



The dangers of exposure to asbestos in vermiculite attic insulation

A demolition worker was exposed to asbestos when he punched a hole in the ceiling of a house and was “showered” with vermiculite insulation from the attic. The worker was not wearing a respirator. The vermiculite insulation contained 1 to 3 percent asbestos that was not identified when the home was originally tested for asbestos.

What is vermiculite?

Vermiculite is a mica-like mineral that was used as insulation in many houses and commercial buildings (sometimes marketed as “zonolite”) between 1920 and the early 1990s. When heated, it expands like “popcorn” into a loose, lightweight material that is absorbent, fireproof, and a good insulator. Much of this vermiculite contained some asbestos when it was originally mined.

If your house is more than 15 years old and insulated with vermiculite, the insulation may contain asbestos.

How do I find out if the vermiculite insulation in my house contains asbestos?

You can have a sample of the insulation collected and sent to a laboratory for testing. **You should not do this yourself**—have the sample collected by a qualified surveyor or consultant, experienced in conducting asbestos hazard assessments. Ask to see his or her qualifications **before** any samples are collected.

The amount of asbestos in vermiculite is small (typically 1 to 3 percent) and can be difficult to detect. Vermiculite samples must be analyzed using the EPA laboratory method EPA/600/R-04-004, which is specific for vermiculite. A qualified consultant will know which laboratories can accurately test vermiculite samples.

Should I be worried about my health if I have vermiculite insulation in my house?

Asbestos in vermiculite insulation is only a health hazard if the vermiculite is disturbed and the asbestos becomes airborne. There is no real risk if the vermiculite is sealed behind walls or isolated in an attic. However, inhalation of asbestos fibres can cause mesothelioma (a fatal cancer of the lining of the lungs or other organs), lung cancer, or asbestosis (a permanent scarring of the lungs that restricts breathing).



Vermiculite insulation



Asbestos fibres from vermiculite insulation



Typical vermiculite insulation in an attic

What happens if asbestos-containing vermiculite is disturbed?

If vermiculite containing even a trace of asbestos is disturbed (for example, during renovation or demolition), the number of asbestos fibres in the air of a residence can rise to more than 100 times the limit set by WorkSafeBC.

Many unprotected construction workers in British Columbia have already been exposed to high levels of airborne asbestos fibres during the improper renovation or demolition of houses that contain vermiculite insulation.

How can I prevent harmful exposure to asbestos?

Vermiculite insulation containing asbestos must be removed by experienced asbestos abatement contractors before any renovations or demolition takes place. You are responsible if unprotected workers are exposed to asbestos-containing building materials (including vermiculite) while working in your home or on your worksite.

How do I know if consultants or contractors are properly qualified?

Consultants should have experience in the practice of occupational hygiene as it relates to asbestos and be qualified as follows:

- Certified Industrial Hygienist (CIH) or Registered Occupational Hygienist (ROH)
- Certified Safety Professional (CSP) or Canadian Registered Safety Professional (CRSP)
- Professional Engineer (PEng)

Contractors should have extensive experience within the asbestos abatement and demolition industries. It is the responsibility of the homeowner, building owner, or employer to check the qualifications of the asbestos consultant and abatement or demolition contractors before any work involving asbestos begins.

Resources

- Occupational Health and Safety Regulation for Asbestos
<http://www2.worksafebc.com/publications/OHSRegulation/Part6.asp>
- Guideline 6.8 Procedures for abatement of asbestos-containing material during house and building demolition/renovation
<http://www2.worksafebc.com/publications/OHSRegulation/GuidelinePart6.asp#SectionNumber:G6.8>
- *Safe Work Practices for Handling Asbestos*—publication
http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/asbestos.pdf
- *Asbestos in Renovation and Demolition*—slideshow
<http://www2.worksafebc.com/publications/multimedia/slideshows.asp?reportID=34484>



Vermiculite insulation spilled from an attic during a renovation



Protected asbestos worker removing vermiculite insulation from an attic



WORKING TO MAKE A DIFFERENCE
[worksafebc.com](http://www.worksafebc.com)