

Laboratory Safety Bulletin

Phone: 519-253-3000 Ext. 3523 • E-mail: ccc@uwindsor.ca • Web: www.uwindsor.ca/ccc
Location: Essex Hall / B-37 • Hours: 8:30 am to 4:30 pm (M-F)

DESIGNATED SUBSTANCE: **ASBESTOS**

What is so interesting about **Asbestos**?

Asbestos is the generic name for a variety of naturally occurring hydrated silicate minerals with crystalline structure. The different types of minerals are fibrous, odorless solids and have many different colors. Asbestos is fireproof and acts like a silk fabric. Asbestos has been known for a long time. It was believed that the Greeks used asbestos as a wick in candles.

Asbestos has been widely used in various industrial applications. Because of the health effects associated with asbestos, the use of asbestos in construction in Canada has been discontinued since the mid-1970. Chrysotile is now the only type of asbestos that is used in industrial settings. There is debate as to whether or not chrysotile asbestos produces the same degree of health effects as the other forms of asbestos. Today chrysotile can be found in pipes, shingles, automotive brake shoes, roof sealants, rubbers and papers.



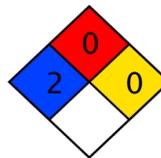
Figure 1

Hazard Classification – **Asbestos**

WHMIS



NFPA



Health: 2
Flammability: 0
Reactivity: 0
Specific:

How can **Asbestos** affect your body?

Asbestos is not expected to cause significant health effects during short term exposure. However, the health effects of long term exposure are well documented. Asbestos fibers are very toxic when inhaled and can lead to cancer. The fibers affect the lower region of the lungs and cause a fibrotic lung disease, asbestosis. The fibers can also change the lining of the chest cavity (pleura) which may result in respiratory failure and death. When the lungs are affected by asbestos there is an increased resistance to blood flow inside the lungs. This resistance leads to an enlargement of the heart and may result in long term heart failures.

People with early asbestosis generally have no symptoms, but lung changes may be seen on a chest x-ray. People with fully developed asbestosis have shortness of breath, cough, chest pain, reduced lung function, finger clubbing, and bluish skin coloration. Asbestosis is a progressive lung disease, meaning that it slowly gets worse over time. Asbestosis can cause in death.

What do you do if your workplace at the U of W contains **Asbestos**?

The asbestos program for the University of Windsor is outlined in the Asbestos Manual which can be found at www.uwindsor.ca/saftey. Needless to say if you find asbestos, protect yourself by leaving your workplace and immediately contact the Asbestos Management Committee. The Asbestos Management Committee is

responsible for the monitoring and handling all materials containing asbestos (MCA) at the University of Windsor. All locations of friable MCA on campus have been identified by this committee and any new locations are to be reported to them immediately. The primary person to contact on this committee is the Executive Director of the Physical Plant at ext. 2867.

First Aid Procedures:

Inhalation: Short term exposure to asbestos normally does not lead to any health effects. Obtain medical advice.

Skin Contact: Flush with lukewarm water until the chemical is removed.

Eye Contact: Do not rub eyes. Do not attempt to manually remove anything wedged in eyes. Let the victim's eyes naturally water for a few minutes. If the particle is not removed flush with lukewarm water for 5 minutes. If discomfort remains, seek medical advice.

What happens if **Asbestos** is disturbed in your work environment?

(Note: Taken directly from University of Windsor's Asbestos Manual)

1. Any work in the area of the disturbance will stop immediately and the area shall be secured until an assessment can be made to determine whether or not the friable material contains asbestos and if so what type of asbestos and to determine what steps must be taken to minimize the risk to workers and building occupants of exposure to airborne fibers of the friable material.
2. The supervisor of the work that was being done prior to the disturbance of the friable material must be notified immediately and he/she will visit the area, if practicable, or assign a competent manager to visit the area, to assess the situation.
3. If the disturbance was the result of an unexpected discovery of MCA (not referred to in the Asbestos Manual), an inspector at the office of the Construction Safety Branch of the Ministry of Labor shall be notified forthwith, orally and in writing. (Sec. 7(5) of Reg. 654(4)).
4. If the disturbance of the MCA was minor, the friable material must be cleaned up using the Ministry of Labor procedures for a Type 1 operation. This type of disturbance may or may not have caused asbestos fibers to become airborne.
5. If a significant quantity of the MCA was distributed then the procedures for a Type 2 or Type 3 operation shall be implemented depending on the type of asbestos in the friable material, the amount of disturbance and the length of time workers may be exposed to such material in the clean up process.
6. The procedure for a Type 2 operation includes isolating the area where the disturbance occurred, disabling of the ventilation system where practicable and sealing off of the air inlets and exhausts where practicable. It also includes using a vacuum equipped with a HEPA5 filter and using appropriate personal protective equipment.

This lab safety bulletin is not a complete source on the safe handling of asbestos at the University of Windsor. You should always check the SDS of your asbestos containing product at www.uwindsor.ca/msds before you work.

For more information on asbestos and its locations at the University of Windsor, please visit the Occupational Health & Safety's Asbestos Manual at www.uwindsor.ca/safety.

References:

1. *Asbestos, 99.99+% Metals Basis*, Material Safety Data Sheet, Sigma-Aldrich, Aldrich – 261017, Oakville ON 2006.
2. Cheminfo, *Chemical Profile - Asbestos*, Canadian Centre for Occupational Health and Safety, Hamilton ON 2007.
3. *Asbestos Manual*, Occupational Health and Safety, University of Windsor ON 2002. Tweedale, G., *Magic Mineral to Killer Dust*, Oxford University Press, 2000.



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