



Asbestos

What Is It? Where Is It?

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The name “asbestos” was coined for a group of fibrous, naturally occurring minerals. The fibers of these minerals are very strong and durable, yet flexible enough to be spun and woven. Because of their remarkable resistance to heat, chemical stability, and low cost, asbestos fibers were used in the manufacture of many products. It is estimated there were at least 3,000 commercial uses for asbestos-containing materials (ACMs) until the cancer-causing properties of asbestos were discovered in the late 1960s/early 1970s.

By definition, ACMs contain more than 1% asbestos. Until the 1970s, ACMs were commonly used in the building industry, including uses in residential buildings and schools: blown-in insulation (common in homes built between 1930 and 1950); boiler and duct insulation; roofing shingles; roofing felt; ceiling tiles; vinyl asbestos, asphalt, and rubber floor tiles (if you have 9x9 inch vinyl tiles, they usually contain ACMs); siding; wallboard; and adhesives. Decorative plaster, textured paints, joint compounds, and caulk/putties also commonly contained asbestos until 1977 when the use of asbestos in these materials was banned. Other examples of potential ACMs manufactured in the past are automobile parts (clutch, brake, and transmission parts), heat-resistant fabrics (theater curtains, fire blankets, etc.), electric wiring insulation, and cement pipes, fire doors, chalkboards, and high-temperature gaskets. Most products manufactured today do not contain asbestos.

Asbestos fibers are very small and cannot be seen with the naked eye. They move through the environment in air and water but cannot move through soil.

Once airborne, asbestos fibers can easily be inhaled into the lungs. Because of the prevalence of asbestos in the natural environment, we are all exposed to low levels of it in the air that we breathe. We may also be exposed through our drinking water, which may contain asbestos from a naturally occurring source or from asbestos-containing cement pipes.

Health Risks

Asbestos-containing materials generally do not pose any health risks, provided they are intact and undisturbed. They become dangerous when they are disturbed, damaged, or deteriorated, resulting in asbestos fibers being released into the environment.

Asbestos exposure can result in several diseases, mainly affecting the lungs. The diseases, including the following, may not appear until years after asbestos exposure.

- **Asbestosis** is a serious, progressive, non cancerous lung disease. Inhalation of high levels of asbestos causes scarring of the lung tissue, and this scarring makes it difficult for oxygen to get into the bloodstream.
- **Lung cancer** causes the largest number of deaths due to asbestos exposure.
- **Mesothelioma** is a rare form of cancer found in the thin lining (membrane) of the lung, chest, abdomen, and heart. Almost all cases are linked to asbestos exposure.

Those most at risk for high levels of asbestos exposure are workers in the manufacturing or construc-

tion/demolition industry. During demolition and renovation, damaging or disturbing asbestos-containing materials and releasing asbestos fibers into the air is likely, if care is not taken to handle the materials properly.

Types of Asbestos

There are two types of ACMs, friable and non-friable.

- **Friable asbestos** means asbestos in a form which can be crumbled, pulverized, or reduced to dust by hand pressure when dry. Examples include sprayed or troweled materials such as boiler insulation, acoustical ceiling spray, paper pipe insulation, and drop-in ceiling tile.
- **Non-friable asbestos** is in a form which cannot be crumbled, pulverized, or reduced to dust by hand pressure. Examples include ACMs such as floor and ceiling tile, gaskets, roofing shingles, and siding. However, it is possible for non friable asbestos to become friable; for example, if the material is disturbed during demolition or renovation.

Asbestos in the Home

If you suspect you have asbestos in your home, don't panic. If the material is in good condition, leave it alone. Asbestos fibers will only be released from damaged materials. If the material is damaged or if you are going to remodel your home, involving removal and/or demolition of ACMs, you should contact a professional. The Missouri Department of Natural Resources (MDNR) publishes a list of certified asbestos contractors at www.dnr.mo.gov/env/apcp/asbestos.htm.

Removal and Management Issues

MDNR regulates demolition and renovation activities involving the following structures: institutional, commercial, public, industrial, and residential. Single residential structures containing four dwelling units or less are exempt from regulation. Projects involving two or more residential structures are not exempt. If a residential structure was historically used for other purposes than residential, a demolition or renovation project involving such structures is regulated by

MDNR. Structures regulated for asbestos have to be thoroughly inspected prior to any demolition/renovation projects taking place to identify all ACMs that may be disturbed. These inspections have to be performed by Missouri-certified asbestos inspectors. If non friable ACMs have the potential to become friable during the demolition or renovation process, they are treated as friable asbestos and their removal and disposal is subject to regulation. If regulated ACMs (friable asbestos or non friable asbestos that may become friable) are present, their removal must be handled by a registered asbestos abatement contractor prior to demolition or renovation activities.

Removal methods for regulated asbestos-containing material (RACM) vary according to the type of material (roofing tiles, flooring, etc.) being removed. Generally, when RACM is removed, it is kept wet to prevent asbestos fibers from becoming airborne. Requirements for disposal of RACM include "packaging the material in leak-tight containers or wrapping and properly marking and labeling the bags with an asbestos warning label and the information for the generator of the waste. The material must be taken to an approved sanitary landfill or transfer station that accepts asbestos-containing waste" (Asbestos Requirements for Demolition and Renovation Projects, MDNR, 2006).

MDNR requires two types of notification prior to any demolition and renovation projects potentially involving ACMs:

- Asbestos Abatement Project Notification – to be submitted to MDNR at least 10 working days prior to onset of any activities involving a regulated asbestos abatement project.
- Demolition Notification – to be submitted to MDNR at least 10 working days prior to demolition of any regulated structure.

Both types of notification are the responsibility of the owner and any contractor involved in the project. MDNR will issue an approval letter for regulated asbestos abatement and demolition projects. Work should not commence prior to receipt of this letter.

Copies of the required notification forms can be obtained at www.dnr.mo.gov/env/apcp/asbestos.htm.

Asbestos Contact Information in Missouri

For more information on asbestos requirements in Missouri contact the Missouri Department of Natural Resources' Air Pollution Control Program:

Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102
Phone: (573) 751-4817
Fax: (573) 751-2706
www.dnr.mo.gov/env/apcp

More Information on Asbestos

More information on asbestos can be found at the following Web sites:

<http://www.epa.gov/asbestos>
<http://www.dnr.mo.gov/pubs/pub2156.pdf>
<http://www.dnr.mo.gov/pubs/pub2157.pdf>
<http://www.dnr.mo.gov/pubs/pub2077.pdf>
<http://osha.gov/SLTC/asbestos/index.html>
<http://www.atsdr.cdc.gov/asbestos/index.html>
<http://www.epa.gov/asbestos/pubs/ashome.html>
http://www.epa.gov/asbestos/pubs/asbestos_in_schools.html
<http://www.epa.gov/asbestos/pubs/help.html#Info>

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This publication was edited, designed, and printed by the Center for Hazardous Substance Research (CHSR), Kansas State University, as part of the outreach programs for communities. Programs include Technical Assistance to Brownfields communities (TAB) and Technical Outreach Services to Communities (TOSC). Contact the CHSR at 104 Ward Hall, Manhattan, KS 66506; phone: 1-800-798-7796; fax: 785-532-5985; website: <http://www.engg.ksu.edu/CHSR/>

02/25/08 SW