

Asbestos Hazards and Controls

Environmental and Occupational Health

Public Health Ontario

Photo provided with the kind permission of
Infrastructure Health & Safety Association
5110 Creekbank Road, Mississauga,
Ontario, Canada
(905) 625-0100 • 1-800-263-5024 • Fax:
(905) 625-8998
info.construction@ihsa.ca • www.ihsa.ca



Outline

- What is asbestos?
- Sources
- What are the health effects?
- Q and A format
 - Management
 - Sampling

What is it?

- It's a mineral.
- Mined
- Different types of asbestos
- Chrysotile, amosite and crocidolite
- Chrysotile being, by far, the most common type found.

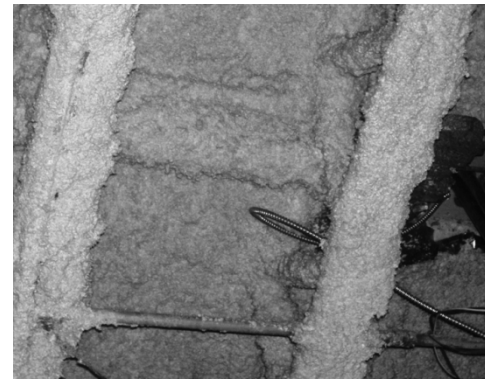


Asbestos Products Can Be Divided Up Into Two Groups

- **Non-friable:** fibres which are difficult to disturb because they are held together by a binder such as cement or asphalt – Leave it alone
- **Friable:** material that can be crumbled, pulverized or powdered by hand pressure - Remove it



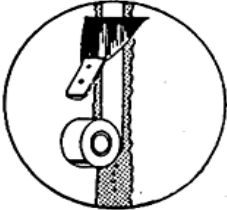
Example of non-friable asbestos: Vinyl floor tile



Example of friable asbestos: Spray on fireproofing material

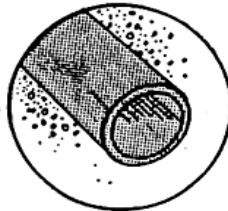
Examples of where asbestos may be found in residential homes

Sheet Flooring or Vinyl Asbestos Flooring



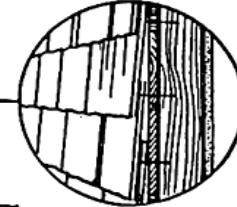
Drywall Joint Compound (or sometimes Plaster Walls / Ceilings)

Asbestos Cement Pipe

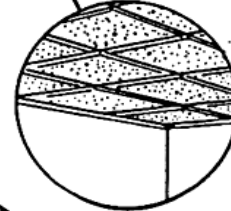


Vermiculite Attic Insulation

Asbestos Building Paper, Felt or Asbestos Cement Shingles



Acoustic Tiles or Acoustic / Textured Ceilings



Health Effects

- **Latency Period**
 - Can range from 15 to 40 years.
 - Asbestos-related diseases today are the result of exposures during the 1980s and 1990s

Health Effects

Inhalation is the main route of entry into the body.

- lung cancer
 - Classified by many public health institutions as a human carcinogen
 - WHO, IARC, EPA

Cigarette smoking multiplies the risk for lung cancer!

Health Effects (cont.)

- Mesothelioma
 - Rare
 - Only due to asbestos
 - Lining of the lungs (plural) and abdominal (peritoneal) cavities
- Asbestosis
 - Scar-like tissue
 - This scar-like lung tissue does not expand and contract normally
 - Breathing becomes difficult
 - Heart enlarges

What About Ingestion?

- Drinking water may become contaminated with asbestos fibres
 - Disintegration of asbestos cement pipes
- Overall, there has been little convincing evidence of the carcinogenicity of ingested asbestos.
- The WHO concluded that there is no consistent evidence that ingested asbestos is hazardous to health

Questions EHOs/PHIs may receive

My Plumber Looked At My Boiler And Hot Water Pipes And Said It Is Covered With Asbestos Insulation. Is (S)he Right?

- Not necessarily.
- May be able to spot materials they **suspect** contain asbestos
- The only **definitive** way to determine if asbestos is present in a material is to take a bulk sample (hand out) and have it tested by a laboratory certified to perform asbestos analysis

What should I do if I have vermiculite insulation in my attic?

- Vermiculite itself is not asbestos
 - no evidence to show it poses a health hazard
- Vermiculite, however, can be contaminated with asbestos fibres.
- The only way to confirm the presence of asbestos is to have a sample of the material tested
- Vermiculite attic insulation is similar in form and texture to "popcorn" and is usually light brown or gold in color.

Vermiculite



MANAGEMENT

Can I Remove Asbestos Material Myself Or Do I Have To Hire An Asbestos Contractor?

- There is nothing preventing a home owner from removing asbestos themselves.
 - Have to know what you are doing
 - Improper removal, results in the release of large amounts of asbestos fibres into the home
 - Use a certified asbestos contractor.

What are some of the precautions I should take if I have disturbed the asbestos containing material in my home?

- If asbestos containing material has been disturbed:
 - Avoid contact by isolating the area
 - Turn off the ventilation system
- **Do not**
 - dry sweep
 - use an ordinary vacuum or
 - compressed air to clean up asbestos debris.

This will just create more fibers in the air

What are some of the precautions I should take if I have disturbed the asbestos containing material in my home? (cont.)

- Do not track material that could contain asbestos through the house.
- You can clean up the area by damp wiping or HEPA vacuuming the area if a **small amount** of asbestos has been disturbed.
- Hire a professional asbestos removal contractor to remove, clean up or repaired the asbestos containing material if a large amount of asbestos has been disturbed.

SAMPLING METHODS AND INTERPRETATION

Should I test the air to make sure that it is safe before I re-enter the area?

- Sampling is performed using an air pump which draws air through a filter. After sampling is completed the filter is sent to an accredited laboratory for analysis.
- The clearance test passes if the results are less than 0.01 fibres per cubic centimeter



Additional Resources:

Environmental public health indoor air quality manual
A guide for environmental public health professionals
Environmental Public Health
August 31, 2012
Alberta Government

Questions?

Dru Sahai
Public Health Ontario
Dru.sahai@oahpp.ca
647-260-7784