



ASBESTOS: DO NOT DISTURB

Asbestos is a group of several naturally occurring fibrous minerals. Wide use of the material in a broad range of products, particularly since the 1940's, led to wider recognition of their health hazards in the late 1970's. At that time, some, but not all, uses of asbestos were banned in the United States. However, employees continue to be exposed to asbestos fibers released from materials installed in buildings before those bans and through use of products still being made with asbestos.

LOCATING ASBESTOS

In the 1980's, the U.S. Environmental Protection Agency (EPA) established its first protocols for conducting inspections to determine where asbestos containing materials (ACM's) are found in schools and other buildings. Though the EPA considers materials containing less than 1% asbestos not to be an ACM, standards established by the Occupational Safety and Health Administration (OSHA) apply to materials containing any amount of asbestos.

Evaluating the many materials that may contain asbestos requires removal and laboratory testing of pieces of that material. Various public safety and repair cost considerations may limit the scope of initial asbestos inspections. Therefore, OSHA considers any untested thermal system insulation and surfacing material in buildings constructed no later than 1980 to be a "presumed asbestos containing material" (PACM) until it is proven not to contain asbestos.

Common ACM's include insulation on pipes and other hot surfaces, various fire proofing materials, and troweled or sprayed on acoustical materials such as "popcorn" ceilings. Asbestos is found in most 9x9 inch vinyl floor tiles, and in some floor tiles of other sizes. Asbestos is in the felt backing of some linoleum and roofing materials, in mastics used to adhere floor tiles and linoleum to the floor, and in mastics used on duct and pipe insulation. Some acoustic tiles used on ceilings and walls contain asbestos, as do some mastics used with them. Asbestos can be found in wallboard, joint compound, spackle used in wall systems, and in some floor leveling materials. It was frequently used in wall and ceiling plaster, and in cement board panels called transite. Certain gaskets, clutch and brake pads in vehicles and other machinery frequently contain asbestos, too.

HAZARDOUS TO YOUR HEALTH

ACM's that are "friable" – or able to be crushed or reduced to powder by hand pressure – are most likely to release asbestos fibers. Therefore, employees who conduct activities that make ACM's friable, or who work around materials that are already friable, are at greatest risk of exposure to the fibers. These employees typically include trades people who service plumbing, electrical, ventilation and other mechanical systems, custodians who disturb or contact asbestos, renovators and remodelers, and those who repair ACM or abate it.

Materials which can be crushed or reduced to powder only by sanding, sawing, abrasion, or other mechanical action are considered to be non friable. The health risks posed by these materials are considerably less than those posed by friable materials. Examples of non friable materials include intact vinyl floor tiles and transite panels.

Breathing asbestos can result in several illnesses, including asbestosis, a scarring of the lungs that typically occurs as a result of inhaling asbestos over a long period of time. It decreases the ability of the body to get needed oxygen and often results in development of fatal cardiopulmonary disease. It can also cause lung cancer, particularly in individuals who smoke. Mesothelioma, a rare, untreatable cancer of the membrane lining the lungs, chest, heart, and abdomen is caused almost exclusively by asbestos exposure. Exposure to asbestos has also been shown to cause cancer of the stomach and colon. Typically, these health effects do not develop for more than 20 years after first exposure.

PROTECTIVE OSHA REGULATIONS

OSHA's Asbestos Standard for general industry covers maintenance and office workers, among others. A separate standard applies to those who conduct construction related activities, including repair, demolition, renovation, and asbestos abatement. Because the general industry standard applies to most legislative branch employees, the information below summarizes some of its requirements.

Old and broken asbestos floor tiles



The standard establishes two permissible exposure limits (PEL's) for asbestos. The first is a time weighted average (TWA) of 0.1 fiber per cubic centimeter of air (f/cc), averaged over an 8 hour work shift. OSHA has also established an excursion limit (EL) of 1.0 f/cc during a single, 30 minute period.

EMPLOYERS ARE REQUIRED TO DO THE FOLLOWING:

Determine the presence, location, and quantity of ACM and/or PACM.

Inform employees—and the employers of housekeeping employees—of asbestos hazards in their building.

Post warning signs at the entrance to mechanical rooms/areas containing ACM and/or PACM, identifying the material present and its location, and appropriate word practices to ensure it is not disturbed. Warning labels must be affixed to these asbestos products and containers of asbestos products.

Assess all asbestos operations for their potential to generate fibers.

Conduct initial monitoring for all employees who either are, or may be expected to be, exposed to airborne concentrations of asbestos above the TWA and/or EL.

Establish a regulated area wherever airborne asbestos concentrations exceed the TWA and/or EL.

If you suspect you are exposed to friable asbestos materials in your workplace, do not disturb them or create dust. Notify your safety and health office or immediate supervisor of your concerns. Its potential asbestos content can be determined.

WHAT IS ASBESTOS?

Asbestos is the name given to a group of naturally occurring minerals used in certain products, such as building materials and vehicle brakes, to resist heat and corrosion. Asbestos includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these materials that have been chemically treated and/or altered.

WHAT ARE THE DANGERS OF ASBESTOS EXPOSURE TO WORKERS?

The inhalation of asbestos fibers by workers can cause serious diseases of the lungs and other organs that may not appear until years after the exposure has occurred. For instance, asbestosis can cause a buildup of scar-like tissue in the lungs and result in loss of lung function that often progresses to disability and death. Asbestos fibers associated with these health risks are too small to be seen with the naked eye, and smokers are at higher risk of developing some asbestos-related diseases.

ARE YOU BEING EXPOSED TO ASBESTOS?

General industry employees may be exposed to asbestos during the manufacture of asbestos-containing products or when performing brake and clutch repairs. In the construction industry, exposure occurs when workers disturb asbestos-containing materials during the renovation or demolition of buildings. Employees in the maritime environment also may be exposed when renovating or demolishing ships constructed with asbestos-containing materials. In addition, custodial workers may be exposed through contact with deteriorating asbestos-containing materials in buildings.

ARE THERE ANY OSHA STANDARDS THAT COVER WORKERS EXPOSED TO ASBESTOS?

Yes. The Occupational Safety and Health Administration (OSHA) has the following three standards to protect workers from exposure to asbestos in the workplace:

- 29 CFR 1926.1101 covers construction work, including alteration, repair, renovation, and demolition of structures containing asbestos.
- 29 CFR 1915.1001 covers asbestos exposure during work in shipyards.
- 29 CFR 1910.1001 applies to asbestos exposure in general industry, such as exposure during brake and clutch repair, custodial work, and manufacture of asbestos-containing products.

The standards for the construction and shipyard industries classify the hazards of asbestos work activities and prescribe particular requirements for each classification:

- Class I is the most potentially hazardous class of asbestos jobs and involves the removal of thermal system insulation and sprayed-on or troweled-on surfacing asbestos-containing materials or presumed asbestos-containing materials.
- Class II includes the removal of other types of asbestos-containing materials that are not thermal system insulation, such as resilient flooring and roofing materials containing asbestos.
- Class III focuses on repair and maintenance operations where asbestos-containing or presumed asbestos-containing materials are disturbed.
- Class IV pertains to custodial activities where employees clean up asbestos-containing waste and debris.

There are equivalent regulations in states with OSHA-approved state plans.

WHAT ARE THE PERMISSIBLE EXPOSURE LIMITS FOR ASBESTOS?

Employee exposure to asbestos must not exceed 0.1 fiber per cubic centimeter (f/cc) of air, averaged over an 8-hour work shift. Short-term exposure must also be limited to not more than 1 f/cc, averaged over 30 minutes. Rotation of employees to achieve compliance with either permissible exposure limit (PEL) is prohibited.

ARE EMPLOYERS REQUIRED TO CONDUCT EXPOSURE MONITORING?

In construction and shipyard work, unless you are able to demonstrate that employee exposures will be below the PELs (a “negative exposure assessment”), you are generally required to conduct daily monitoring for workers in Class I and II regulated areas. For workers in other operations where exposures are expected to exceed one of the PELs, you must conduct periodic monitoring. In general industry, you must perform initial monitoring for workers who may be exposed above a PEL or above the excursion limit. You must conduct subsequent monitoring at reasonable intervals, and in no case at intervals greater than 6 months for employees exposed above a PEL.

MUST EMPLOYERS CREATE REGULATED AREAS?

You must create controlled zones known as regulated areas that are designed to protect employees where certain work with asbestos is performed. You must limit access to regulated areas to authorized persons who are wearing appropriate respiratory protection. You must also prohibit eating, smoking, drinking, chewing tobacco or gum, and applying cosmetics in these areas. You must display warning signs at each regulated area. In construction and shipyards, workers must perform Class I, II, and III asbestos work (and all other operations where asbestos concentrations may exceed a PEL) within regulated areas. In general industry, you must establish regulated areas wherever asbestos concentrations may exceed a PEL.

WHAT COMPLIANCE METHODS MUST EMPLOYERS USE TO CONTROL EXPOSURES?

You must control exposures to or below the PELs using engineering controls and work practices to the extent feasible. Where feasible engineering controls and work practices do not ensure worker protection at the exposure limits, you must reduce employee exposures to the lowest levels achievable and then supplement them with respiratory protection to meet the PELs. In construction and shipyards, each work classification has specific control method requirements. In general industry, specific controls are prescribed for brake and clutch repair work. For example, you must prohibit certain practices, such as the use of compressed air, to remove asbestos.

WHEN ARE EMPLOYERS REQUIRED TO PROVIDE RESPIRATORY PROTECTION FOR WORKERS?

You must provide and ensure the use of respirators when a PEL is exceeded. In construction and shipyards, you must require workers to use respirators when performing certain work. Generally, the level of exposure determines the type of respirator needed. In addition, the standards specify the type of respirator to be used for certain asbestos work. (See CFR 1910.134.) Employees must get respirator training and medical clearance to use respirators.

ARE EMPLOYERS REQUIRED TO PROVIDE PROTECTIVE CLOTHING FOR WORKERS?

Yes. For any employee exposed to airborne concentrations of asbestos that exceed a PEL, you must provide and require the use of protective clothing such as coveralls or similar full-body clothing, head coverings, gloves, and foot coverings. You must provide face shields, vented goggles, or other appropriate protective equipment wherever the possibility of eye irritation exists and require workers to wear them.

MUST EMPLOYERS PROVIDE HYGIENE FACILITIES?

Yes. You must establish decontamination areas and hygiene practices for employees exposed above a PEL. In addition, employees may not smoke in work areas that might expose them to asbestos.

DO OSHA STANDARDS REQUIRE EMPLOYERS TO PROVIDE TRAINING?

Yes. In construction and shipyards, you must provide training for employees exposed above a PEL and for employees involved in each identified work classification. The specific training requirements depend upon the particular class of work being performed. In general industry, you must provide training to all employees exposed above a PEL. You must also provide asbestos awareness training to employees who perform housekeeping operations covered by the standard. You must place warning labels on all asbestos products, containers, and installed construction materials when feasible.

WHAT ARE EMPLOYERS REQUIRED TO PROVIDE CONCERNING MEDICAL EXAMINATIONS?

In construction and shipyards, you must provide medical examinations for workers who, for 30 or more days per year, engage in Class I, II, or III work or experience exposure above a PEL. In general industry, you must provide medical examinations for workers who are exposed above a PEL.

WHAT ARE THE RECORDKEEPING REQUIREMENTS FOR ASBESTOS EXPOSURES?

You must keep accurate records of the following:

- All measurements taken to monitor employee exposure to asbestos—30 years;
- Medical records, including physician's written opinions—duration of the employee's employment plus 30 years; and
- Training records—1 year beyond the last date of employment.

HOW CAN YOU GET MORE INFORMATION ON SAFETY AND HEALTH?

OSHA has various publications, standards, technical assistance, and compliance tools to help you, and offers extensive assistance through workplace consultation, voluntary protection programs, grants, strategic partnerships, state plans, training, and education. OSHA's Safety and Health Program Management Guidelines (Federal Register 54:3904-3916, January 26, 1989) detail elements critical to the development of a successful safety and health management system. This and other information are available on OSHA's website.

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- To file a complaint online or obtain more information on OSHA federal and state programs, visit OSHA's website.



FAST STATS

ABOUT ASBESTOS

- **30 million pounds of asbestos are still used in the U.S. each year.**
- **Asbestos is the #1 cause of occupational cancer, causing 54% of those deaths.**
- **Since 1979, more than 43,000 Americans have died of asbestos-related diseases.**

REGULATED AREA REQUIREMENTS

- Implement a written compliance plan that explains engineering controls and work practices to be followed.
- Post warning signs at all approaches to regulated areas.
- Ensure appropriate respirators and personal protective equipment are worn.
- Ensure wet methods and local exhaust ventilation with appropriate dust collection are used to limit exposure.
- Provide a proper decontamination area that includes changing and showering facilities.
- Provide initial and annual refresher training to employees exposed at or above the TWA or EL.
- Provide medical surveillance for all employees exposed to airborne concentrations at or above the TWA and/or EL.
- Keep accurate records of exposure monitoring and medical surveillance for each worker's duration of employment plus 30 years.

For More Information, visit OSHA's asbestos webpage: <http://www.osha.gov/SLTC/asbestos/index.html>, EPA's asbestos webpage: <http://www.epa.gov/asbestos/>, or Agency for Toxic Substances and Disease Registry (ATSDR).

For Frequently Asked Questions on Asbestos, visit <http://www.atsdr.cdc.gov/tfacts61.html>

Sources: EWG Action Fund, Asbestos Disease Awareness Organization, OSHA Standards 29 CFR 1910.1001, Asbestos (in general industry), 29 CFR 1926.1101, Asbestos (in construction)

IMPORTANT NOTICE - The information and suggestions presented by Michigan Millers Mutual Insurance Company in this Safety Talks Toolkit Bulletin are for your consideration in your loss prevention efforts. They are not intended to be complete or definitive in identifying all hazards associated with your business, preventing workplace accidents, or complying with any safety related, or other, laws or regulations. You are encouraged to alter them to fit the specific hazards of your business and to have your legal counsel review all of your plans and company policies.