

Environmental Health and Safety

What is Asbestos?

Asbestos is well recognized as a health hazard and is highly regulated. An estimated 1.3 million employees in construction and general industry face significant asbestos exposure on the job. Heaviest exposures occur in the construction industry, particularly during the removal of asbestos during renovation or demolition. The occupational groups at the greatest risks for developing asbestos associated diseases include: janitors, maintenance personnel, construction workers, insulators, plumbers, mechanics, telephone workers, electrical workers, fire fighters, and asbestos abatement workers. People who work, live, or attend school in buildings containing asbestos products are also considered at risk.

ACM which can be crumbled, pulverized, or reduced to powder by hand pressure is known as friable asbestos. When friable ACM is damaged or disturbed it releases fibers into the air. Airborne asbestos fibers are small, odorless, and tasteless. They range in size from .1 to 10 microns in length (a human hair is about 50 microns in diameter). Because asbestos fibers are small and light, they can be suspended in the air for long periods. People whose work brings them into contact with asbestos may inhale fibers. A worker's family may inhale asbestos fibers released by clothes which have been in contact with ACM.

Once inhaled, the small, inert asbestos fibers can easily penetrate the body's defenses. They are deposited and retained in the airways and tissues of the lungs. In the alveoli, the location of gas exchange, asbestos causes the development of scar tissue. This thickening of the alveoli wall reduces the amount of oxygen available to the body. Because asbestos fibers remain in the body, each exposure increases the likelihood of developing one or more of the following diseases:

- Asbestosis: A chronic lung ailment caused by the build up of scar tissue inside the lungs. Asbestosis can cause shortness of breath, permanent lung damage, and increases the risk of lung infections.
- Mesothelioma: An asbestos caused cancer of the chest cavity lining or abdominal cavity.
- Other cancers: Cancer of the lung, esophagus, stomach, colon, and pancreas.

Asbestos causes cancer. This is known from studies of actual groups of asbestos workers, not inferred from animal studies. The time it takes to develop lung cancer is often fifteen years or longer. The time frame for developing asbestosis and mesothelioma is even longer. Many studies have shown the combination of smoking and asbestos exposure to be particularly hazardous. Cigarette smokers exposed to asbestos, on the average are ten times more likely to develop lung cancer than non-smokers.