



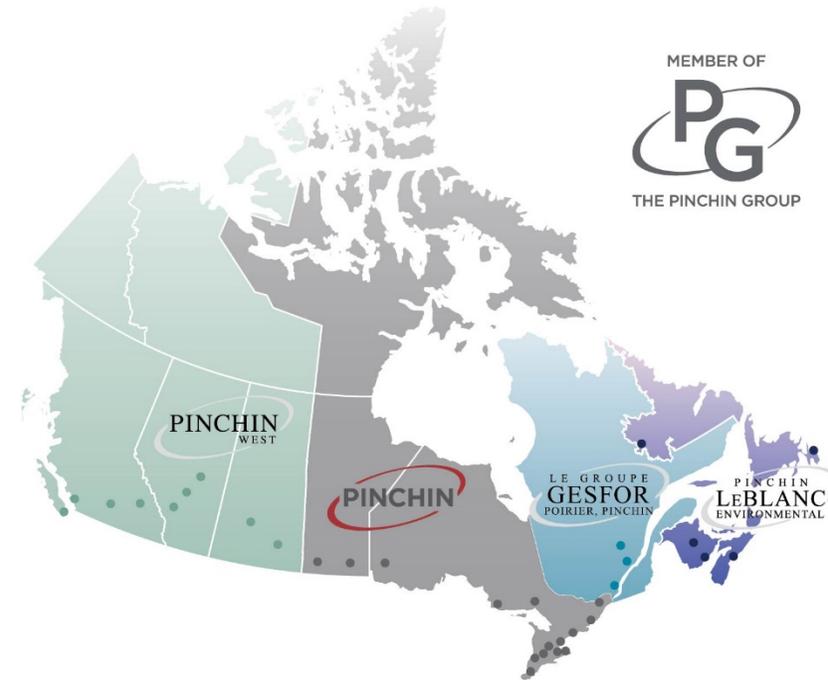
Understand what asbestos is and how to avoid exposure

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PINCHIN & AFFILIATES



- A leader in engineering, environmental health & safety solutions
- Multi-disciplinary approach by highly qualified, experienced professionals
- Established in 1981; over 300 employees
- Part of the Pinchin Group of Companies, a national network of over 35 offices with over 700 staff



AGENDA



- This presentation is intended to give you awareness about:
 - Typical uses of asbestos/common types of asbestos-containing materials; friable versus non-friable
 - The health hazards of asbestos exposure
 - The different asbestos work classifications and the procedures



Properties and Uses of Asbestos



PROPERTIES & USES OF ASBESTOS

- Naturally occurring, fibrous silicate minerals
- Mined ore is milled for the fibres
- Used for many reasons, including:
 - Flexible, strong
 - Heat resistant
 - Electrical insulator
 - Resistant to water, many chemicals
 - Alters viscosity of liquids/slurries (plaster, asphalt, etc.)
- Over 3,000 products in North American use





FRIABLE MATERIALS (EASE OF FIBRE RELEASE; GREATER HAZARD)

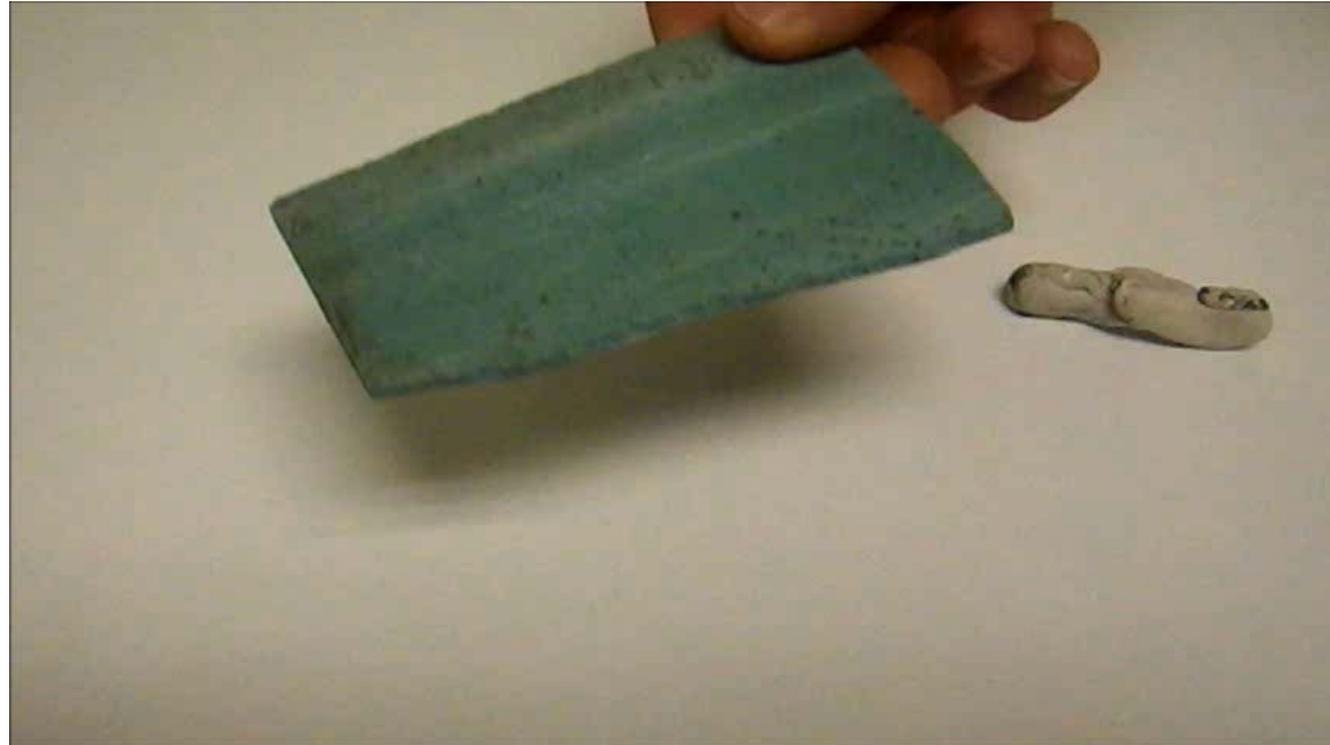
- Friable: material that can be crumbled, pulverized or powdered easily (i.e. by hand pressure), or has become in such a state by other means





NON-FRIABLE MATERIALS (LESS FIBRE RELEASE; LOWER HAZARD)

- Non-Friable: material that maintains its integrity, does not readily become crumbled/powdered unless subjected to more aggressive forces (i.e. power tools)





EXAMPLES OF COMMON FRIABLE ACM

- Texture finishes





EXAMPLES OF COMMON FRIABLE ACM

- Various insulations on mechanical equipment, pipes and ductwork





EXAMPLES OF COMMON FRIABLE ACM

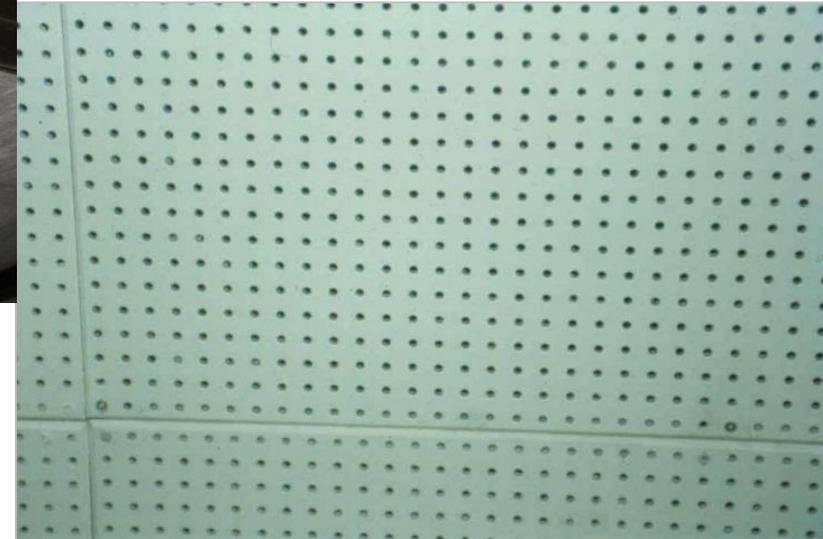
- Vermiculite loose-fill insulation – asbestos as an accidental contaminant





EXAMPLES OF COMMON NON-FRIABLE ACM

- Various asbestos-cement (transite) products





EXAMPLES OF COMMON NON-FRIABLE ACM

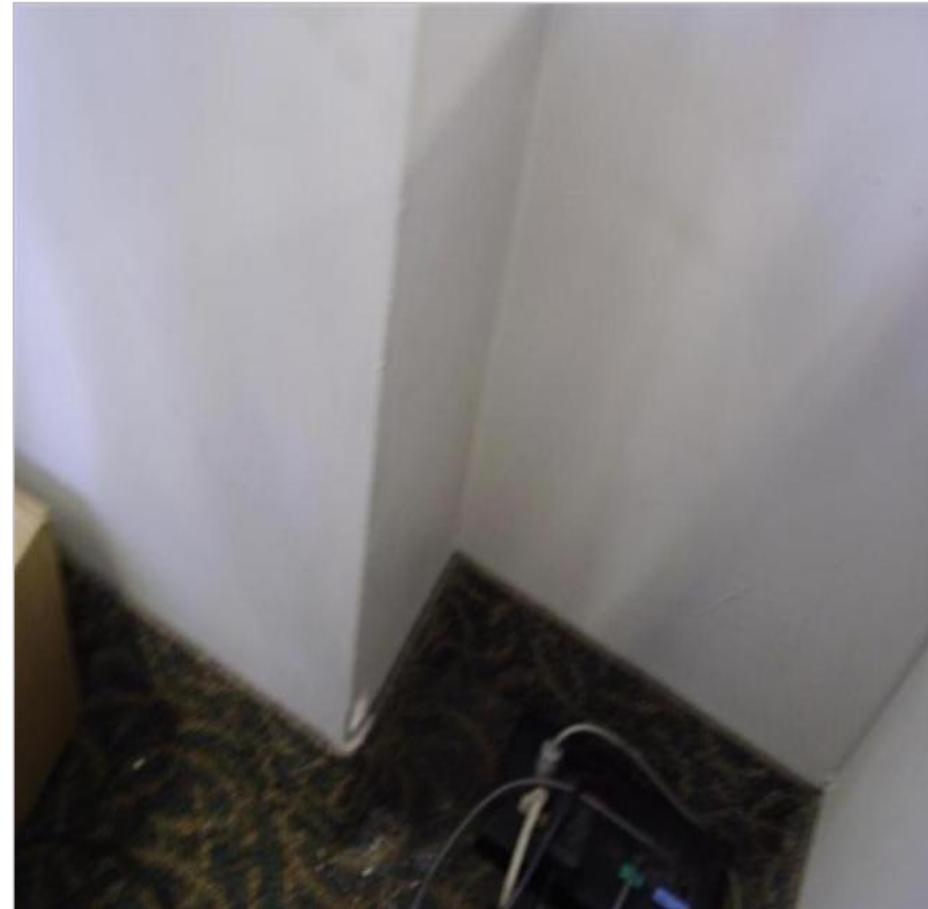
- Flooring: vinyl floor tiles, vinyl sheet flooring





EXAMPLES OF COMMON NON-FRIABLE ACM

- Drywall joint compound on drywall finishes (usually not visible – painted/wallpapered)





EXAMPLES OF COMMON NON-FRIABLE ACM

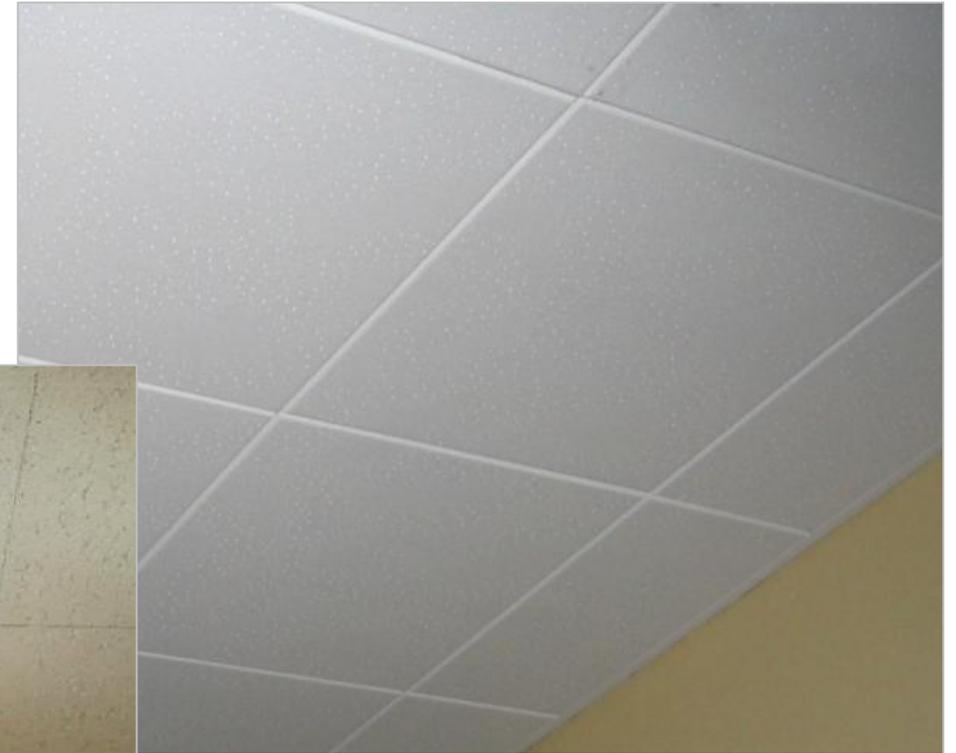
- Asbestos paper products: on ductwork, behind wall finishes, under flooring, etc...





EXAMPLES OF COMMON NON-FRIABLE ACM CONSIDERED POTENTIALLY FRIABLE

- Ceiling tiles (lay-in, glued-on, splined varieties)





EXAMPLES OF COMMON NON-FRIABLE ACM CONSIDERED POTENTIALLY FRIABLE

- Plaster finishes – non-friable when intact and in good condition, but friable when damaged or disturbed





Health Hazards of Asbestos Exposure



ASBESTOS EXPOSURE

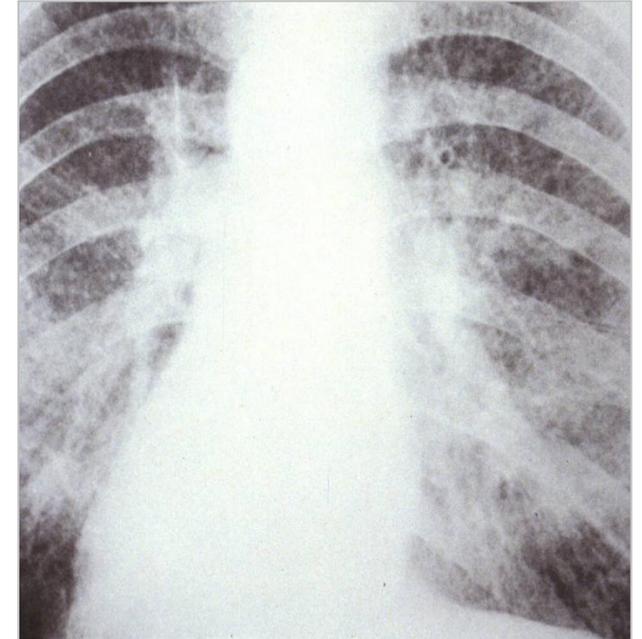
- Inhalation of airborne fibres is the primary issue. Generally chronic exposures are needed for one to experience health effects
- Exposure to airborne asbestos should be kept to a minimum, however, it is naturally occurring and we come in contact with it in our daily lives with no evidence of hazard:
 - Everyone breathes asbestos fibres daily (several thousand fibres per day)





THE PRIMARY - ASBESTOS-RELATED DISEASES

- Asbestosis
 - Scarring of lungs; irreversible damage
 - Requires extended and very high levels of exposure (fewer cases seen nowadays)
- Lung Cancer
 - Caused by various agents, asbestos being one
 - Smoking + asbestos exposure dramatically increases risk
- Mesothelioma
 - Cancer of the lining of chest cavity, or less often abdominal cavity lining
 - Most prominent asbestos disease today (doesn't require the extremes of exposure to develop this disease compared to asbestosis; has the longest lag time so it is from exposures further in the past; also evidence of genetic factor)





THE PRIMARY - ASBESTOS-RELATED DISEASES

- Lag times of 20-50 years
 - This made it more difficult to establish a connection between asbestos exposure and the diseases
 - Also means that cases of these diseases seen today are from exposures in the 1960s-1980s
 - Although practices have changed, there are still present-day exposure risks: workers involved in renovations, maintenance, etc., or even bystanders





OCCUPATIONAL DISEASE FATALITIES ACCEPTED BY THE SASKATCHEWAN WCB - 2007 TO 2016

Asbestosis – 25

Mesothelioma – 30

Total Number of Occupational Disease Fatalities – 177

Acute Fatalities - 203

31% of occupational disease fatalities were asbestos related



OCCUPATIONAL DISEASE FATALITIES ACCEPTED BY THE MANITOBA WCB - 2006 TO 2015

Occupational Disease Fatalities Accepted by the WCB, 2006 to 2015¹⁶

Disease Conditions	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Asbestosis	2	0	3	4	0	1	4	2	0	2
Mesothelioma	4	2	4	6	9	6	14	7	7	7
Other Cancers	6	3	3	5	3	3	10	2	4	4
Heart Injury	3	3	2	2	0	2	1	2	1	1
Other Disease	1	3	2	2	2	0	1	3	1	1
Total	16	11	14	19	14	12	30	16	13	15

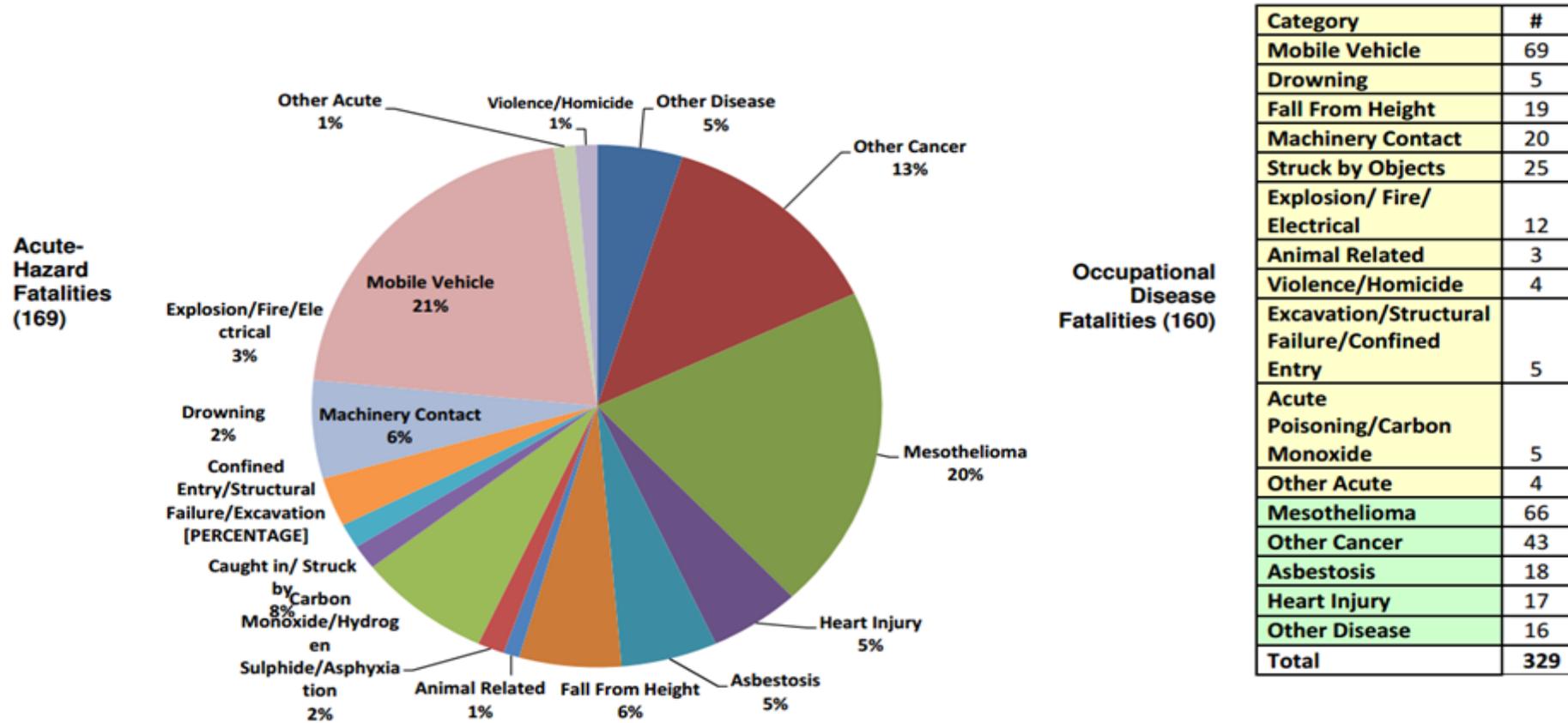
¹⁶ Occupational Disease Fatalities are counted by year of acceptance and not by year of reporting or death.

84 asbestos related fatalities



OCCUPATIONAL DISEASE FATALITIES ACCEPTED BY THE MANITOBA WCB 2006 TO 2015

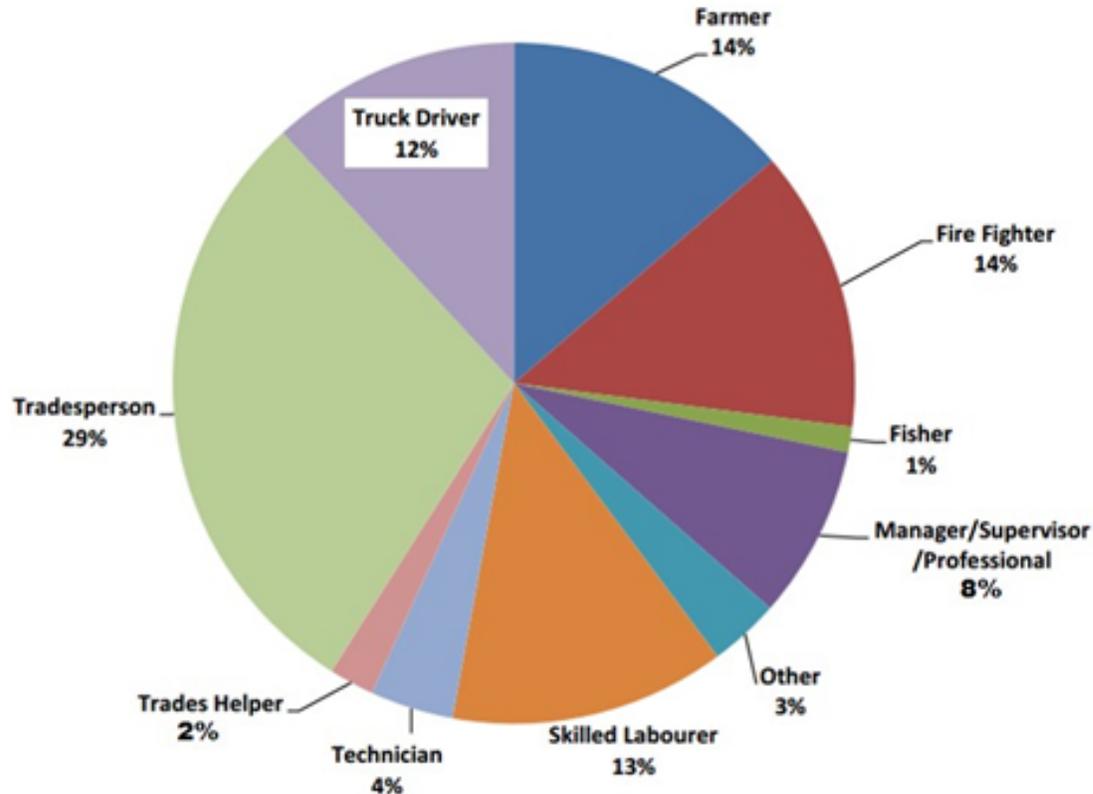
Acute Hazard and Occupational Disease Fatalities, 2006 to 2015 by Cause





OCCUPATIONAL DISEASE FATALITIES ACCEPTED BY THE MANITOBA WCB 2006 TO 2015

Fatalities in the Workplace (Acute-Hazard and Occupational Disease) by Occupation, 2006 to 2015



Category	#
Farmer	45
Truck Driver	39
Trades Helper	7
Fire Fighter	44
Tradesperson	96
Fisher	4
Labourer	43
Technician	13
Manager/Supervisor/Professional	27
Other	11
Total	329



ONTARIO ROYAL COMMISSION STUDY ON ASBESTOS IN BUILDINGS

- “Royal Commission on Matters of Health and Safety Arising from The Use of Asbestos in Ontario”
- Established in 1981, to study asbestos risk to workers and building occupants (particularly school children)
- Considered all aspects of asbestos hazards including buildings in use, renovation and demolition. It only considered friable asbestos (the most hazardous)



ROYAL COMMISSION FINDINGS REGARDING ASBESTOS IN BUILDINGS – GOOD NEWS FOR OCCUPANTS

- “While asbestos has caused serious health problems...we conclude that it does not pose a significant problem for the general occupants of a building, except...
 - the occupant is in immediate vicinity of work (that disturbs friable asbestos)...
 - the occupant is within range of air circulation of such work...
 - significant quantities of friable...insulation have fallen onto building surfaces and are being disturbed.”



ONTARIO ROYAL COMMISSION ON ASBESTOS CONCLUSIONS – DIFFERENT FOR OCCUPANTS AND MAINTENANCE AND CONSTRUCTION WORKERS

- “We will conclude that it is rarely necessary to take corrective action in buildings in order to protect the general occupants of those buildings. On the other hand, construction, demolition, renovation, maintenance, and custodial workers in asbestos-containing buildings may be exposed to significant fibre levels and may, during their work, cause elevated levels for nearby occupants.”



Regulations for Control of Asbestos in Buildings



SASKATCHEWAN REGULATIONS & GUIDELINES

The Occupational Health & Safety Regulations, 1996

Saskatchewan has published two recent Guidelines:

- Guidelines for Managing Asbestos in Buildings 2015.
- Saskatchewan Asbestos Abatement Manual – Guidelines for Asbestos Processes in Building Demolition and Renovation 2016



GUIDELINES FOR MANAGING ASBESTOS IN BUILDINGS 2015

The duties of employers, contractors, or owners include:

- identifying and labeling asbestos-containing materials (ACM) that can release asbestos fibres;
- keeping a current written record of all ACM present in the workplace;
- conducting regular surveillance and maintenance of asbestos materials to prevent fibre release;
- conducting work in a way that prevents the release of asbestos fibres as much as possible;
- developing a written control plan if work must be done in a manner that may release asbestos fibres;
- notifying, informing, and training workers; and
- notifying Occupational Health and Safety (OHS) at least 14 days before beginning a high risk asbestos process.



ASBESTOS MANAGEMENT PLAN

- An active document that controls and records the handling of ACMs in a building
- Prime objective is to maintain ACMs in Good condition
 1. Prepare inventory, keep on site
 2. Notify tenants and lessees
 3. Advise workers who might disturb ACM (signage and/or labelling)
 4. Train workers who will be disturbing ACM
 5. Re-inspect periodically, repair damaged ACM
 6. Clean-up all ACM debris and abate remaining ACM
 7. Prohibited activities for cleaning and maintenance work
 8. Inspect prior to tendering; give report to contractors



SASKATCHEWAN ASBESTOS REGISTRY OF PUBLIC BUILDINGS

- Through the amendments to The Public Health Act, 1994, it is mandatory for buildings owned and used in connection with schools, regional health authorities and affiliates, the provincial government and crown corporations to provide information about the presence of asbestos in these public buildings.
- Building owners or employers of other types of buildings may also provide asbestos information voluntarily
- This information will be posted on the official web-based Saskatchewan Asbestos Registry of Public Buildings.
- Building owners post and manage their posted information on the Registry through a user account.



SASKATCHEWAN ASBESTOS ABATEMENT MANUAL 2016

Classifies work into the following categories:

- Low risk - Work on non-friable ACM
(low risk/low hazard)
- Moderate Risk - Minor disturbance of friable ACM
(moderate risk/moderate hazard)
- High Risk - Pipe insulation removal
(Type 2 precautions)
- Special Cases - Major disturbance of ACM
(high risk/high hazard)



WHEN IS ASBESTOS REMOVAL REQUIRED BY REGULATION?

- In general, friable ACM in good condition and all non-friable ACM may remain in the building until it is to be disturbed by maintenance or renovation or ceases to serve its intended function
- Fallen friable ACM that is being disturbed and likely to cause exposure must be cleaned up and the remaining material must be repaired, sealed, removed or permanently enclosed
- Removal of all asbestos from buildings is only required prior to demolition of the building or the affected part of the building



THANK-YOU. QUESTIONS?

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