



United States  
Environmental Protection  
Agency



Agency for Toxic  
Substances and  
Disease Registry

# Insulation

## Current Best Practices for Vermiculite Attic



## What is vermiculite insulation?

It is an insulation product that contains a mineral called vermiculite that in the past came from a mine in Libby, Montana. Today, vermiculite is mined at three U.S. facilities and in other countries. Vermiculite is a naturally occurring mineral that has the unusual property of expanding into worm-like accordion shaped pieces when heated. The expanded vermiculite is a light-weight, fire-resistant, absorbent, and odorless material. These properties allow vermiculite to be used to make numerous products, including attic insulation.

## Do I have vermiculite insulation?

Vermiculite can be purchased in various forms for various uses. Sizes of vermiculite products range from very fine particles to large (coarse) pieces nearly an inch long. Vermiculite attic insulation is a pebble-like, pour-in product and is usually light-brown or gold in color. The pictures in the center of this pamphlet and on the cover show several samples of vermiculite attic insulation.

## Is vermiculite insulation a problem?

Prior to 1990, 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. Attic insulation produced using vermiculite ore, particularly ore that originated from the Libby mine, may contain asbestos fibers.

## How does asbestos cause health problems?

Asbestos can cause health problems when inhaled 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. Smoking increases your risk of developing illness from asbestos exposure. |



## What should I do if I have vermiculite attic insulation?

**DO NOT DISTURB IT.** Any disturbance has the potential to release asbestos fibers into the air. Limiting the number of trips you make to your attic and shortening the length of those trips can help limit your potential exposure.

EPA and ATSDR strongly recommend that:

- Vermiculite insulation be left **undisturbed** in your attic. Until bulk analytical methods are improved to more accurately determine if vermiculite contains asbestos, and what that means in terms of risk, it is best to assume that the material may contain asbestos.
- You should not store boxes or other items in your attic if retrieving the material will disturb the insulation.
- Children should never be allowed to play in an attic with open areas of vermiculite insulation.
- If you plan to remodel or conduct renovations that would disturb the vermiculite, hire professionals trained to handle asbestos to safely remove the material.

- You should **never attempt** to remove the insulation yourself. Hire professionals to safely remove the material.

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## What if I occasionally have to go into my attic?

EPA and ATSDR strongly recommend that homeowners make every effort **not to disturb** vermiculite insulation in their attics. If you occasionally have to go into your attic, current best practices state you should:

1. Make every effort to stay on the floored part of your attic and do not disturb the insulation.
2. If you **must** perform activities that may disturb the attic insulation such as moving boxes (or other materials), do so as gently as possible to minimize the disturbance.
3. Leave the attic immediately after the disturbance.
4. If you need work done in your attic such as the installation of ceiling fans in rooms below or cable or utility lines, hire professionals who can safely do the work.
5. It is possible that vermiculite attic insulation can sift through cracks in the ceiling, around light fixtures, or around ceiling fans. You can prevent this by sealing the cracks and holes that insulation could pass through.
6. Common dust masks are **not effective** against asbestos fibers. For information on the requirements for wearing a respirator mask, visit the following OSHA website:  
<http://www.osha-slc.gov/SLTC/respiratoryprotection/index.html>

## What are the next steps?

The guidance provided in this brochure reflects the current testing technology and knowledge of precautions one may take regarding vermiculite attic insulation. EPA is initiating further studies on vermiculite attic insulation and pursuing other

asbestos related issues. Additional information will be provided to the public via the EPA and ATSDR websites and through additional outreach materials as it becomes available.

## Is my health at risk from previous exposures to the asbestos in the 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 home. 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. 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).

## Where can I get information on testing or removal of the insulation?

EPA and ATSDR strongly recommend using a trained and certified professional to conduct removal work. Removing the insulation yourself could potentially spread asbestos fibers throughout your home, putting you and your family at risk of possibly inhaling these fibers.

For certified asbestos removal professionals in your area, refer to your local Yellow Pages. Your State Environmental Agency can confirm that the company's credentials are current. You can find your State Agency at: <http://www.epa.gov/epahome/whereyoulive.htm>

Currently, there are special issues involving vermiculite sampling that can complicate testing for the presence of asbestos fibers. EPA and ATSDR are not recommending at this time that homeowners have vermiculite materials tested for asbestos or have home air sampling conducted. EPA and ATSDR will seek to provide further

information on the benefits of testing as new sampling techniques are developed that produce more definitive and accurate test results.

## What if I have had work-related exposure to vermiculite?

Workers who have had significant past exposure, or have significant ongoing exposure to asbestos, to vermiculite from Libby, or to other asbestos-contaminated materials should consider getting a medical exam from a physician who knows about diseases caused by asbestos. For more information and to obtain a fact sheet concerning occupational exposure to vermiculite, contact the **National Institute for Occupational Safety and Health (NIOSH) at: 1-800-35-NIOSH, or <http://www.cdc.gov/niosh/hompage.htm>**

## Where can I get more information?

Additional information on vermiculite or asbestos is available from the following sources:

### General Information

EPA's Toxic Substances Control Act (TSCA) Assistance Information Service: **Asbestos Line: 1-800-471-7127**

EPA Asbestos Ombudsman  
1-800-368-5888

EPA's Asbestos Home Page:  
<http://www.epa.gov/asbestos/>

### Health Information

Agency for Toxic Substances and Disease Registry (ATSDR):  
<http://www.atsdr.cdc.gov>

### Worker Safety

Occupational Safety and Health Administration (OSHA) <http://www.osha.gov>  
National Institute for Occupational Safety and Health (NIOSH) <http://www.cdc.gov/niosh/hompage.htm>

### Consumer Products

Consumer Product Safety Commission (CPSC)  
<http://www.cpsc.gov>

### Mineralogy

United States Geological Survey (USGS)  
<http://minerals.usgs.gov/minerals/>