

Asbestos

Magic Mineral — Asbestos has been called the “magic mineral” because of its unique chemical composition and physical properties. Asbestos fibres can withstand the fiercest heat but are so soft and flexible that they can be spun and woven as easily as cotton. Asbestos is derived from a Greek word meaning “inextinguishable, unquenchable or inconsumable”. It is a generic name for a group of fibrous silicate minerals. We’ve known about the hazards of asbestos since the first century, when Pliny the Elder reported on Roman slaves having “sickened lungs” from weaving asbestos into cloth.

Chrysotile (white asbestos), crocidolite (blue asbestos) and amosite (brown asbestos) are the 3 main types of asbestos mined for use in insulation, brakes and cement building products. Chrysotile accounts for approximately 95% of asbestos mined annually.

What is it?

Asbestos consists of tiny, strong, heat-resistant fibres which, while providing incredibly long-lasting products, also become the “perfect carcinogen”. Asbestos acts as a promoter and initiator of cancer. When asbestos fibres or “dust” is inhaled, it can lead to several debilitating or fatal diseases such as asbestosis, lung cancer and mesothelioma.

Asbestos is a federally-regulated designated substance, which means there are specific precautions and controls around its use, maintenance and removal. It is addressed under several pieces of legislation, but most particularly under the *Hazardous Products Act*, Chapter H-3, the *Canada Occupational Health and Safety Regulations*, Part IX Sanitation, and the *Canadian Environmental Protection Act*, 1999. (*See your provincial OHSA for asbestos regulations)

Asbestosis – is a fatal, diffuse pulmonary fibrosis which develops over long periods of exposure. It is irreversible and progressive, with a latency period of over 10 years. Linked to heavy occupational exposure, it is also found among those not known to have been occupationally exposed.



Lung cancer - asbestos-related lung cancer can occur from occupational or environmental exposure and is virtually incurable. The latency period is usually 15 - 35 years.

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First mined in Canada in 1879, Canada soon became a major producer and exporter of asbestos.

Mesothelioma - a formerly rare, but increasingly common cancer of the lung or abdominal cavity. The only known cause is exposure to asbestos. The latency period can be between 15 - 50 years, although British courts have accepted a latency period as short as ten years. Survival rates are usually 18 to 24 months, with no known cure.

Pleural Plaques - not all workers exposed to asbestos get pleural plaques, but pleural plaques are always associated with asbestos exposure, and are an early warning sign to the development of asbestos-related diseases. They are detectable by x-ray, but must achieve a certain density to be visible.

FILM STAR Steve McQueen died in 1980 after suffering from cancer of the chest lining caused by asbestos exposure, thought to be a result of the fireproof asbestos suits he wore when racing cars in the 50's. *Guardian Weekly*, October 16-22, 2003



University of Manitoba - The deaths of two professors from mesothelioma drew attention to the magnitude of the dangers of asbestos and its impact in Canadian universities. Dr. William Morgan and Dr. John Matthiasson, both from the Anthropology Department, contracted mesothelioma from exposure to asbestos in their workplace. Their deaths led to heightened awareness at universities of the importance of developing and implementing asbestos protocols and educational programs. CAUT has joined an international coalition of unions and organizations in supporting a world-wide ban on the export and use of asbestos.

ASBESTOS PRODUCTS COMMONLY FOUND IN UNIVERSITIES/COLLEGES

Although asbestos is referred to as “friable” and “non-friable”, **all asbestos become friable once it has been damaged.** All asbestos products should be treated as a hazard, even if “intact”, and accordingly, all safety precautions should be taken. Avoid touching, handling or being exposed to dust or particulates during renovations or any other reason.

Often people are told that ambient air testing shows no fibres, or not high enough levels to meet threshold levels. Asbestos dust settles to the floor, and although may not be present in ambient air testing, it can still be present underfoot.

Following is a list of asbestos products found in universities and colleges. Typical products are, but not limited to, the following:

“Friable” — Sprayed or trowelled products condensation control, thermal insulation, acoustical purposes.

Insulation on mechanical and thermal systems: boilers, tanks, ducts, boiler breeching, pipes, process equipment, etc.

- white, brown, pink or grey block (mag block)
- white, grey corrugated paper (Aircell)
- white, grey or brown layered paper (woolfelt, sweat wrap)
- grey trowelled or hand applied material – with the appearance of hard or granular grey dry mud (insulating cement, parging)

“Non-friable” — Asbestos-containing products: flat sheet, corrugated sheet for roofing and cladding of building, siding and roofing shingles, ceiling tiles, decorative paneling, electrical insulation, laboratory table tops, electric and telephone conduits.

Coatings and sealants: roof coatings and cements, sealants and caulks, and gaskets.

Paper products: vinyl floor tiles, coatings, adhesives, caulks, sealants, patching compounds, moulding compounds.

Friction materials: rotating machinery in elevators.

Asbestos ceiling tiles: glued-on, splined, and lay-in.

Plaster: smooth plaster finishes on walls and ceilings become friable upon demolition or cutting.

Exposure — Studies have shown that both one-time and long-term exposure to asbestos can produce asbestos-related diseases. Faculty and students are at risk during renovations of buildings containing asbestos products unless an appropriate Asbestos Management Plan has been put into place. Such plans address: hazard alerts before, during and after clean-up of asbestos work; properly cordoned-off areas with prominent hazard alert signage; proper accreditation for asbestos workers performing the work; and education for staff, students and visitors on how to avoid contact with asbestos products, including alternate work area arrangements, if needed.

Exposure to asbestos can also occur from fibres released in classrooms & offices – whether from ceiling tiles, insulation or floor tiles. Any exposure to asbestos can precipitate the beginning of a potential latency period for asbestos-related disease development.

Family members can be exposed as a result of working members coming home with asbestos dust on their clothes, hair or work paraphernalia. For example, in November of 1989, the 16 year-old son of a Holmes Foundry worker died of mesothelioma from exposure to asbestos from his father’s work clothes.¹

Staff and students should remove all clothing or footwear that may have been inadvertently contaminated with asbestos, seal in a plastic bag, and wash carefully at home. **Never shake or brush asbestos or suspected asbestos dust from your person – it increases potential for inhalation, and contamination of other staff, students and work areas.**

A reporting mechanism is an essential piece of any asbestos protocol. Ensure that the JHSC, local union and any official asbestos committee is promptly apprised of any contact with friable asbestos, and that it is documented for future reference.



TOOLKIT

Definitions

asbestos: any fibrous silicates such as chrysotile, amosite and crocidolite

abatement: a regulated method to reduce or eliminate the presence or exposure to asbestos through removal, encapsulation, repair or enclosure

encapsulate: method of controlling the release of asbestos fibres by application of a liquid sealant over the asbestos-containing material

friable: material that when dry can be crumbled, pulverized or powdered by hand pressure and includes such material that is crumbled, pulverized or powdered

non-friable: any material that when dry cannot be crumbled, pulverized or powdered by hand or moderate pressure

JHSC: Joint Health and Safety Committee

PPE: Personal Protective Equipment - personal safety equipment used and worn by a certified worker when working with asbestos products (e.g. respirators)

wet method: a method which, by making friable asbestos material wet, usually by water, makes the material easier to pick up and remove. It is not a preferred method.

Prevention — An active, trained JHSC and educated members who work in concert with other unionized and non-unionized staff are key to eliminating the impact of asbestos in the workplace.

1. Substitute asbestos-free products wherever possible.
2. Segregate any area in which asbestos is being handled.
3. Ventilate by adequate local exhaust systems - the most important method of dust control.
4. Wet method can reduce dust levels in some situations.
5. Prompt vacuum cleaning of all scraps and spills, careful storage and disposal of asbestos-containing materials in plastic or other suitable containers, and frequent and regular cleaning of machines, floors, walls and other surfaces.
6. PPE and training for workers who may be exposed to dust. Dust on work clothing must not be brushed off or taken home.
7. Prompt university-wide alerts when renovation of buildings is occurring, with the areas properly marked and sealed off.
8. Detailed work histories are critical to accurate diagnoses by family physicians and specialists. Body mapping and hazard mapping are simple but effective tools which produce workplace histories. Association health and safety activists can use them to educate and assist their members in producing a work history for additional diagnostic information for health care professionals.



Asbestos Management Program

There is a legal requirement for an asbestos management program to be implemented as soon as the presence of asbestos has been identified in the workplace. It is important for JHSC to actively search for any historical use of asbestos products, their location, and present status. All past and present renovation projects need to be documented as to where and when they took place, and how asbestos was and is being dealt with. Hazard mapping is a must in order to get an accurate overview of the extent of asbestos in the workplace.

JHSC members and any worker, internally or externally to the employer, working with asbestos products, must be certified by training in the precautions in handling asbestos.

Basic Criteria of an Asbestos Management Program:

1. Clearly establishes management's intent to control any known or suspect asbestos-containing materials and written so as to meet the requirements of the provincial or federal hazard regulations.
2. Provides the criteria for identifying asbestos-containing materials and the means in which this information is to be passed on to all affected parties (management, workers, outside contractors, building tenants, etc.)
3. Provides for the necessary training and education of the affected parties.
4. Limits exposure.
5. Initiates an Operations & Maintenance Program which includes inspection and monitoring of all scheduled and accidental asbestos disturbances.

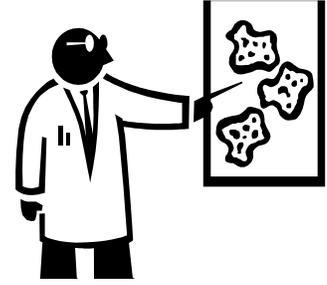
The Future

Mesothelioma deaths in Great Britain continue to increase annually both for males and females. The annual total number of mesothelioma deaths is estimated to peak between 1,950 to 2,450 deaths some time between 2011 and 2015.²

In 1999, the United States reported 1,265 deaths from asbestosis, with the number increasing at approximately 200+ cases per year since the 1970's. It is considered to be vastly under-reported prior to the 1990's.³

Controlled Use?

Dr. Barry Castleman, a leading authority on asbestos, in his paper on "Controlled Use of Asbestos", debunks the myth that governments and industry claim that asbestos can be used safely, if just controlled properly. In the standard adopted in 1972, the words "cancer" and "danger" were not required in the text of warning labels, and not all asbestos products were required to bear warning labels. "Under pressure from regulatory authorities, companies in Europe and Australia developed asbestos-free, fibre-cement products, using fibrous glass, polyvinyl alcohol (PVA) and aramid fibres, and cellulose.The government of Canada reacted to the French asbestos ban.....by bringing a trade dispute at the World Trade Organization. This claimed that with regulations, there was no need to ban asbestos.that with "controlled use" of asbestos, the remaining risks to public health were insignificant." Canada lost its case, with the WTO concluding that asbestos was so dangerous, that countries have a right to ban its use and import.⁴



Resolution on Asbestos

WHEREAS the International Labour Organization estimates that 100,000 workers die per year from cancer caused by asbestos and unknown tens of thousands of other workers are dying from asbestosis and other asbestos related diseases;

WHEREAS Canada is the world's second biggest exporter of chrysotile asbestos;

WHEREAS Canada exports to the developing world where there are poor, if any, safeguards for the use of asbestos;

AND WHEREAS the Canadian government promotes the sale of asbestos to these countries by financing the Asbestos Institute, a Canadian-based organization which has been lobbying for increased asbestos use around the world since the mid-1980s;

BE IT RESOLVED that CAUT call on the Canadian government to ban the export of asbestos, withdraw its financial and political support from the Asbestos Institute, and lobby for a world-wide ban on the use of asbestos.

Approved by CAUT Council, November 2003

Countries Banning Asbestos

Argentina	Chile	Iceland	Latvia	Poland	Sweden
Australia	Denmark	Italy	Luxembourg	Saudi Arabia	Switzerland
Austria	Finland	Germany	Netherlands	Slovenia	
Belgium	France	Kuwait	Norway	Spain	

United Kingdom (including England, Scotland, Wales and Northern Ireland)

References

- (1) Compensating for the past, OHS Canada
- (2) Mesothelioma Mortality in Great Britain: Estimating the Future Burden
- (3) International Journal of Occupational and Environmental Health 9: 294-298 (2003)
- (4) National Centre for Health Services, USA

Resources

CAW, www.caw.ca
Occupational Health Clinics for Ontario Workers

Published by the Canadian
Association of University
Teachers (CAUT)

July 9, 2004

