful health effects were known or suspected, and the slow emergence of symptoms decades after exposure ceased, made asbestos litigation the longest, most expensive mass tort in U.S. history and a much lesser legal issue in most other countries involved.^[7] Asbestos-related liability also remains an ongoing concern for many manufacturers, insurers and reinsurers. On July 12, 2018, a Missouri jury ordered Johnson & Johnson to pay a record \$4.69 billion to 22 women who alleged the company's talc-based products, including its baby powder, contain asbestos and caused them to develop ovarian cancer.^[8]

How can weathering and erosion expose me to NOA?

<https://geomaps.wr.usgs.gov/parks/misc/gweaero.html>

Weathering involves two processes that often work in concert to decompose rocks. Both processes occur in place. No movement is involved in weathering.

Chemical weathering involves a chemical change in at least some of the minerals within a rock.

Mechanical weathering involves physically breaking rocks into fragments without changing the chemical make-up of the minerals within it.

As soon as a rock particle (loosened by one of the two weathering processes) moves, we call it **erosion** or mass wasting.

Mass wasting is movement down slope due to gravity. Rock falls, slumps, and debris flows are all examples of mass wasting.

We call it erosion if the rock particle is moved by some flowing agent such as air, water or ice.

According to the USGS: if a particle is loosened, chemically or mechanically, but stays put, it is called weathering. Once the particle starts moving, it is called erosion.

What Can I Do to Protect Myself and Those Around me Against the Hazards of NOA

- Learn more about NOA by visiting the U.S.G.S, EPA and the CDC-ATSDR websites
- Go to FOIA.gov (The Freedom of Information Act), select the appropriate agency and request to know more about Public Health Levels of Concern of uninvestigated and unregulated pollutants in your area.
- Contact the Larimer County Department of Public Health for guidance on mining-related Public Health & Welfare concerns.
- Be a part of your community's decision-making process by joining your local Public Health & environmental advocacy groups