ASBESTOS



Guidelines for Managing Asbestos in Buildings





PLEASE NOTE

This publication is not designed to replace the legislation. Please use the original legislation to find out exactly what requirements apply to your business.

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Introduction

Inhaling asbestos fibres can cause chronic, irreversible, and life-threatening lung diseases. These diseases, which can occur several decades after exposure, include asbestosis, (a lung scarring disease), lung cancer, and another rare form of cancer - mesothelioma.

This guideline explains what actions are required and recommended when asbestos is present in a building. The purpose of taking these actions is to prevent asbestos from becoming an airborne hazard.

The people who are intended to read this guideline are building owners, custodial staff, maintenance staff, consultants, abatement contractors, building occupants, and others concerned with the presence of asbestos and materials containing asbestos in buildings.

This guideline will also explain requirements of the Saskatchewan Asbestos Registry of Public Buildings.

Occupational Health and Safety Requirements

Recent amendments to *The Occupational Health and Safety Regulations*, 1996 require specific actions when asbestos is a potential health hazard in a workplace.

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.

Public Health Requirements

The owner of a public building as defined by *The Public Health Act, 1994* in section 19.1 means an enclosed structure that is owned by:

- The Government of Saskatchewan;
- A prescribed Crown corporation;
- A regional health authority or an affiliate, as defined in *The Regional Health Services Act*;

- A building that is used with a school as defined in *The Education Act*, 1995; or
- A building that is prescribed or is a member of a prescribed class of enclosed structures.

These types of building owners are required to record information about asbestos in that building on an approved website and make that information available at that building to any person during normal business hours.

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. This information will be posted on the official web-based Saskatchewan Asbestos Registry of Public Buildings.

The information posted to the Registry must also be made readily available to any person upon request during normal business hours.

In both the public notification and the occupational records, the required information is outlined in the OHS Regulations, and includes:

- Type of asbestos-containing material
- Location
- Characteristics
- Accessibility

Building owners or employers of other types of buildings may also provide asbestos information voluntarily.

Building owners post and manage their posted information on the Registry through a user account. Application for a user account is submitted within the Registry. Building owners must regularly review the information posted on the Registry to ensure that it is kept up-to-date.

Also note that, as asbestos changes occur, the Registry must be updated. For example, if pipe insulation is removed, and is listed on the Registry as ACM, the change must be communicated to the Registry. If buildings are sold to owners not prescribed by *The Public Health Act*, 1994, or bought by prescribed owners the information must be submitted to the registry.

Asbestos Management Program

An Asbestos Management Program (AMP) helps to prevent the release of asbestos fibres into occupied areas of a building by identifying and managing asbestos-containing materials (ACM). It is intended to prevent the release of asbestos fibres into the air and to protect building occupants from exposure. The AMP must continue unless all materials containing asbestos have been removed or the building has been demolished.

An effective AMP requires commitment from all levels of management. It is recommended that the building owner or employer appoint an asbestos program manager to oversee the program. The asbestos program manager may be a health and safety representative, risk manager, physical plant director, maintenance manager, building and grounds manager or facility manager. The asbestos program manager, all maintenance staff, all custodial staff, the occupational health committee (committee), or the health and safety representative are key participants in developing the program. The program must be followed by maintenance and custodial staff and contractors who work in the building. If the facility has multiple tenants, the owner should ensure each tenant's committee or health and safety representative is consulted in developing and implementing the program.

The program should:

- name a designated asbestos program manager;
- identify all building areas included in the plant;
- state where an inventory of ACM will be kept in the building;
- show how building occupants, maintenance staff, external contractors, and others will be informed of the presence of asbestos;
- describe how materials containing asbestos will be labeled or identified;
- state when periodic surveillance and maintenance will be performed (required at least annually) and what job position(s) is(are) responsible;
- identify asbestos processes and what steps will be used to prevent fibre release;
- identify how the written asbestos control plans will be developed and implemented for asbestos processes, where fibre release may occur (e.g., certain repair and maintenance activities, or when unexpected releases occur);
- identify which staff need to be trained in asbestos control procedures; and
- provide details about when persons with specialized competencies may be needed.

Identification and Inventory

The employer and, where there are multiple places of employment in a building, the building owner, is responsible for creating and updating an inventory of the ACM in the building. To accomplish this, asbestos-containing materials must be identified by an approved method, or may be deemed to contain asbestos without testing. ACM is defined as:

means material that, when dry, is or can be crumbled, pulverized, or powdered by

In the

Regulations friable

hand pressure.

- vermiculite determined to contain any asbestos
- any other material that when tested contains more than 0.5% friable asbestos, or more than 1.0% non-friable asbestos, or
- any material likely to contain asbestos.

The identification of ACM can begin by conducting a walkthrough inspection and studying architectural plans for the building.

Sources of asbestos in a building may include:

- asbestos cement pipes
- wallboard and joint compound
- siding
- roofing
- vinyl and asphalt flooring, including:
 - backing
 - mastics
- acoustic or decorative wall and ceiling plaster, including:
 - > paints
 - > spackles
 - coatings
 - > ceiling tiles
 - > lay-in panels
- thermal insulation, including:
 - > spray-applied
 - **>** blown-in
 - boiler lagging and gaskets
 - breaching
 - > pipe wrap
 - > tank and vessel coverings
- fireproofing material, including:
 - blankets
 - > curtains
 - > counter-tops
 - > gloves
 - > electrical wiring
 - > insulation
 - > cloth
 - > structural insulation
- flexible fabric firestops, duct connections and insulation
- packing materials
- gaskets
- felts
- caulking
- putties
- joint compounds
- adhesives
- interior surfaces of duct work in buildings where there was past airborne contamination with asbestos fibres

All asbestos-containing pipe, boiler, and duct insulating materials must be identified in this process. The state of the material must also be noted (e.g., if it is damaged or in poor repair and likely to release fibres). All ACM must be kept in good repair, as required by regulation 334. Repairs to asbestos surfaces must be done immediately to prevent the breaking-off of asbestos or the release of asbestos fibres. The surface must be kept wet during a repair. If this is not possible, other means must be used to contain any fibres.

If the presence or absence of asbestos fibres in a material can only be determined by the collection of samples of the material, this sampling may only be performed by a *competent person*.

For example, an asbestos consultant or someone who is trained adequately by the consultant would be considered competent. Precautions are needed to avoid exposure to asbestos while collecting samples.

Samples must be collected only when an area is not occupied. Only the people needed for the activity should be present.

In the Regulations, a competent person is defined as someone who possesses the knowledge, experience, and training to perform a specific duty.

Materials that may contain asbestos must be handled as if they do contain asbestos unless documentation or analytical testing confirms they do not. The recorded inventory must be kept and maintained. Review the inventory before conducting maintenance or renovation work on or near materials containing asbestos.

This asbestos inventory is to be provided to the employers of all workers in the building. It is also to be provided to self-employed workers who may be contracted to perform work in the building.

This inventory can then be used by an employer to develop an Asbestos Control Plan if and when activity in their work area may result in the release of asbestos fibres.

Notification

Once the inventory is complete, a copy must be made available to the occupational health committee, health and safety representative, and workers. Building occupants must be informed about ACM and how it is labeled. In addition, they must be provided with basic information about how to avoid any exposure to ACM in the building. The occupants must be made aware of the locations of materials containing ACM that may affect them. No one must be allowed to disturb the materials if they know or suspect that the materials contain asbestos.

Building occupants and users can be informed by distributing notices, holding information meetings, and identifying the presence of materials containing asbestos on any tenders and drawings provided to contractors. All outside contractors and self-employed persons must be notified of the exact location of the materials containing asbestos which they will work on or potentially disturb, prior to any work being done.

Building occupants should also be informed:

- about the intended action for each location where asbestos is found (e.g., abatement, leave intact, ongoing cleaning);
- about how to avoid disturbing or damaging any material containing asbestos; and
- that any disturbance or change in the condition of the material containing asbestos, such as crumbling, dust, or debris accumulation, must promptly be reported to the asbestos program manager.

Labelling

Where workers have access to ACM, the employer, contractor, or owner must ensure the material is labeled. Labeling prevents unprotected or unauthorized people from:

- being exposed to material containing asbestos;
- disturbing materials containing asbestos; and
- entering an area where repair or renovation activities involving these materials are underway.

Labelling usually means posted signs. They can be:

- attached directly to materials containing asbestos;
- at the entrance to an area where ACM is present (e.g., placard); or
- at entrances to areas where asbestos is being cleaned up or removed.

A map may also be used to show the presence and location of asbestos. A label, placard, or map must include a warning about the dangers to health from inhaling or ingesting asbestos fibres into the body.

An appropriate sign displayed at the entrance and around the perimeter of an asbestos clean- up or removal project is shown below.



An appropriate label for material containing asbestos would be:

DANGER: CONTAINS ASBESTOS FIBRES

CANCER AND LUNG DISEASE HAZARD

DO NOT DISTURB

An appropriate sign in an area where routine maintenance is performed on material containing asbestos would be:

CAUTION

ASBESTOS

DO NOT DISTURB WITHOUT PROPER TRAINING, EQUIPMENT, AND AUTHORITY

Training

The employer must educate and train workers who may work in areas where asbestos is present. All custodial and maintenance staff whose work may disturb materials containing asbestos must receive training before performing their work. Training programs for custodial and maintenance staff should be reviewed every year, or more often, depending on changes in work conditions.

Training must include:

- an explanation about what asbestos is and how it is used;
- the health effects associated with exposure to asbestos;
- the exact locations of materials containing asbestos in the building;
- how to avoid disturbing ACM;
- how to recognize and report damage to these materials;
- the procedures for how custodial and maintenance staff must deal with ACM to prevent fibre release, including wet mopping, wiping, and high efficiency particulate air (HEPA) filter vacuum cleaning techniques;
- how to select and correctly use the appropriate protective clothing and respirators;
- the procedures for the safe use, storage, handling, and disposal of asbestos (additional information regarding disposal of asbestos is available from the Saskatchewan Ministry of Environment);
- the procedures for preventing asbestos fibre release and exposure;
- the procedures in the event of an emergency involving asbestos;
- the periodic and long-term actions put in place to protect the health and safety of building occupants; and
- the names and telephone numbers of people responsible for asbestos related activities in the building.

Maintenance staff required to work on materials containing asbestos must receive specific training relevant to that work. Depending on the specific tasks involved, maintenance staff may also need training in specific asbestos abatement techniques including:

- isolation of the ventilation (HVAC) system;
- isolation of the work area:

- HEPA vacuuming;
- methods for reducing fibre release;
- glove bag techniques for working around pipe insulation;
- clean-up and decontamination procedures; and
- respiratory and body protection.

When work near or on ACM may result in the material being significantly disturbed, consider employing contractors knowledgeable in asbestos abatement.

Precautions should be taken before allowing outside contractors to work on or near ACM. Provide all contractors with information about the location of materials in the building known or suspected to contain asbestos. The asbestos program manager or building owner must ensure that the contractor is familiar with the site-specific Asbestos Management Program (AMP), has experience working with or around ACM, and has adequately trained workers. A trained member of the building custodial or maintenance staff should be present to oversee all maintenance performed by outside contractors on materials containing asbestos.

Inspections

Periodically inspecting all asbestos-containing materials identified in the inventory is essential to the AMP. The inspection and damage reports that trained custodial and maintenance staff perform can identify damage or deterioration. Repairs to asbestos surfaces must be done immediately to prevent the breaking off of asbestos or the release of asbestos fibres. The surface must be kept wet during a repair. If this is not possible, other means must be used to contain any fibres. This system will allow corrective action to take place before any exposure risk occurs.

All friable ACM and all sprayed-on asbestos surfaces must be regularly inspected by the employer, contractor, or owner and must also, at least annually, be inspected by a competent person to confirm that the material is not releasing, and is not likely to release, asbestos dust into the atmosphere. The employer, contractor or building owner may inspect more frequently if damage potential is high.

When completing the annual inspection, the following information, at a minimum, must be recorded:

- the location of the ACM;
- the type of material containing asbestos;
- the present abatement status, if any (encapsulated, enclosed, or neither);
- evidence of physical damage;
- evidence of water damage;
- evidence of delaminating or other deterioration;
- the degree of material accessibility;

- the level of work activity near the material; and
- the location of nearby air plenums, air shafts, or air streams, if any.

Cleaning Procedures

While the principal objective of the AMP is to maintain materials containing asbestos in good condition to prevent fibre release, cleaning up existing and occasional asbestos contamination may be necessary. Only properly trained and protected workers may do this. It is essential to use the correct cleaning procedures.

Only wet mopping/wiping or specialized vacuuming may be used to clean surfaces that may be contaminated with asbestos. Vacuuming must be conducted with a *high efficiency particulate air* (HEPA) vacuum cleaner that is tested and certified annually. A HEPA vacuum cleaner has an efficient filter that traps the microscopic asbestos fibres responsible for human health effects. Ordinary vacuum cleaners may allow tiny asbestos fibres to pass through the filter or bag, re-enter the work area, and be spread to other areas of the workplace.

In the Regulations, a HEPA filter is defined as a high-efficiency particulate aerosol filter that is at least 99.97% efficient in collecting a 0.3 micrometre aerosol.

Some residential type vacuums identified as having HEPA filters are more effective than older vacuums, but do not meet the filtration efficiency required by the Regulations. Ensure that the HEPA vacuum being used meets the occupational health and safety standard.

Wet mopping/wiping is performed by gently spraying surfaces with either water or amended water before cleaning. Amended water is a mixture of water and commercially available chemicals that allow water to penetrate more easily into the material containing asbestos.

A dust suppressant could also be used on mops. Wetting surfaces reduces the potential for asbestos dust to become airborne. Dry brooms, mops, dust cloths, and standard household or shop vacuum cleaners must not be used for asbestos clean-up as they may create a risk of airborne exposure to asbestos fibres.

If there is a possibility that irregular surfaces (e.g., curtains, books, furniture, and carpeting) may be contaminated with asbestos, cleaning should be done with a HEPA vacuum. Other surfaces, such as walls, non-carpeted floors, light fixtures, exteriors of air handling ducts, and filing cabinets should be cleaned using mops and dust cloths or rags that are wetted with amended water. Properly trained workers performing this initial decontamination must wear an appropriate respirator and body protection.

Prohibited Activities

Custodial and maintenance staff must ensure that their activities do not damage or disturb materials containing asbestos. Custodial and maintenance staff must be instructed to observe these rules:

- **do not** drill holes into material containing asbestos;
- **do not** hang pictures, signs (except asbestos warning signs), clothing, plants, or any other articles on structures covered with materials containing asbestos;
- **do not** sand, saw or grind floor tiles, hard board panels, or other materials that may contain asbestos;
- **do not** damage materials containing asbestos while moving furniture or other objects;
- **do not** install curtains, drapes, or dividers in such a way that they damage materials containing asbestos;
- **do not** dust floors, ceilings, moldings, or other surfaces with a dry brush, or sweep with a broom in an environment containing asbestos;
- **do not** use an ordinary vacuum to clean-up debris containing asbestos;
- do not remove ceiling tiles below materials containing asbestos without wearing proper respiratory protection, clearing the area of other people, and observing asbestos waste disposal procedures;
- do not remove potentially contaminated ventilation system filters in a dry state; and
- **do not** shake potentially contaminated ventilation system filters.

Renovation

Examples of a renovation may include:

- demolishing part of a building;
- moving interior walls;
- replacing window coverings;
- removing or replacing ceiling tiles; and
- building or removing book shelves.

A written Asbestos Control Plan must be prepared when material containing asbestos may be removed or disturbed as part of the renovation. This plan must be in place before the renovation activity begins. A written notification must be given to the Occupational Health and Safety Division at least fourteen days before any intended 'high risk asbestos process'. See Appendix 1 for the Notification Form and Appendix 2 for a listing of activities that are considered to be high risk asbestos processes.

Where renovation involves direct contact, but no removal of materials containing asbestos (e.g., painting or wallpapering over material containing asbestos), special precautions must be taken not to create dust. Where an activity may disturb materials containing asbestos,

greater care is required. These precautions may range from minor removal procedures to full asbestos abatement. A review of the asbestos inventory must be conducted before planning any renovation, minor or major.

The asbestos program manager should review plans for renovation, remodeling, or maintenance work near materials containing asbestos before work begins. A written request and approval system can be used by the asbestos program manager to ensure proper procedures and precautions will be in place to prevent asbestos contamination.

Fibre Release Incidents

Unforeseen events may result in the release of asbestos fibres. As long as material containing asbestos remains in the building, a fibre release incident may occur. Custodial and maintenance staff must remain alert for debris on the floor, water, or physical damage to the material containing asbestos or other evidence of possible fibre release. Fibre release may occur with normal breakdown of material containing asbestos or during maintenance or renovation activities. As soon as possible, appropriately trained staff or abatement contractors, must repair and decontaminate any area where fibre release, or damage has occurred.

The minor and major incidents discussed in this section are not planned asbestos abatement projects, but unintentional disturbances of materials containing asbestos.

Minor Fibre Release Incidents

Examples of minor incidents include:

- puncture of an insulated pipe;
- contact with an insulated structural beam; and
- breakage of a corner section of tile or wall panel, where a small amount of material containing asbestos is dislodged or exposed.

These minor incidents of fibre release can be treated with standard wet cleaning or HEPA vacuuming techniques. In such cases, the following procedures must be used:

- Immediately control all access to the affected area. Unauthorized people should not be allowed to enter the area.
- Workers must wear an appropriate respirator based on the potential exposure to asbestos fibre.
- Workers must use a spray container with a very fine spray output to saturate the debris thoroughly with amended water. The debris must then be carefully placed in a doubled 6-millimetre plastic bag (total thickness 12 millimetres) properly labeled for disposal or collected with a certified HEPA vacuum cleaner. The debris area must be thoroughly cleaned with a damp cloth or mop, or be vacuumed with a certified HEPA vacuum.
- All debris and materials used in the clean-up must be double-bagged, labeled, and properly disposed of as asbestos waste.

• The damaged material containing asbestos must be repaired with asbestos-free spackling, plaster, cement or insulation, or sealed with latex paint or encapsulate.

Major Fibre Release Incidents

Major incidents of fibre release are very serious. Disturbing a large amount of material containing asbestos may contaminate an entire building with asbestos fibres.

Examples of major incidents include:

- water or physical damage to pipe insulation, resulting in sections breaking off; and
- insulation falling from structural beams onto the back of ceiling tiles.

In these cases, immediate and thorough procedures are required. Well-trained and properly equipped people must address these situations. Typically, these are contractors trained and equipped to deal with asbestos decontamination. The following procedures must be used in the event of a major release of asbestos fibres:

- The area must be isolated as soon as possible after the material containing asbestos is discovered. Where doors can seal the area, the doors must be locked. (Be careful not to violate fire regulations if the area is an escape corridor.)
- The air handling system in the affected area must be shut off or temporarily modified to prevent the spread of fibres from the affected area to other areas of the building.
- A notice of a high risk asbestos process must be submitted to the Occupational Health and Safety Division before beginning the process, complete with a statement of the action to be taken.
- Determine the extent of contamination with a thorough inspection. All people determining the extent of contamination must wear a fit-tested powered air purifying respirator (PAPR) with a N, P, or R100 particulate filter based on the potential asbestos fibre exposure, a protective body suit, boots, and head cover.
- Doors, windows, and air registers in the contaminated area must be sealed with two layers of 6 millimetre plastic sheets and tape. The area must be isolated electrically.
- Appropriate warning signs must be posted to prevent unauthorized entry.
- Workers performing the decontamination must wear appropriate respirators based on the potential asbestos fibre exposure, the minimum being a PAPR with an N, P, or R100 particulate filter, as well as protective body suits, boots, and head covers.
- Fallen debris must be sprayed with amended water, double-bagged, labelled, and properly disposed of as asbestos waste. The floor must be thoroughly cleaned using wet mopping/wiping and vacuumed with a certified HEPA vacuum cleaner.
- Walls, ceilings, pipes, boilers, or other surfaces where material containing asbestos was damaged, must be temporarily repaired. This may involve plastering with asbestos-free material, spraying with an encapsulant, or taping with duct tape.

- All equipment and tools used in the clean-up operation must be washed or wiped with damp cloths. All HEPA vacuums must be immediately emptied and decontaminated by persons with specialized training. All disposable materials (e.g., cloths, mop heads, filters, coveralls) must be discarded as asbestos waste.
- Before clean-up work begins, the enclosure is required to be placed under negative air pressure relative to the rest of the building. An air pressure gauge should be used to test the enclosure's efficiency and ensure negative pressure. The negative air pump must be tested and the HEPA filter must be certified in place if it will exhaust into a location where unprotected workers may be present. A decontamination shower may be necessary for workers exiting the enclosure. A visual inspection of the isolation system must be conducted before the clean-up is started and before each work shift. Any defect found on inspection or during testing must be remedied immediately.
- Air monitoring must be performed before the plastic barriers are removed and the area reoccupied. The concentration of asbestos within the enclosure must be less than 0.01 fibres per cubic centimetre of air before the enclosure is removed and unprotected workers are allowed to re-enter the area. This monitoring must be done by a competent person (e.g., someone with specialized training and experience in this area).
- If high risk asbestos activities are performed, monitoring for airborne asbestos fibres should be considered for the area just outside of the restricted area to ensure that asbestos fibres are being contained.
- Where a visual examination of the enclosure reveals a problem, or air monitoring performed outside the enclosure indicates a failure, clean-up activities must stop immediately and not begin again until the defect in the enclosure has been remedied.

Each incident of fibre release, whether minor or major should be investigated to prevent similar occurrences in the future. If the incident exposed workers to the extent that it may affect their health, an investigation and a written report with the following additional information is required:

- a description of the incident, including the cause, the date, and all affected worksites;
- the duration, extent, and nature of exposures;
- workers who were exposed; and
- corrective action taken to prevent the occurrence of a similar incident.

The investigation must be done in consultation with the committee. The report must be given to any worker who was or may have been exposed.

Appendix 1

Note: the most recent version of this form can be downloaded from saskatchewan.ca

Government —— of —— Saskatchewan
Ministry of Labour Relations and Workplace Safety

Notification of High Risk Asbestos Process

Fax: (306) 787-2208

Mail: Director Health Services

Occupational Health and Safety Division

400-1870 Albert Street REGINA SK S4P 4W1

E-mail: OHSAsbestosNotification@gov.sk.ca

Submit no later than 14 days before start of Project

Location of Project			
Name of Employer, Contractor or Owner.			
Mailing Address of Employer, Contractor or Owner			
Telephone number			
Fax number			
Start Date (estimated)		Expected completion date	
	day/ mo/ yr	•	day/ mo/ yr

Details of Project

- 1. Location of project at the worksite (floor number/s, basement, etc.)
- 2. Type of work (removal, encapsulation, demolition, etc.)
- 3. Number of workers employed in the asbestos project
- 4. Name, address and phone number of asbestos abatement company (if applicable)
- 5. Name, address and phone number of asbestos consultant (if applicable)

For more information contact: Occupational Health and Safety Toll free 1 – 800 –567-7233

Notice Requirements

- 7.(2) Not later than 14 days before beginning the process, an employer, contractor or owner shall give notice to the division of the intention to begin a high risk asbestos process listed in Table 5 of the Appendix. A notice required by subsection (2) must include:
- (a) the legal name and business name of the employer, contractor or owner;
- (b) the location of the site, plant, process or place of employment;
- (c) the mailing address of the employer, contractor or owner;
- (d) the nature of the work or process to be undertaken;
- (e) the number of workers to be employed;
- (f) the telephone number and fax number of the employer, contractor or owner; and
- (g) the estimated starting date and expected duration of the work or process.

TABLE 5: Asbestos Processes

Part A - High Risk Asbestos Processes

- 1 The removal, encapsulation, enclosure or disturbance of anything but minor amounts of friable asbestoscontaining material during the repair, alteration, maintenance, demolition, or dismantling of any part of a plant
- 2 The cleaning, maintenance or removal of air-handling equipment in buildings where sprayed fireproofing asbestos-containing materials have been applied to the airways or ventilation ducts
- 3 The dismantling or the major alteration or repair of a boiler, furnace, kiln or similar device, or part of a boiler, furnace, kiln or similar device, that is made of asbestos-containing materials
- 4 The use of power tools not equipped with HEPA filtration to grind, cut or abrade any asbestos-containing surface or product.

Part B – Moderate Risk Asbestos Processes

- 1 The use of a power tool equipped with HEPA filtration to cut, shape or grind any asbestos-containing surface or product
- 2 The removal of a false ceiling or part of a false ceiling where friable asbestos-containing material is, or is likely to be, lying on the surface of the false ceiling
- 3 The removal, the encapsulation or enclosure or the disturbance of minor amounts of friable asbestos-containing material during the repair, alteration, maintenance, demolition, or dismantling of a structure, machine or equipment or part of a structure, machine or equipment.

Part C - Low Risk Asbestos Processes

- 1 The installation or removal of manufactured asbestos-containing products where sanding, cutting or similar disturbance is not required
- 2 The use of hand tools to cut, shape, drill or remove a manufactured asbestos-containing product
- $3\,$ The removal of drywall material where asbestos joint filling compounds have been used
- 4 The use of personal protective equipment made of asbestos-containing textiles
- $5\,$ The transporting or handling of asbestos-containing materials in sealed containers
- 6 The cleaning or disposing of minor amounts of asbestos debris that has come loose or fallen from a friable surface
- 7 The removal of small samples of asbestos-containing material for the purpose of identification.

Appendix 2

The following is an excerpt from Table 5 in the Appendix of *The Occupational Health and Safety Regulations*, 1996.

High Risk Asbestos Processes

- 1. The removal, encapsulation, enclosure or disturbance of anything but minor amounts of friable asbestos-containing material during the repair, alteration, maintenance, demolition, or dismantling of any part of a plant.
- 2. The cleaning, maintenance or removal of air-handling equipment in buildings where sprayed fireproofing asbestos-containing materials have been applied to the airways or ventilation ducts.
- 3. The dismantling or the major alteration or repair of a boiler, furnace, kiln or similar device, or part of a boiler, furnace, kiln or similar device, that is made of asbestoscontaining materials.
- 4. The use of power tools, not equipped with HEPA filtration, to grind, cut or abrade any asbestos containing surface or product.

Appendix 3

The following Parts and Sections of *The Occupational Health and Safety Regulations, 1996* are asbestos-related requirements:

- Part XXIII Asbestos
- Section 7(2) and (3) Notice Requirements (and Table 5)
- Section 306 Substances listed in Table 20
- Section 311 Report of worker's exposure

The following are key requirements in PART XXIII of the regulations. This Appendix only highlights the sections that are most relevant to managing asbestos in buildings.

PART XXIII Asbestos

Interpretation

330 In this Part:

- (a) "asbestos" means the fibrous form of crocidolite, amosite, chrysotile, anthophyllite, actinolite, tremolite or a mixture containing any of those minerals;
- (b) "asbestos dust" means dust that consists of or contains asbestos fibres that are likely to become airborne;
- (b.1) "asbestos-containing material" means:
 - (i) vermiculite determined to contain any asbestos when tested according to an approved method; or
 - (ii) any material, other than vermiculite, that when tested according to an approved method is determined to contain:
 - (A) a proportion of asbestos greater than 0.5%, if the material is friable; or
 - (B) a proportion of asbestos greater than 1.0%, if the material is non-friable.
- (c) "asbestos process" means any activity that may release asbestos dust, and includes:
 - (i) the sawing, cutting or sanding of asbestos-containing materials;
 - (ii) the repair, maintenance, replacement or removal of asbestos surfaces;
 - (iii) the cleaning or disposal of asbestos materials;
 - (iv) the mixing or application of asbestos shorts, cements, grouts, putties or similar compounds;
 - (v) the storing or conveyance of materials containing asbestos; and
 - (vi) the demolition of structures containing asbestos;
- (d) "asbestos surface" means the surface of an object that contains asbestos;
- (e) "friable" means material that, when dry, is or can be crumbled, pulverized or

powdered by hand pressure.

Application of Part

331 This Part applies to any place of employment or worksite where asbestos dust is likely to be released into the atmosphere and workers may be present.

Prohibition re crocidolite (Prohibition on installing crocidolite)

332 No employer, contractor, owner, worker or self-employed person shall install crocidolite or any mixture containing crocidolite.

Prohibition re spraying (Prohibition on spraying)

333 No employer, contractor, owner, worker or self-employed person shall spray asbestoscontaining materials.

Identification of asbestos-containing materials

- **334**(1) Subject to subsection (3), an employer, contractor or owner shall identify and keep a written record of the materials that the employer, contractor or owner knows or may reasonably be expected to know are present in a place of employment and with which workers may come into contact with:
 - (a) asbestos-containing material;
 - (b) subject to subsection (2), any material likely to contain asbestos.
- (2) Any material likely to contain asbestos is deemed to be asbestos-containing material for the purposes of this Part until the material is determined to be asbestos-free.
- (3) An employer, contractor or owner shall immediately identify the presence in a place of employment of all material that is likely to contain asbestos, is damaged or in poor repair and is likely to release asbestos dust into the atmosphere at the place of employment.
- (4) An employer, contractor or owner shall ensure that the identification and assessment of asbestos-containing materials pursuant to subsection (1) or the determination of asbestos-free materials pursuant to subsection (2) is performed only by a competent person.
- (4.1) An employer, contractor or owner shall ensure that the written record mentioned in subsection (1) includes the following information for each asbestos-containing material or each type of asbestos-containing material:
 - (a) its location;
 - (b) its characteristics;
 - (c) its accessibility.
- (4.2) An employer, contractor or owner shall ensure that the written record mentioned in subsection (1) is updated each time asbestos-containing material is added to or removed from the place of employment.

- (5) An employer, contractor or owner shall make a copy of the written record mentioned in subsections (1), (3), (4.1) and (4.2) readily available for reference by:
 - (a) the committee;
 - (b) the representative; and
 - (c) the workers.
- (6) These regulations come into force on the later of:
 - (a) May 7, 2014; and
 - (b) the expiration of 60 days from the day on which they are published in the Gazette.

Labelling, placarding, etc.

- **335**(1) Where workers have access to asbestos-containing materials identified pursuant to subsection 334(1), an employer, contractor or owner shall ensure that:
 - (a) the asbestos-containing materials are clearly and conspicuously labeled as asbestos;
 - (b) the presence and location of the asbestos-containing materials are clearly indicated on a placard that is posted in a conspicuous location as close as possible to the asbestos containing materials; or
 - (c) the presence and location of the asbestos-containing materials are clearly indicated on a map or plan that is readily available to the workers.
- (2) An employer, contractor or owner shall ensure that a label, placard, map or plan required by subsection (1) contains a warning of the danger to health from taking asbestos fibres into the body.
- (3) An employer, contractor or owner shall provide to all employers, contractors and self-employed persons at the place of employment who may be at risk from any asbestos process all relevant information from the record kept pursuant to subsection 334(1) and any material mentioned in subsection 334(2) that is likely to be disturbed and may release asbestos dust.

Inspection

- **336**(1) An employer, contractor or owner shall ensure that all friable asbestos-containing material and all sprayed-on asbestos surfaces are regularly inspected by the employer, contractor or owner and are inspected at least annually by a competent person to confirm that the material is not releasing, and is not likely to release, asbestos dust into the atmosphere.
- (2) An employer, contractor or owner shall keep a written record of the annual inspection mentioned in subsection (1) and make a copy of the record available for reference by the workers.

Asbestos processes (Asbestos Control Plan)

- **337**(1) An employer or contractor shall:
 - (a) ensure that every asbestos process is carried out in a manner that prevents, to the extent that is practicable, the release into the air of asbestos dust;
 - (b) in consultation with the committee, develop an asbestos control plan that protects the health and safety of all workers in the event of the dispersal of asbestos dust into the atmosphere at a place of employment or worksite; and
 - (c) implement the asbestos control plan developed pursuant to clause (b).
- (2) A plan developed pursuant to subsection (1) must be in writing and must include:
 - (a) the emergency procedures to be used in case of an uncontrolled release of asbestos, including:
 - (i) the means to protect exposed workers;
 - (ii) the methods to confine and control the release of asbestos; and
 - (iii) the decontamination procedures to be used;
 - (b) the asbestos processes that workers may undertake;
 - (c) the training of workers in any asbestos process the workers may be required or permitted to undertake;
 - (d) the methods to control the release of asbestos dust;
 - (e) the personal protective equipment that workers may be required to use;
 - (f) the decontamination procedures for:
 - (i) the worksite: and
 - (ii) the workers who undertake any asbestos process; and
 - (g) the inspection and maintenance schedule for all asbestos-containing materials.
- (3) An employer or contractor shall make a copy of the plan developed pursuant to subsection (1) readily available for reference by workers.
- (4) Where an asbestos process is undertaken, an employer, contractor or owner shall ensure that:
 - (a) the area is effectively isolated or otherwise enclosed to prevent the escape of asbestos dust to any other part of the place of employment;
 - (b) a warning notice is conspicuously displayed indicating that asbestos work is in progress;
 - (c) all asbestos-containing materials removed are placed in appropriate receptacles that are impervious to asbestos and that are clearly labeled "Asbestos"; and

(d) the receptacles mentioned in clause (c) are handled and transported in a manner that will protect them from physical damage.

Asbestos surfaces (Maintenance of Asbestos Surfaces)

- **338** An employer, contractor or owner shall ensure that:
 - (a) every asbestos surface is kept in good condition;
 - (b) all repairs and sealing necessary to prevent the breaking-off of asbestos or the release of asbestos dust from an asbestos surface are done immediately;
 - (c) no asbestos surface is disturbed for the purpose of maintenance, replacement, removal or repair until the surface is thoroughly wetted throughout the entire thickness; and
 - (d) where it is not practicable to comply with clause (c):
 - (i) the asbestos surface is kept wet while the surface is being disturbed; or
 - (ii) effective means are used to capture, at source, any dust created by the disturbance.

Ventilation equipment

- **339**(1) Where exhaust ventilation equipment is used to contain asbestos dust, an employer, contractor or owner shall ensure that the equipment is:
 - (a) equipped with a HEPA filter;
 - (b) inspected regularly for defects;
 - (c) maintained; and
 - (d) certified by a competent person at least once each year as being able to function safely and effectively.
- (2) Where exhaust ventilation equipment will exhaust into the interior of a place of employment that is occupied by workers, an employer, contractor or owner shall ensure that the equipment is tested in an approved manner by a competent person before beginning an asbestos process to ensure that the equipment is able to function safely and effectively.

Personal protective equipment

- **340**(1) Where effective local exhaust ventilation equipment is not used, an employer, contractor or owner shall ensure that each worker who may be exposed to asbestos dust resulting from an asbestos process is provided with and uses:
 - (a) an approved respiratory protective device that is appropriate to the level of risk of the asbestos process and that meets the requirements of Part VII; and
 - (b) approved protective clothing that, when worn, will exclude asbestos dust.

- (2) An employer shall ensure that protective clothing:
 - (a) is disposed of as asbestos waste after use; or
 - (b) is kept, maintained and cleaned in a safe manner each time it is used.

Asbestos waste

- **341**(1) Subject to subsection (3), an employer or contractor shall ensure that asbestos waste or dust produced in a place of employment is cleaned away promptly, and at least once each day, by vacuum cleaning equipment equipped with a HEPA filter to prevent the escape of asbestos dust into the air or, where vacuum cleaning is not practicable, by wet methods.
- (2) An employer or contractor shall ensure that the vacuum cleaning equipment mentioned in subsection (1):
 - (a) is inspected regularly for defects;
 - (b) is maintained; and
 - (c) is certified by a competent person at least once each year as being able to function safely and effectively.
- (3) Subsection (1) does not apply to vacuum cleaning equipment used within an effectively isolated enclosure that is being used to control the release of asbestos dust.
- (4) An employer or contractor shall ensure that workers who are employed in the disposal of asbestos wastes are adequately trained in the safe means of handling those wastes and the proper disposal of those wastes in a manner that will not create a hazard to the health or safety of workers at the disposal site.

Warning of health risks

- **342** An employer shall ensure that workers who are likely to be employed in an asbestos process or are likely to be exposed to asbestos dust are informed of the nature and extent of the risk to their health, including a warning that:
 - (a) the inhalation of asbestos may cause
 - (i) pneumoconiosis;
 - (ii) lung cancer; or
 - (iii) mesothelioma; and
 - (b) the risk of injury to health caused by the inhalation of asbestos is increased by smoking.

Training

343(1) An employer shall ensure that each worker who may be exposed to asbestos dust resulting from an asbestos process is provided with training in the safe handling of asbestos that is appropriate to the level of risk of the asbestos process as set out in Table 5 of the Appendix.

(2) No worker shall work in an asbestos process unless the worker has completed the training mentioned in subsection (1).

High risk asbestos processes

- **344** Where a high risk asbestos process set out in Table 5 of the Appendix has been completed, an employer or contractor shall ensure that no worker is required or permitted to enter the area where the asbestos process was carried out without an approved respiratory protective device until a competent person determines that:
 - (a) there are no visible signs of debris in that area; and
 - (b) air monitoring verifies that airborne asbestos fibre concentrations are less than 0.01 fibres per cubic centimetre of air.

Medical examinations

- **345**(1) In this section, "worker" means a worker who is regularly employed in an asbestos process.
- (1.1) Not less than once every two years and with the consent of the worker, the employer shall:
 - (a) offer to arrange for a medical examination of the worker during the worker's normal working hours; and
 - (b) reimburse the worker for any part of the cost of medical examination that the worker cannot recover.
- (2) Where a worker cannot attend a medical examination mentioned in sub-section (1.1) during the worker's normal working hours, an employer shall credit the worker's attendance at the examination as time at work and ensure that the worker does not lose any pay or other benefits.
- (3) A medical examination arranged pursuant to subsection (1.1) must include:
 - (a) a comprehensive medical history and physical examination with special attention to the lungs;
 - (b) lung-function tests, including forced vital capacity and forced expiratory volume at one second; and
 - (c) any further medical procedures that are necessary for the diagnosis of an asbestos related disease.

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