



Human Health Hazards

Asbestos in Vermiculite Insulation

Some residential vermiculite insulation may contain asbestos.

What is asbestos?

Asbestos is a mineral fiber. Asbestos fibers are long, thin, and very strong, yet flexible enough to be woven together. Until the 1970's, asbestos was commonly added to a variety of building materials to strengthen them, provide heat insulation and make them fire resistant. Although most products today do not contain asbestos, some older materials in your home may, including pipe and sprayed-on insulation, floor tiles, and roofing and siding materials.

What is vermiculite?

Vermiculite is a naturally occurring mineral used in construction, insulation and gardening products. It looks like shiny, small pieces of popcorn (as pictured above), and is usually light-brown or gold in color. Vermiculite came from mines in Libby, Montana (closed in 1990) as well as other mines in the U.S. and other countries. Vermiculite is still mined and distributed for a number of uses, including insulation.

Why should I be concerned about vermiculite insulation?

Much of the Libby vermiculite was used as attic insulation. It was sold under the product name Zonolite. The Environmental Protection Agency (EPA) estimated in 1985 that 940,000 American homes contained Zonolite attic insulation.

Over 70% of vermiculite ore mined worldwide came from the Libby, Montana mine. The ore from this mine also included a natural deposit of amphibole/tremolite asbestos. Much of the vermiculite from Libby was contaminated with asbestos. Asbestos fibers are invisible to the eye and can only be professionally detected. Homeowners should consider the following:

- Vermiculite used for residential insulation may contain asbestos.
- If you are unsure whether the insulation in your home contains vermiculite, avoid disturbing it until either you or a professional can confirm that it is vermiculite.
- Vermiculite mined today for use in insulation is from a source considered to be free of asbestos contamination.

What might vermiculite insulation in my home look like?

Vermiculite is ideal for attic insulation because of its properties as a lightweight, fire-resistant, absorbent and odorless material. Vermiculite in insulation is a pebble-like, blown-in product and is usually light-brown or gold in color. Sizes of vermiculite products range from very fine particles to large (coarse) pieces nearly an inch long.

If you have vermiculite insulation in your attic, you should assume that the material may contain asbestos. Testing vermiculite insulation for asbestos is not necessary. Vermiculite sold under the name Zonolite originated in Libby, Montana, and should be assumed to contain asbestos.

If I find vermiculite insulation in my home, should it be removed?

Homeowners may wish to consider the following points:

- First, due to the physical characteristics of vermiculite and where it may be installed, the potential for contamination of the air throughout your home may be low.
- Second, if the insulation will not be disturbed and is not contaminating the home environment (e.g. it's sealed behind tight walls, floors, or isolated in an unfinished attic, which is vented outside) it may

be best to leave it alone. Furthermore, signs should be posted inside the attic saying “*Cancer Hazard: Insulation contains asbestos, do not disturb or create dust.*” Posting signs will ensure that electricians, plumbers and others doing work on your home will be notified of the potential for exposure and can take necessary steps to protect themselves.

- Last, if home renovations involve removal of walls or other areas where vermiculite insulation is located, extra precaution is necessary and removal by a trained and certified professional prior to renovation may be warranted.

What can I do to prevent asbestos exposure?

The following steps can help minimize asbestos exposure during *very minor* home renovations (such as installing a ceiling light, bathroom fan, or computer cable):

- Wear gloves, eye protection and a HEPA respirator (not just a dust mask).
- Tape off rooms with plastic sheeting to prevent contaminating other areas of the home; keep the vermiculite damp to prevent spreading dust.
- Keep windows open for good ventilation and wipe up all dust and debris using wet cleaning methods (wet-wiping and wet-mopping).
- A HEPA vacuum can be used for clean up of minor dust or debris. Do not use a home/shop vacuum.
- If renovations involve more extensive removal or exposure to asbestos containing insulation, it’s best to hire a professional, state-certified, asbestos removal contractor.

What are the health risks associated with asbestos exposure?

Asbestos fibers must be inhaled to cause disease. Disturbing vermiculite insulation or dust containing asbestos will result in exposure unless precautions are taken. When insulation containing asbestos is disturbed, lightweight asbestos fibers are released into the air and can be inhaled. In general, the more you are exposed to asbestos, the greater your risk of developing related diseases. Exposure may not have immediate health consequences, however. In many cases, individuals do not develop related diseases for years or even decades after exposure.

Those at highest risk for exposure and disease are long-term vermiculite processing plant employees or workers regularly installing or handling products containing asbestos without proper protection. Those at lower risk include people who occasionally disturb attic insulation during activity in the attic or minor “handyman” jobs. The lowest risk would be for people who live in a home where the vermiculite insulation is isolated and they have had no direct contact with the materials.

Some asbestos-exposed workers, family members, and those living in the neighborhoods of asbestos plants have developed *mesothelioma*. Mesothelioma is a rare type of cancer that begins in the tissue surrounding the lungs, stomach, and heart. Mesothelioma has also been found in individuals who were exposed to asbestos only once decades earlier. The only known cause of mesothelioma is asbestos. Exposure to a lot of asbestos over a long time (like in an occupational setting) can cause permanent lung damage known as *asbestosis*. Asbestosis causes shortness of breath and increases the risk of serious lung infections. Smoking also increases the risk of developing illness from asbestos exposure.

For more information

For health related questions, contact your local public health agency or the Wisconsin Division of Public Health at (608) 266-1120. For a list of state-certified contractors, consultants and labs, call the Division’s Asbestos and Lead Section at (608) 261-6876.

More information can be found on the internet at:

EPA Website on Vermiculite: <http://www.epa.gov/asbestos/pubs/verm.html>

EPA Factsheet on Vermiculite Insulation: <http://www.epa.gov/asbestos/pubs/oppt.pdf>

