Asbestos Hazards and Controls

Environmental and Occupational Health

Public Health Ontario

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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
- Vermiculite Attic Insulation
- Drywall Joint Compound (or sometimes Plaster Walls / Ceilings)
- Asbestos Building Paper, Felt or Asbestos Cement Shingles
- Asbestos Cement Pipe
- 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
Health Effects (cont.)

• **Mesothelioma**
  - Rare
  - Only due to asbestos
  - Lining of the lungs (plural) and abdominal (pritoneal) 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
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Alberta Government

Questions?

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