

# ASBESTOS AWARENESS

## FREQUENTLY ASKED QUESTIONS

What is the purpose of this fact sheet? The purpose of this fact sheet is to provide information about asbestos and health. This fact sheet will explain the following:

What is asbestos?

Are there different types of asbestos?

What products are known to contain asbestos fibres?

What does friable and non-friable mean?

What are the health effects from asbestos exposure?

How are people exposed to asbestos?

What do I do if I suspect that I may have an asbestos-related disease?

How is asbestos managed at MUN?

What are the different kinds of asbestos work that takes place on campus?

What is an asbestos building survey/inventory?

What is involved when training workers?

What are some general precautions for building occupants?

Questions or Concerns

On-line Asbestos Awareness Course!

References

### What is asbestos?

Asbestos is a generic name given to a group of naturally occurring minerals that are made up of long thin fibres. These fibrous minerals were used in a wide range of products in construction and industry because of their unique properties, which includes, heat resistance, chemical resistance, and heat and electrical insulation. Serious health effects can result when harmful levels of asbestos fibres are inhaled. Because of this, asbestos been banned in many countries around the world. In Canada, the use of asbestos has declined dramatically since the mid-1970s and early 1980s. Products containing asbestos are regulated by the Asbestos Products Regulation (SOR 2007/260).

### Are there different types of asbestos?

Asbestos minerals are divided into two main groups (serpentine and amphiboles) based on their fibre structure:

- 1) **Chrysotile** asbestos is made up of fine flexible white fibres, and is the only asbestos mineral in the serpentine group. It is the most common type used, accounting for approximately 95 percent of all asbestos found in buildings.
- 2) There are five types of asbestos in the amphibole group. **Amosite** (brown asbestos) is made up of straight brown/grey fibres, and is the second most common type of asbestos found in building materials. **Crocidolite** (blue asbestos) consists of straight blue fibres. **Anthophyllite**, **tremolite** and **actinolite** are occasionally found as contaminants in asbestos-containing materials.

**What products are known to contain asbestos fibres?**

Asbestos was mined and used commercially in North America since the late 1800's. It was added to a wide variety of products to strengthen them, to provide heat or electrical insulation, to offer fire or chemical resistance, and/or to absorb sound. Asbestos fibres were commonly used in building materials up until 1973, and are frequently found in fireproofing material, wall and ceiling finishes, and thermal insulation materials. Although legislation put an end to the use of friable asbestos products in the early 1970's, some installation continued until around early-mid 1980's. Many University buildings constructed or renovated during these times still contain some form of asbestos materials, including:

- Sprayed fireproofing on structural steelwork in buildings;
- Thermal insulation used as lagging for heaters, boilers, pipes and hot water tanks to retain heat or cold;
- Acoustic or decorative finishes on ceilings and walls;
- Asbestos-cement products, including roofing materials, acoustic panelling, electric insulation, laboratory bench tops, or water and sewage piping systems;
- Asbestos paper, felt or textile products, including door gaskets on furnaces and stoves, pipeline wrap, table pads, heat protective mats, electrical insulation, fire blankets, or protective clothing;
- Asbestos coatings, sealants and adhesives;
- Acoustic ceiling tiles;
- Vinyl floor tiles or vinyl sheet flooring.

<b>Building Project</b>	<b>Friability</b>	<b>Dates of Use</b>
Mechanical Insulation	high	1926 - mid 1970's
Spray Insulation	high	1935 - 1974
Texture Coat	moderate - high	1950 - mid 1970's
Floor Tile	low	1950 - late 1970's
Drywall Joint Compound	low - moderate	1945 - late 1970's
Cement Pipe	low	1935 - present
Brake Linings	low	1940 - present
Duct Wrap	moderate - high	1920 - mid 1970's
Textiles / Gaskets	low - moderate	1920 - mid 1970's
Roofing Material	low	1920 - present
Ceiling Tiles	low - moderate	1950 - 1970's
Cement Board	low	1930 - present

### **What does friable and non-friable mean?**

Asbestos-containing materials are categorized as either friable or non-friable. This is an indication of how easily they may release asbestos fibres when disturbed. A material that is **friable** is one which can be crumbled, pulverized or powdered by hand pressure. If a friable asbestos-containing material is damaged or disturbed, it presents an inhalation risk because asbestos fibres are more easily released into the air. Examples of friable materials include sprayed fireproofing on structural steelwork, or thermal insulation on pipes.

A **non-friable** asbestos product is one in which the asbestos fibres are bound or locked into the product matrix, so that the fibres are not readily released. Such a product would present a risk for fibre release only when it is subject to significant abrasion through activities such as sanding or cutting with electric power tools. Examples of non-friable asbestos products include vinyl asbestos floor tiles, acoustic ceiling tiles, and asbestos cement products.

### **What are the health effects from asbestos exposure?**

When asbestos-containing materials are disturbed it can cause the fibers to float in the air, and they can be easily breathed into the lungs. We are all exposed to low levels of asbestos in the air. People are more likely to experience asbestos-related disorders when they are exposed to high concentrations of asbestos, are exposed for longer periods of time, and are exposed more often. Most people who develop asbestos-related diseases are those who are exposed through the course of their work. As exposure increases and more fibres are inhaled, so does the risk of developing an asbestos-related disease.

To lower the risk of developing disease, measures must be in place to minimize exposure and accumulation of fibres in the lungs. Asbestos-related diseases are generally associated with exposure to high levels of asbestos over an extended period of time. Studies on workers in mines, factories and shipyards have shown that heavy exposures to asbestos can lead to three serious diseases: **asbestosis** (scarring of lung tissue), **lung cancer**, and **mesothelioma** (a rare form of cancer affecting the lining of the lungs). These diseases may not appear for as much as 20-40 years after exposure to asbestos. Although the evidence is less clear, there is some suggestion that cancers of the gastrointestinal tract may be associated with asbestos exposure.

Studies have also shown that smoking increases the risk of disease, such that smokers exposed to high levels of asbestos have a much greater chance of developing lung cancer than non-smokers. Exposure to asbestos can also result in other benign conditions such as pleural fibrosis (thickening of the lining of the lungs), pleural plaques or skin warts.

Asbestos fibres are naturally occurring and result in a natural “background” or “ambient” concentration present in our environment. Combined with the widespread use of asbestos in products such as automotive brake linings and asphalt, this means that we are all exposed to very small amounts of asbestos in our daily lives. It is not this very low level of exposure that results in asbestos-related disease but the higher levels of occupational exposure that are of concern to most authorities. Studies have not shown any evidence of asbestos-specific diseases in individuals who may inhale asbestos fibres in the outdoor air or who are occupants in asbestos-containing buildings. Regardless, proper measures for preventing or minimizing exposure to asbestos must always be in place.

### **How are people exposed to asbestos?**

We are all exposed to low levels of asbestos in the air we breathe every day. "Ambient" or background air can contain between 10 and 200 fibres in every 1000 litres (or cubic meters) of air, which is equivalent to 0.00001 to 0.0002 fibers per milliliter (fiber/mL). These fibres come from both natural sources (i.e. natural asbestos deposits in the earth) and man-made sources (e.g. brake pads in vehicles). However, most people do not become ill from this exposure, because the levels of asbestos present in the environment are very low. Much more concentrated levels of exposure are known to cause health effects in humans.

Most people who develop asbestos-related diseases have worked in jobs where they frequently breathed in large amounts of asbestos fibres. For example, in the past, construction workers using unsafe practices may have frequently encountered asbestos fibre levels well above background levels. The current regulated workplace limit (the allowable average concentration over an eight-hour period) is 100 fibres per litre of air (or 0.1 fibres/ml) - which is between 500 and 10 000 times background levels. In the past, workers in asbestos milling or mining often encountered fibre concentrations a million times higher than background levels.

In buildings that contain asbestos the fibers may be released into the air by the disturbance of asbestos-containing material during, demolition, maintenance, repair, and remodeling activities. In general, exposure may occur only when the asbestos-containing material is disturbed or damaged in some way to release particles and fibers into the air.

Many people have come into contact with asbestos fibers through their jobs (occupational exposure). Some of the work environments or occupations in which workers are now or were exposed in the past include:

#### ***Work Environments:***

- Asbestos product manufacturing (insulation, roofing, building materials)
- Automotive repair (brakes & clutches)
- Construction sites
- Maritime operations
- Mining operations
- Offshore rust removals
- Oil refineries
- Power plants
- Railroads
- Sand or abrasive manufacturers
- Shipyards / ships / shipbuilders
- Steel mills

#### ***Occupations:***

- Boilermakers
- Bricklayers
- Building inspectors
- Carpenters
- Electricians
- Furnace workers
- Grinders
- Insulators
- Iron workers
- Laborers
- Maintenance workers
- Millwrights, Operating Engineers
- Painters/Plasterers
- Plumbers
- Roofers

### **What do I do if I suspect that I may have an asbestos-related disease?**

Individuals who have been exposed (or suspect they have been exposed) to asbestos fibers on the job, should inform their doctor about their exposure history and whether or not they experience any symptoms. The symptoms of asbestos-related diseases may not become apparent for many

decades after the exposure. It is particularly important to check with a doctor if any of the following symptoms develop:

- Shortness of breath, wheezing, or hoarseness.
- A persistent cough that gets worse over time.
- Blood in the sputum (fluid) coughed up from the lungs.
- Pain or tightening in the chest.
- Difficulty swallowing.
- Swelling of the neck or face.
- Loss of appetite.
- Weight loss.
- Fatigue or anemia.

Most people don't show any signs or symptoms of asbestos-related disease for 10 to 20 years or more after exposure. When symptoms do appear, they can be similar to those of other health problems. Only a doctor can tell if your symptoms are asbestos-related. Asbestos-related conditions can be difficult to identify. Healthcare providers usually identify the possibility of asbestos exposure and related health conditions like lung disease by taking a thorough medical history. This includes looking at the person's medical, work, cultural and environmental history. After a doctor suspects an asbestos-related health condition, he or she can use a number of tools to help make the actual diagnosis. Some of these tools are physical examination, chest x-ray and pulmonary function tests.

If a doctor has diagnosed you with an asbestos-related disease you may be entitled to receive compensation from the NL Workplace Health Safety and Compensation Commission (WHSCC). For further information of compensation please refer to the [WHSCC website](#).

### **How is asbestos managed at MUN?**

The University is committed to providing a safe and healthy work and study environment to its employees, students, contractors and visitors. Recognizing the potential hazards associated with asbestos, the university has developed an Asbestos Management Program which outlines its commitment to protecting individuals from harmful exposure to asbestos. This program is in the process of being revised and will be available on the Department of Health and Safety's website once it is complete.

The mere presence of asbestos in a building does not constitute a hazard or unacceptable risk to health. Asbestos fibres are a concern when they become airborne as a result of uncontrolled disturbance or deterioration. Asbestos-containing materials that are in good condition, undisturbed and well managed, will not release asbestos fibres into the air. The University's Asbestos Management Program establishes proper precautions, practices and procedures to prevent the exposure of individuals to airborne asbestos fibres.

The Asbestos Management Program outlines requirements for:

- Inventories listing the locations and types of asbestos-containing materials in University buildings, to be made readily accessible to its occupants and the joint health and safety committees;
- Regular inspections of asbestos-containing materials to ensure that they are maintained in good condition;

- Prompt repair or removal of damaged asbestos-containing materials;
- Proper signage or labelling of asbestos-containing materials, where feasible;
- Proper training and education of employees and contractors who work with or may disturb asbestos-containing material;
- Proper work practices and procedures for all asbestos-related work;
- Control and monitoring of external contractors performing work that may disturb asbestos-containing material; and
- Communication of the Program and of asbestos-related work to building occupants, joint health and safety committees, and other persons who may be affected by such work.

**What are the different kinds of asbestos work that takes place on campus?**

University employees as well as contractors are sometimes required to conduct work that involves the disturbance of asbestos-containing materials but such work activities are strictly regulated. They are first categorized into three types of work operations - Type 1 (low risk), Type 2 (moderate risk) or Type 3 (high risk). For type 1 and type 2 activities, the Asbestos Management Program designates corresponding safe work procedures to prevent exposure to airborne asbestos. These procedures include strict requirements for preparation of the work area, use of personal protective equipment, use of proper work practices to reduce the spread of asbestos fibres, personal hygiene practices, and asbestos waste handling. Type 3 activities generally involve the abatement or removal of asbestos containing materials and are always done by a registered asbestos abatement contractor.

**What is an asbestos building survey/inventory?**

An asbestos survey/inventory has been prepared for each University building that has asbestos-containing materials. A copy of the inventories can be found on the Department of Health and Safety's website, and is available to anyone who wishes to view them. The inventory lists friable and non-friable asbestos-containing materials, and identifies those materials that are confirmed or suspected to contain asbestos. It also lists materials that are "presumed" to contain asbestos, either because of the age of the building or because other similar materials are known to contain asbestos.

**What is involved when training workers?**

In general, anyone working with asbestos must be instructed and trained on:

- the hazards of asbestos exposure;
- how to identify asbestos-containing material;
- personal hygiene and work practices, including the specific work procedures to be followed;
- the operation of the required engineering controls;
- the use, cleaning, maintenance and disposal of protective equipment and clothing;
- disposal procedures for asbestos-contaminated materials; and
- the purpose and significance of any required health monitoring.

**What are some general precautions for building occupants?**

- Be aware of materials in your workplace that may contain asbestos. Consult the Asbestos Inventory for your building.
- Do not damage, disturb or remove asbestos-containing materials.
- Promptly report damaged asbestos-containing material (e.g. pipe insulation, ceiling tiles) to your supervisor to have it properly inspected and repaired.

- Do not dust, sweep or vacuum any debris that may contain asbestos. This must only be carried out by properly trained staff.
- Leave the area if the amount of damage is significant. Restrict access to others.
- Do not enter any ceiling space in which there is sprayed fireproofing unless you have been specifically trained to do so.

### **Questions or Concerns**

If you have any questions or concerns regarding asbestos in your building, contact:

- Your supervisor
- Your joint occupational health and safety committee
- Department of Health and Safety

### **On-line Asbestos Awareness Course!**

The following asbestos awareness course is intended for building occupants to learn more about asbestos hazards on campus. [Click here](#) to go to the online presentation.

### **References**

- Memorial University of Newfoundland - Asbestos Management Program
- Newfoundland and Labrador - Asbestos Abatement Regulations 111/98
- Newfoundland and Labrador Guidance Document for Low Risk Asbestos Abatement Projects