

What is asbestos?

Asbestos is a naturally occurring family of fibrous minerals found in certain types of rock formations. These minerals are made-up of long, thin fibers that vary in length and may be straight or curled. The typical size of asbestos fibers is 0.1 to 10 micrometers (μm) in length, a size that is not generally visible to the human eye. There are six types of asbestos, but the types most commonly used in buildings are chrysotile (white), amosite (brown), and crocidolite (blue). Approximately 95% of all asbestos used in commercial products is chrysotile.

Who is exposed to asbestos?

Human exposure to asbestos is primarily through inhalation and ingestion of fibers. Because asbestos is so widely used, most people are exposed to low levels in the air they breathe. Exposure to higher levels of asbestos might be found near industries that use or make asbestos products, living near a building that is being renovated that contains asbestos products, or living near a waste site where asbestos is not properly stored to protect it from wind erosion. Trace amounts might also be found in drinking water containing asbestos from natural sources or from asbestos-containing cement pipes in drinking water distribution systems.

How can asbestos affect my health?

Although the inhalation of asbestos fibers can cause serious health risks, the risk of asbestos-related disease depends upon the level of exposure to airborne fibers. How many fibers a person must breathe to develop disease is uncertain. However, at very low exposure levels, health risks are not serious. Inhalation of asbestos fibers at very high levels by workers in occupational settings has been shown to cause asbestosis (a fibrous scarring of the lungs), lung cancer (bronchogenic carcinoma), and mesothelioma (a cancer of the lining of the chest or abdominal cavity). These diseases do not develop immediately after inhalation of asbestos fibers. Symptoms may occur 10 to 20 years after exposure.

How likely is asbestos to cause cancer?

Occupational exposure to asbestos has been linked to lung cancer and a very rare cancer called mesothelioma. People who smoke are at especially high risk for lung cancer. Because of some interaction in the body between asbestos and carcinogens from cigarette smoke, people who are exposed to asbestos and also smoke have an increased risk of lung cancer fifty to ninety times greater than people who do not smoke and are not exposed to asbestos. Although there is an interactive effect on lung cancer, smoking does not appear to increase the risk of mesothelioma.

How can asbestos affect children?

Children can be affected by asbestos exposure in the same ways as adults. It is not known if children are more susceptible to asbestos than adults.

Is there a medical test to determine whether I have been exposed to asbestos?

Medical testing is usually recommended only for people with long-term occupational exposure to

asbestos who are having symptoms of lung disease. The most common test used to determine if a person's symptoms are caused by asbestos is a chest X-ray. Chest X-rays cannot detect asbestos fibers, but can detect signs of lung disease caused by asbestos. Tests are available to measure asbestos fibers in urine, feces, mucous, or material rinsed out of the lung. However, low levels of asbestos fibers are found in the body fluids of nearly all people; higher than average levels can only show that one has been exposed to asbestos, not whether one will experience any health effects.

How can I reduce the risk of exposure to asbestos?

If you suspect your house contains asbestos and you are planning to do remodeling, check with your local health, environmental, or other appropriate officials to learn about proper handling and disposal procedures. It is not recommended to do even minor home repairs or improvements without a licensed professional because handling asbestos-containing materials may create an unnecessary hazard. There are licensed professionals who specialize in repair and removal of asbestos.

There are tips to follow if simple home improvements are done privately. Take precautions to avoid damaging asbestos-containing materials. Do not saw, sand, scrape, or drill holes in asbestos containing materials. When asbestos flooring needs to be replaced, install new flooring over top. Tearing up the old floor will cause fibers to be released, exposing individuals to high levels of asbestos. Use a wet mop when cleaning. Do not dust, sweep, or vacuum debris that contains asbestos. Improper handling will increase the risk of exposure and adverse health effects.

Has the federal government made recommendations to protect human health?

The U.S. Occupational Safety and Health Administration (OSHA) standards require that employers ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fibers per cubic centimeter (f/cm³) of air as an 8-hour time weighted average. The U.S. Environmental Protection Agency (EPA) banned all new uses of asbestos on July 12, 1989. Uses established before this date are still allowed. The EPA has established regulations that require school systems to inspect for damaged asbestos and to eliminate or reduce exposure by removing the asbestos or covering it up so it cannot enter the air. The EPA has set a limit of 7 million fibers per liter (MFL) as the allowable concentration of long asbestos fibers in drinking water.

Where can I get more information about asbestos?

- If you have concerns about asbestos, contact your healthcare provider.
- Call your local health department. A directory of local health departments is located at <https://www.vdh.virginia.gov/local-health-districts/>.
- Contact the Virginia Department of Health at (804) 864-8182 or at toxicology@vdh.virginia.gov.
- For additional information, please visit <https://www.atsdr.cdc.gov/toxprofiles/TP.asp?id=30&tid=4>.