

## Background

Vermiculite is a naturally occurring mineral compound composed of shiny flakes, resembling mica. When heated to a high temperature, flakes of vermiculite expand as much as 8-30 times their original size. Historically, much of the world's supply of vermiculite came from a mine near Libby, Montana. The Libby mine also had a natural deposit of asbestos, and the vermiculite from Libby is contaminated with asbestos. The following information describes possible health hazards posed by products made from asbestos-contaminated vermiculite.

## How does asbestos cause health problems?

Asbestos can cause health problems when it is breathed into the lungs. If products containing asbestos are disturbed, thin, lightweight asbestos fibers are released into the air. Persons breathing the air may breathe in asbestos fibers. Continued exposure increases the amount of fibers that remain in the lung. Fibers embedded in lung tissue over time may result in lung diseases such as asbestosis, lung cancer, or mesothelioma.

## What products were made with vermiculite from the mine in Libby?

Much of the Libby vermiculite was used to produce attic insulation products, often sold under the brand name Zonolite. Vermiculite was commonly sold in gardening and hardware stores. It was used as a soil amendment (conditioner to improve soil quality), fertilizer carrier, and it was an ingredient in many potting soil mixes. Vermiculite was also used in fireproofing materials, gypsum wallboard, and as a lightweight aggregate in construction materials.

## Insulation

### How can I tell if my insulation is made from vermiculite?

Look at the insulation in your attic without disturbing it. Expanded vermiculite is shaped like a small nugget and varies in color from silver-gold to gray-brown. The following photograph shows some typical pieces of vermiculite insulation.



### How can I tell if my vermiculite insulation contains asbestos?

The majority of all vermiculite insulation produced before 1990 used contaminated vermiculite from Libby. Asbestos fibers in vermiculite are too small to be seen by the naked eye. Only a trained technician using a microscope can see asbestos fibers. However, due to limitations in the methods even trained technicians cannot always determine if all vermiculite contains asbestos. Therefore, to be safe, you should assume that vermiculite insulation may be contaminated with asbestos.

## **Is my family at risk of exposure if we have renovated, removed, or otherwise disturbed asbestos-contaminated insulation?**

If you removed or disturbed the insulation, it is possible that you inhaled some asbestos fibers. Also the disturbance may have resulted in the fibers being deposited into other areas of the building. Disease symptoms may take several years to develop following exposure. If you are concerned about possible exposure, consult a physician who specializes in lung diseases (pulmonologist).

## **I have insulation that contains asbestos in my attic. What should I do to reduce my exposure?**

Make every effort not to disturb the insulation. For asbestos to present a problem for the homeowner, it must be disturbed so that tiny fibers are released into the air. Do not store items in the attic if retrieving the items will disturb the insulation.

If you must perform activities that may disturb the insulation, leave the attic immediately after the disturbance. While any disturbance has the potential to release asbestos fibers into the air, limiting the number of trips and shortening the length of those trips will reduce exposure. A dust mask will not protect you from inhaling asbestos fibers.

## **If I want to remove the insulation in the attic what should I do?**

A trained and certified asbestos contractor should replace insulation containing asbestos with different insulation.

## **Will the insulation contaminate the rest of my house?**

It is possible that insulation can fall through cracks in the ceiling, walls, or around light fixtures to contaminate the house. You can reduce the chances of this happening by sealing cracks or holes that insulation could fall through. In addition, some air ventilation systems may disturb the insulation. If you think that fibers are getting into your living space, then you may want to hire an accredited asbestos inspector to perform air monitoring for asbestos fibers.

## **Do I have to inform potential buyers of the asbestos if I sell my house?**

Some states require that owners disclose any knowledge of asbestos in the house. Check with a realtor about disclosure requirements in your area.

## **What should I do if I want to remodel or remove the insulation?**

We strongly recommend that you hire a trained and certified asbestos contractor to remove the insulation using a “negative pressure enclosure” technique. This technique prevents asbestos fibers from escaping the attic into the rest of the house. After the insulation is removed and the project is completed, the contractor should monitor the air to see if the indoor air meets acceptable standards. Do not attempt to remove the insulation yourself. You could spread asbestos fibers throughout the house, putting you and your family at risk of inhaling asbestos fibers.

## **My insulation is more than 15 years old. Is it possible that the asbestos in it could still pose a health hazard?**

If asbestos was in the insulation when it was installed, it is still there. If the insulation is disturbed, asbestos fibers may be released into the air. Inhalation of these fibers would be a concern. If this is the case, you may want to consider either containing or removing the insulation.

## **Will I become ill if I have personally removed or handled insulation that contained asbestos?**

Exposure to asbestos increases your risk of developing lung disease. That risk is made worse by smoking. In general, the greater the exposure to asbestos, the greater the chance of developing harmful health effects. If you are concerned that you may have been exposed to asbestos, you may want to consult a physician who specializes in lung disease.

## **Vermiculite Garden Products**

### **Is there asbestos in the vermiculite sold for gardening uses?**

Not all vermiculite garden products contain asbestos, but an EPA study showed that some contain low levels of asbestos. Asbestos was found primarily in the unmixed vermiculite product sold separately as a soil amendment. However, some was found in premixed potting soils. Because the Libby mine closed in 1990, newer products are not expected to contain significant amounts of asbestos. It is possible, however, that some older products could still be on store shelves.

## **What precautions should I take?**

Although the health risk to home gardeners is low, the following precautions are suggested:

- Use premixed potting soil because it contains more moisture and less vermiculite and therefore reduces the amount of dust that might contain asbestos.
- Keep vermiculite moist while using it to minimize dust and the possibility of releasing asbestos fibers into the air.
- Handle the material outdoors or in a well-ventilated area.
- Avoid bringing dust into the house on clothing or shoes.
- Try alternatives to vermiculite, such as peat moss, sawdust, perlite, or bark.

**For additional information, go to the ATSDR website at [www.atsdr.cdc.gov](http://www.atsdr.cdc.gov), or call our toll-free information line at 1-888-42ATSDR.**

