



Asbestos

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What is asbestos?

Asbestos is a mineral based fibre that has been widely used in building materials due to its resistance to heat and corrosive chemicals. Although there are six different varieties of asbestos minerals, there are three main types: chrysotile, amosite and crocidolite. Typically, asbestos appears as a whitish, fibrous material. The fibres can range in texture from coarse to silky. Although they may be too small to see with the naked eye, airborne asbestos fibres can cause cancer and lung disease.

Where is asbestos used?

Because of its resistance to heat and corrosion, asbestos has been woven, moulded and sprayed. It has been used on at least 3000 products ranging from brake linings to ironing board covers and children's toys. Asbestos was widely used from World War II to the early seventies as fire-proofing on ceilings and beams, as insulation on boilers and pipes, sprayed inside ventilation systems and cavities, on automobile and truck clutches and brake linings and it was added to sprayed-on wall coatings. Asbestos has also been used in building materials, such as vinyl floor tiles and ceiling tiles. It has also been added to strengthen the cement used in pipes, asphalt and other formed objects.

Who is exposed?

The use of asbestos is so widespread that anyone who works in a building or area where asbestos was used and is now deteriorating or creating dust is in danger of contracting asbestos-related disease. This includes CUPE members working in schools, hospitals and libraries, many of which were built when the use of asbestos was extensive, that is during the period between 1945 and the early 1970s.

The aging process has caused many of the asbestos applications to flake and deteriorate, allowing the hazardous fibres to become airborne. In addition to aging, products containing asbestos which have been damaged by water, improper maintenance or removal can release fibres which can cause cancer and lung disease when they are breathed in or swallowed.

Although many CUPE members may be exposed in schools, hospitals and libraries, others may be exposed by working directly with asbestos:

- Maintenance and custodial workers may often unknowingly clean areas of the workplace where asbestos is present. They may be asked to remove or repair asbestos-containing materials such as pipe or boiler insulation, ceiling and floor tiles and walls.
- Sanitation workers may be exposed if asbestos, which is removed from buildings, is disposed of improperly.
- Mechanics who repair and replace brakes, clutches and transmissions may be exposed if asbestos dust is blown around.
- Carpenters may be exposed when they cut, sand, drill or remove asbestos-containing building materials that release fibres into the air.
- Plumbers, pipe-layers and electrical workers.
- Families and friends of workers may be exposed if asbestos dust and fibres collected on workers' clothing is carried home.

Occupational hazards of exposure

When air contaminated with asbestos dust is breathed in, the small sharp, barbed-like asbestos fibres find their way deep into the lung tissues and other internal organs where they remain for life. Over time, they can cause fatal diseases. Breathing even small, invisible quantities of asbestos is known to cause cancer 20 to 30 years after exposure.

What are the effects of exposure?

Breathing in asbestos fibres can cause asbestosis and cancer. Asbestosis is an irreversible disease of the lung, which leads to scarring of the lung tissue. As the tissue scarring becomes more extensive, the lung loses its flexibility and breathing becomes more difficult. The loss of lung function often progresses to disability and to death.

Asbestos is also known to cause mesothelioma, which is a type of cancer almost exclusively associated with asbestos exposure. Mesothelioma develops in the thin membranes lining the lungs and abdomen.

This type of cancer is inoperable and always fatal.

Exposure to asbestos can cause other cancers as well. Asbestos workers have increased rates of lung cancer and cancers of the esophagus, stomach, large intestine and rectum.

Smoking also increases the risk of developing cancer. Exposure to asbestos and cigarette smoking is known to greatly increase the risk of developing lung cancer.

What is the cure?

There is no cure for asbestos-related diseases. If detected early, complications can be treated. Removal from exposure may prevent the condition from worsening. In any case, workers should ensure that their family doctor knows they have worked or been exposed to asbestos. Present legislation requires employers to ensure that designated exposed workers undergo ongoing medical assessment.

How is asbestos detected?

Wherever there is a fibrous material used in buildings, workers should automatically suspect that asbestos may be present. Demand that a sample be sent to a laboratory for testing and identification.

If asbestos is found to be present, a trained expert must be brought in to determine what should be done about it. Accumulations of dust should be checked for asbestos. An air-sampling program should be conducted to determine if airborne fibres are present. An important point to keep in mind is that if asbestos is able to be crushed with the bare hand (in this case the term often used is "friable") any dust can become airborne and therefore a hazard exists, no matter what the results of the air sampling shows.

Does legal mean safe? What are the safe levels?

Even though there is no evidence of a "safe" level of exposure to asbestos, most jurisdictions have established occupational exposure limits for asbestos.

In British Columbia, the Workers' Compensation Board's Occupational Health Regulations set the exposure limit at 0.1 fibres per cubic centimetre (f/cm³) for all forms of asbestos. The regulations also designate asbestos as a carcinogen.

In Alberta, the government has established an occupational exposure limit or OEL at 0.1 (f/cm³) for all forms of asbestos.

In Ontario, the Occupational Health and Safety Regulations set the OEL at 0.1 (f/cm³) for all forms of asbestos.

Although these may sound like small numbers, an exposure of 0.1 fibre per cubic centimetre (or 100,000 fibres in each cubic metre of air) for an eight hour day means that a worker can easily breathe in up to a million fibres per day.

Management may make the claim that because a workplace is in compliance with government regulations, workers have nothing to worry about. This is false. Government standards for asbestos exposure are inadequate and will not protect workers from getting cancer. The standards were designed to protect asbestos factory workers against getting asbestosis, not to protect CUPE members from getting cancer.

Remember, legal does not mean safe.

What can be done?

Once asbestos is identified, steps must be taken to prevent exposure. The only permanent solution to eliminate the hazard is the removal of the asbestos. Sometimes the asbestos is covered up with other building materials. In other cases it is "encapsulated" or sealed with a coating. Encapsulation is not generally considered an adequate solution. The best method will depend on the condition of the asbestos, its location and what will likely disturb it in the future.

Whatever action is taken, the work must be done by properly trained workers following strict precautions to ensure that no one is exposed to asbestos. The work area must be enclosed and kept under negative pressure. Since there is no safe level of exposure, any asbestos that gets into the air will endanger the health of anyone in the area.

In repair shops where asbestos is present, local exhaust ventilation using special HEPA (High Efficiency Particular Air) dust collection vacuum cleaners that remove the asbestos fibres at their source, e.g., when brake linings are being changed, should be used. Air hoses should not be used, since they can blow dust around the workplace. Management should provide workers with special work clothes, showers and two lockers: one for clean clothes and one for dirty clothes. Management should also arrange to have the work clothes laundered under controlled conditions.

Who can help?

If you suspect that asbestos is present in your workplace, assistance can be obtained by contacting the CUPE National Health and Safety Representative in your region or CUPE National Health and Safety Branch.

You should also know that asbestosis, mesothelioma and asbestos induced lung, laryngeal and gastrointestinal cancer may be designated as notifiable diseases under your Occupational Health and Safety Act or the Workers' Compensation Board.

How are asbestos diseases prevented?

Prevention of asbestosis and any associated cancers can only be achieved by preventing any exposure to asbestos.

Remember there are no safe levels of exposure to asbestos.

For more information contact:
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