

Is there a Safe Level of Asbestos Exposure?

Once widely used in construction, shipbuilding, and other industries, asbestos is now widely regarded as a hazardous substance. Asbestos exposure is the only known cause of diseases such as asbestosis and mesothelioma, and is also a known cause of lung cancer. During the past one hundred years, asbestos was used in several thousand products, including building materials, consumer goods, and fire and chemical-resistant clothing.

It has been estimated that more than 700,000 commercial and public buildings and 250,000 schools were built using construction materials containing asbestos, during the forty years between World War II and the mid 1980s. The number of residential homes built using asbestos-containing materials is much higher. The use of asbestos use was so widespread during these decades that it is possible that most people have experienced some very low-level exposure to asbestos.

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Types of Asbestos Exposure

Distinguishing between different types of asbestos exposure is an important factor in determining safe levels of exposure. There are three main types of asbestos exposure: occupational, environmental, and secondary exposure.

Occupational asbestos exposure could perhaps be considered the least safe type of exposure. People in occupations such as construction, shipbuilding, and manufacturing of asbestos-containing products and materials have historically been exposed to large quantities of asbestos dust, and these groups of people have the highest rates of asbestos-related diseases. Most people exposed to asbestos at work are



men.

Very few manufactured products are still made with asbestos. However, some groups of people still risk exposure at work, because buildings that were constructed with asbestos-containing materials are still in use. People who are involved in renovating, remodeling, or demolishing existing construction that contains asbestos may be at risk of exposure if proper safety precautions are not taken. Custodial and maintenance workers who are employed in a building constructed prior to the 1980s may also be at risk of asbestos exposure if they are unaware the risk exists, and do not take proper safety precautions.

Environmental asbestos exposure occurs when a geographical location is contaminated by asbestos, due to its proximity to a mine, industrial plant, or other location where asbestos is obtained or used in manufacturing. This type of exposure can be particularly devastating when it occurs, as many people in a geographical region may be affected.

Secondary asbestos exposure is a type of exposure that occurs in people who have never worked in an occupation where asbestos exposure was possible, or lived in an area that was subject to environmental exposure. In most cases of secondary exposure, the affected person has lived with a family member who was employed in an occupation that involved working with asbestos. This type of exposure occurs when an asbestos worker has not used protective equipment at work, and subsequently contaminates their home with asbestos fibers adhering to their clothing. While it is most often men who are exposed to asbestos at work, it is typically women and children who are most at risk of secondary exposure.

How Much Asbestos is Too Much?

The Occupational Safety and Health Administration has capped the safe limit of asbestos exposure at 0.1 fibers per cubic centimeter, for a maximum period of eight hours per exposure. There is some doubt as to whether low levels of environmental asbestos are safe. A short, very light exposure to airborne asbestos fibers may produce no adverse effects, but long-term exposure over several years may cause disease even if each separate exposure experience is lower than the OSHA limit.

In general, it is best to assume that the only safe level of asbestos exposure is no exposure at all. Anyone who works with asbestos, either during the course of their employment, or at home during renovations or repairs, should take appropriate safety precautions to prevent asbestos exposure. This is particularly important in any case where the risk of creating airborne asbestos fibers is present. Asbestos fibers can potentially become airborne in any situation where asbestos-containing materials are sanded, scraped, cracked, chipped, drilled or otherwise manipulated.

Protection from Asbestos Exposure

Due to the known health risks of inhaling asbestos fibers, a respirator should always be used in any situation where exposure to asbestos may occur. This includes both repair and removal of asbestos, and any other situation in which airborne asbestos fibers may be present in the environment.



When working with asbestos-containing materials of any kind, a respirator with a High Efficiency Particulate (HEPA) filter should be used. These filter out particulate matter, even including particles as small as asbestos fibers.

Protective clothing should also be worn, to prevent asbestos fibers adhering to clothes and being inhaled when a respirator is removed. Protective clothing should be removed and safely disposed of before removing a respirator. Removal of protective clothing should be carried out in a location where the fibers adhering to the items will not contaminate an environment that is asbestos-free.



For more information on asbestos exposure and abatement please visit the [Asbestos and Mesothelioma Center](#).