Vermiculite Insulation – Asbestos Contamination

Potential Hazard
Concerns have been raised about the potential health risk posed by vermiculite sold as Zonolite Attic Insulation and possibly other brands sold in Canada. The vermiculite ore, mined at the Libby Mine in Montana (prior to its closure in 1990), may contain small amounts of asbestos contamination. Under the Workplace Safety and Health Regulation, the definition of asbestos-containing material includes vermiculite and any asbestos found or observed in a sample.

Vermiculite is a mica-like mineral mined around the world. It is light, has good insulation properties and is resistant to fire. Vermiculite insulation in loose form is a light brown/grey/gold, pebble-like material from 2-10 millimetres in diameter (EAP photos).

Health Risks of Vermiculite That Contains Asbestos
If loose-fill vermiculite that contains asbestos is disturbed, asbestos fibres may be released into the air. The inhalation of asbestos fibres has been known to cause health problems in some individuals who are exposed. Asbestos can cause mesothelioma (cancer of the lining of the abdominal or chest cavity), lung cancer and asbestosis (scarring of the lungs, making breathing difficult). An asbestos-related illness will not typically appear until 15 to 20 years after the initial exposure.

Factors that increase the risk of disease development include the number of asbestos fibres in the air and the frequency and duration of a person’s exposure. Smoking greatly increases the risk of developing an asbestos-related illness.

How to Control the Hazard
The best way to reduce the risk of asbestos exposure is to avoid disturbing the vermiculite-based insulation. If this insulation is sealed behind floorboards, wallboards, contained within the cinder block wall and isolated in an attic, the risk of exposure is reduced.

It is recommended that all loose-filled insulation visually identified as vermiculite and installed prior to 1990 be treated with precautionary measures to prevent inhalation of airborne fibres and to protect surrounding areas from contamination by asbestos fibres.

Building owners who hire a contractor to remove vermiculite insulation must ensure the contractor is experienced in asbestos abatement procedures. Building owners should not attempt to remove this type of insulation themselves without knowledge of asbestos removal procedures, specific equipment and training.

(see over)
Reducing the Risk
Here are some tips for reducing the risk of asbestos exposure:

- Avoid entering an attic space.
- Do not store any items in an attic.
- If an attic must be entered, ensure appropriate personal protective equipment is worn (e.g., N, P or R-100 respirator, protective clothing and protective gloves).
- Ensure there is no cross contamination between the attic space and other parts of the building. Seal around electrical outlets, light fixtures, attic hatch, windows, door frames, etc.
- Ensure vermiculite is not disturbed when undertaking any renovations and/or installation or repair to electrical wiring in the attic. It may be necessary to remove all vermiculite prior to any renovations being undertaken.

Removal of Vermiculite Insulation
A competent professional should be engaged for collecting samples and for removal activities. Any removal of vermiculite insulation must presume the material meets the criteria for asbestos-containing material and include appropriate procedures for asbestos abatement. Guidance can be found on the SAFE Work Manitoba website at: www.safemanitoba.com.

Collecting a Sample for Asbestos Analysis
If a building owner chooses to test the vermiculite for asbestos content, an N, P or R100 respirator should be worn when the sample is taken. Avoid sampling at the top of the loose-fill insulation. Asbestos is most likely found in the finer vermiculite particles or dust, which tends to settle over time. Samples should also be taken from the lower sections in the attic and from the bottom layer of the insulation. Be aware that a negative test may prove to be false, especially if the sample was not taken properly.

Ensure that a vermiculite sample is sent to a laboratory that is qualified in asbestos analysis.

Related Links


Reference to legal requirements under workplace safety and health legislation:

- Chemical and Biological Substances: Workplace Safety and Health Regulation 217/2006, Part 36
- Asbestos: Workplace Safety and Health Regulation 217/2006, Part 37

Additional workplace safety and health information available at: safemanitoba.com

Revised: August 2016
Last Reviewed/Revised: September 2010