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TECHNICAL GUIDELINE TO ASBESTOS EXPOSURE MANAGEMENT PROGRAMS

Canada

Technical Guideline to Asbestos Exposure Management Programs

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TECHNICAL GUIDELINE TO ASBESTOS EXPOSURE MANAGEMENT PROGRAMS

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This Guideline is intended to help health and safety professionals, employers, and employees to evaluate exposures to airborne asbestos in workplaces governed by federal jurisdiction and to apply control measures. This Guideline advises on asbestos asessment and management strategies pertaining to asbestos and asbestos containing materials. The purpose of this Guideline is to support the Labour Program's mandate of fostering safe and healthy workplace environments.

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1. Introduction

1.1 Issue

In the update to the five occupational health and safety regulations under the *Canada Labour Code, Part I*:[1] ***Canada Occupational Health and Safety Regulations*** (COHSR);[2] ***On Board Trains Occupational Health and Safety Regulations*** (OTOHSR);[3] ***Oil and Gas Occupational Safety and Health Regulations*** (OGOSHR);[4] ***Maritime Occupational Health and Safety Regulations*** (MOHSR);[5] and ***Aviation Occupational Health and Safety Regulations*** (AOHSR),[6] the occupational exposure limit (OEL) for chrysotile asbestos was reduced from 1 fibre per cubic centimetre (f/cc) to 0.1 f/cc and the requirement of an asbestos exposure management program was added. The purpose of this technical guideline is to provide guidance on asbestos issues relating to Part X of the COHSR, Hazardous Substances, and to relevant provisions in other Regulations pursuant to the *Canada Labour Code, Part II*.[1] This guideline is an expansion of selected sections of the regulation.

1.2 Health effects of asbestos

All forms of asbestos, including chrysotile, have been shown through extensive scientific studies to be carcinogenic health hazards in humans. Asbestos is classified by the International Association for Research on Cancer (IARC) as a Group 1 carcinogen, meaning *carcinogenic to humans*.[7] Group 1 is the highest level of strength of evidence for carcinogenicity in the IARC carcinogen classification system.[8] Similarly, asbestos is classified by the American Conference of Governmental Industrial Hygienists (ACGIH®) as a Group A1 carcinogen, meaning *confirmed human carcinogen*. Group A1 agents are *carcinogenic to humans based on the weight of evidence from epidemiologic studies*.[9]

Asbestos has been shown to cause lung cancer and mesothelioma twenty years or later from a first asbestos exposure to disease development.[7, 10] According to the Institute for Work and Health publication ***New cases of mesothelioma and asbestos-related lung cancer in one year cost $1.9B***, in 2011 alone, 2,331 new Canadian cases of mesothelioma and lung cancer were attributed to occupational and para-occupational exposures to asbestos.[11] During the period 2007–2011, there were, on average, approximately 13 asbestos-related occupational fatalities per year and 8 asbestos-related occupational injuries per year in the federal jurisdiction.[10] More information on asbestos can be found in the Employment and Social Development Canada (ESDC) Labour Program **Asbestos Hazard Alert**.[12]

1.3 OHS Regulations definitions[2]

Airborne asbestos fibre	Asbestos fibres that are longer than 5 μm (micrometres) with an aspect ratio equal to or greater than 3:1 and that are carried by the air.
Asbestos	Actinolite, amosite, anthophyllite, chrysotile, crocidolite and tremolite in their fibrous form.
Asbestos-containing material (ACM)	Means: **(a)** Any article that is manufactured and contains 1% or more asbestos by weight at the time of manufacture or that contains a concentration of 1% or more asbestos as determined in accordance with Method 9002 set out in the document entitled ***NIOSH Manual of Analytical Methods*** published by the National Institute for Occupational Safety and Health, as amended from time to time, or in accordance with a scientifically proven method used to collect and analyze a representative sample of the material; and **(b)** Any material that contains a concentration of 1% or more asbestos as determined in accordance with Method 9002 set out in the document entitled *NIOSH Manual of Analytical Methods* published by the National Institute for Occupational Safety and Health, as amended from time to time, or in accordance with a scientifically proven method used to collect and analyze a representative sample of the material.
Clearance air sampling	Sampling to determine if the concentration of airborne asbestos fibre inside an enclosure is below the limit referred to in COHSR section 10.19 to permit the dismantling of a containment system.
Clearance air sampling interpretation	The use of aggressive air sampling techniques with a volume of air collected to determine the concentration of residual airborne asbestos fibres within the asbestos containment. This type of air sampling occurs at the very end of the asbestos abatement process.
Containment	An isolation system that is designed to effectively contain asbestos fibre within a designated work area where asbestos-containing material is handled, removed, encapsulated or enclosed, and includes a glove bag.
Encapsulation	Treatment of an asbestos-containing material with a sealant that penetrates the material and binds the asbestos fibres together, and treatment of the surface of the asbestos-containing material with a sealant that creates a membrane on the surface, to prevent the release of asbestos fibres into the air.
Enclosure	A physical barrier such as drywall, plywood, metal sheeting or glove bag, as part of a containment system, that isolates asbestos-containing material from adjacent areas in a building to prevent the release of airborne asbestos into those areas.

Enclosure interpretation	The list of appropriate physical barrier types is not a complete list and other materials may be used for an enclosure, such as polyethylene. However, any polyethylene used for an asbestos enclosure must be at least one layer of polyethylene that is 0.15 mm (6 mil) thick or greater.
Friable	Means, in respect of asbestos-containing material, that the material, when dry, can be easily crumbled or powdered by hand pressure.
Glove bag	A polyethylene or polyvinyl chloride bag affixed around an asbestos-containing source that permits the material to be removed while minimizing release of airborne asbestos into the workplace.
HEPA filter	A high-efficiency particulate air filter that has been tested to ensure efficiency equal to or exceeding 99.97% for removal of airborne particles having a mean aerodynamic diameter of 0.3 μm (micrometres) from the air.
High-risk activity	Means activity that involves the handling or the disturbance of friable asbestos-containing material or working in proximity to friable asbestos-containing material, where there is a high level of control necessary to prevent exposure to excessive concentrations of airborne asbestos and includes: **(a)** the removal or disturbance of more than 1 m^2 of friable asbestos-containing material in a workplace even if the activity is divided into smaller jobs; **(b)** the spray application of a sealant to friable asbestos-containing material; **(c)** cleaning or removing air-handling equipment, but not including filters, in a building that has sprayed-on fireproofing that is asbestos-containing material; **(d)** repairing, altering or demolishing any part of a kiln, metallurgical furnace or similar structure that contains asbestos-containing materials; **(e)** breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable asbestos-containing material, if the activity is done by means of power tools that are not attached to dust-collecting devices equipped with HEPA filters; and **(f)** repairing, altering or demolishing any part of a building in which asbestos is or was used in the manufacture of products, unless the asbestos was cleaned up and removed.

Low-risk activity	Means activity that involves the handling of asbestos-containing material or working in proximity to non-friable asbestos-containing material and includes: **(a)** installing or removing ceiling tiles that are non-friable asbestos-containing material and cover an area less than 7.5 m^2; **(b)** installing or removing other non-friable asbestos-containing materials if the material is not being broken, cut, drilled, abraded, ground, sanded or vibrated, and dust is not being generated; **(c)** breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable asbestos-containing material if the material is wetted to control the spread of dust or fibres, and the activity is done only with non-powered hand-held tools; and **(d)** removing less than 1 m^2 of drywall in which joint cement contains asbestos.
Moderate-risk activity	Means activity that involves the handling of asbestos-containing material or working in proximity to friable asbestos-containing material, not otherwise classified as low-risk and high-risk activities and includes: **(a)** removing all or part of a false ceiling to obtain access to a work area, if asbestos-containing material is likely to be lying on the surface of the false ceiling; **(b)** the removal or disturbance of 1 m^2 or less of friable asbestos-containing material during the repair, alteration, maintenance or demolition in a workplace; **(c)** enclosing friable asbestos-containing material; **(d)** applying tape or a sealant or other covering to pipe or boiler insulation that is asbestos-containing material; **(e)** removing ceiling tiles that are asbestos-containing material, if the tiles cover an area greater than 2 m^2 and are removed without being broken, cut, drilled, abraded, ground, sanded or vibrated; **(f)** breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable asbestos-containing material if: ▸ the material is not wetted to control the spread of dust or fibres; and ▸ the activity is done only by means of non-powered hand-held tools; **(g)** removing 1 m^2 or more of drywall in which joint cement that is asbestos-containing material has been used; **(h)** breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable asbestos-containing material if the activity is done by means of power tools that are attached to dust-collecting devices equipped with HEPA filters;

	(i) removing insulation that is asbestos-containing material from a pipe, duct or similar structure using a glove bag; and **(j)** cleaning or removing filters used in air-handling equipment in a building that has sprayed fireproofing that is asbestos-containing material.
Qualified person	In respect of a specified duty, a person who, because of their knowledge, training and experience, is qualified to perform that duty safely and properly.
Qualified person interpretation	The specified duty with respect to asbestos is the asbestos hazard investigation, risk assessment and abatement process, including required control measures to prevent employee exposure to asbestos.
Work activity	Any low risk activity, moderate risk activity or high risk activity or any activity that is ancillary to that activity, and the supervision of that activity and that ancillary activity.

1.4 Additional definitions not included in OHS Regulations[10]

Aggressive air sampling	A technique for air sampling in which the individual collecting the air sample creates air movement by the use of forced air equipment during the sampling period to stir up any settled dust and to simulate activity in that area of the building.
Asbestos abatement	Any work conducted on ACM to safely remove, encapsulate, enclose, or repair the ACM to prevent the exposure of employees to airborne asbestos fibres.
Bulk sampling	Removing a piece of suspected ACM for laboratory testing for the presence of 1% or more asbestos content by weight in the material. This occurs during the hazard investigation. Representative samples of all suspected ACM are taken for analysis. Regarding bulk sampling of vermiculite insulation and other materials that may have an uneven asbestos distribution, that are suspected ACMs, a qualified person is still responsible for conducting proper bulk sampling using NIOSH Method 9002 or another equivalent scientifically proven method. Due to the analytical challenges that asbestos-contaminated vermiculite poses, the qualified person must take a larger than normal bulk sample and/or more bulk samples than normal in order to obtain a more representative sample of any vermiculite insulation present in the workplace than the bulk sampling procedure for materials that have an even distribution of asbestos. The qualified person using a modified bulk sampling procedure must still comply with the specifications of the chosen sampling and analysis method. The COHSR definition of ACM as 1% or more asbestos by weight still applies to vermiculite insulation.

Clean room	A room without asbestos contamination. Specifically, it is an uncontaminated change room where the clean street clothes of asbestos abatement workers are stored. Air sampling is required to verify that this room has not been contaminated with asbestos fibres.
Contamination	With respect to asbestos; the presence of asbestos dust that contacts an object and would require proper cleaning or replacement to allow a person to use the object without causing asbestos exposure.
Friction material	A material that has a high coefficient of friction and is used to make components that operate under conditions of sliding friction. Specifically, these are components of manufactured automotive parts that include brake pads, brake shoes, and dry friction clutches.
Hazard investigation	A preventative investigation of a possible occupational health or safety hazard due to a hazardous substance according to COHSR 10.4. This is separate from hazardous occurrence investigation and reporting (HOIR), which is a reactionary root-cause investigation of a workplace incident.
Risk assessment	This must be conducted by a qualified person before asbestos abatement work begins. It is the determination if the proposed work activity is a low, moderate or high risk activity. A risk assessment is based on the type and amount of asbestos present in the ACM and the extent of work on ACM that needs to be done in order to prevent employees from being exposed to airborne asbestos fibre.
Zero airborne asbestos concentration	The concentration of “zero” airborne asbestos fibres in COHSR 10.19 (1.1, 3) corresponds to a recognized asbestos analytical method, such as NIOSH Method 7400 or NIOSH Method 7402, used to analyze an asbestos sample that returns a result that is below the limit of detection (LOD) of the analytical method. The LOD of NIOSH Method 7400 and of NIOSH Method 7402 is less than 0.01 f/cc. After a qualified person conducts asbestos air sampling, when a result is below the limit of detection for that method, the asbestos sample can be effectively considered to be “none detected” or “zero”. The specific value of the LOD is set by the technological limits of the analytical equipment required in the analytical method, rather than being chosen by a person.

2. The first task that must be done before a work activity is conducted on suspected asbestos-containing material

The first task for the employer to complete is to determine whether it is ACM, which is done through a hazard investigation. Once the hazard investigation, in accordance with COHSR section 10.4, has been conducted, the employer must readily provide the hazard investigation report to the workplace health and safety committee and employees.[2] If a hazard investigation has not been conducted on the suspected ACM, the employer must hire a qualified person to conduct a hazard investigation on the suspected ACM.

The regulatory requirement for damaged asbestos that a hazard investigation aims to address is COHSR section 10.26.2 (c-d):

> **(c)** ensure that all asbestos-containing material in the workplace that is exposed or that will be disturbed is identified by signs and labels or by any other effective manner;
>
> **(d)** ensure that all friable asbestos-containing material present in the workplace is controlled by removal, enclosure or encapsulation or by any other effective manner to prevent exposure of employees to asbestos.

The ***Canada Labour Code***, Part II section 124: General Duty of Employer states that the employer is responsible for employee health safety in the workplace.[1] The employer is also required to collaborate with employees on occupational health and safety through a workplace health and safety committee or health and safety representative. When an employer does not have full control or ownership over a workplace, the employer must take all reasonable precautions to ensure the health and safety of its employees.

If it exists, the employer must readily provide the asbestos inventory and asbestos exposure control plan of the building containing the workplace to employees who request it. The asbestos inventory and asbestos exposure control plan must be consulted to check for the documented presence of ACM and the type of asbestos mineral present in the proposed work area. Other asbestos-related details in the building-specific documents should also be considered before asbestos work begins. If the asbestos inventory or asbestos exposure control plan states that asbestos is present in the area of the workplace in question or if the presence of asbestos is unknown, a hazard investigation of that area must be conducted.[2] The employer must also take proper preventive precautions by evacuating and isolating the area in question from the rest of the workplace. Any work activity on ACM must be thoroughly documented and entered into the workplace asbestos inventory.

2.1 Examples of special cases

A federally-regulated employer is a tenant in a provincially-regulated multi-tenant building, such as a shopping mall:

> The federally-regulated employer must comply with federal regulations that apply to the workplace instead of provincial regulations. The workplace in a multi-tenant building is within the space that is leased or rented by the federally-regulated employer. The employer must also provide employees safe entry to and exit from the leased space [CLC section 125 (1)(p)].

An employee or contractor of a federally-regulated employer, such as a telecommunications company, working with suspected ACM in the private home of a client:

> Sampling and analyzing suspected ACM from a private home in order for a telecommunications company employee or contractor to conduct a moderate risk short duration installation, repair, or maintenance work activity that may generate dust may be unreasonable in some instances. Instead, the employer is required to follow the COHSR to provide employees with training to recognize situations of potential asbestos exposure hazards and training in the use of respiratory protective equipment (RPE) and personal protective equipment (PPE).

Other procedures and equipment for a moderate or low risk activity must be used, such as a drop sheet and a HEPA vacuum cleaner or damp wipes for containing any dust generated to the immediate work area and for cleaning the area after work is completed.

Additionally, the employer must also provide the appropriate RPE, PPE, and other appropriate asbestos abatement equipment to employees.[2] Thus, the employee may assume a material is an ACM in this situation and will have the proper equipment to prevent exposure to dust from a suspected ACM before starting any work. Personal protective equipment includes a respirator, gloves and protective clothing. The employer should document and maintain records of employee use of RPE and PPE for suspected ACM in a private home to assist in complying with the identification of ACM requirement of COHSR 10.26.2(c). If it is not possible to identify ACM by signs and labels, then any other effective manner may be used to fulfill this requirement.

3. Required steps in a hazard investigation

A hazard investigation of suspected ACM must be conducted prior to any work on the suspected ACM in accordance with COHSR section 10.4. The hazard investigation must be conducted by a qualified person. Please refer to the ESDC Labour Program document ***Guide to the Management of Hazardous Substances*** for more details on hazard investigations.[13] The purpose of a hazard investigation is to determine if the suspected ACM contains asbestos. Representative bulk samples of suspected ACM must be taken by a qualified person following NIOSH Method 9002 or an equivalent sampling method.[14] If the suspected ACM tested has a negative result for asbestos (contains less than 1% asbestos by weight), then no further asbestos precautions are required for that tested construction material. If the suspected ACM has a positive result for asbestos (contains 1% or more asbestos by weight), then an asbestos risk assessment must be conducted before any invasive work is done in that area of the workplace.

COHSR section 10.26.2 (d) states that the employer must:

> Ensure that all friable asbestos-containing material **present in the workplace** is controlled by removal, enclosure or encapsulation or by **any other effective manner** to prevent exposure of employees to asbestos.

The bolding of certain words of COHSR section 10.26.2 (d) above is for emphasis. Although the above requirement for employers seems very broad, it has some limits. The phrase "present in the workplace" can be interpreted as accessible to employees performing their normal work. For example, friable ACM that is enclosed behind a surface such as a wall or ceiling would be in compliance with COHSR section 10.26.2 (d) as long as employees are not exposed to asbestos fibres, since it is already enclosed and not accessible to employees performing their normal work.

Thus, sprayed-on asbestos-containing fire proofing in good condition located above a drop ceiling does not need to be removed, further enclosed, or encapsulated. However, the employer must monitor the condition of ACM and monitor for the release of asbestos fibres into the workplace air by air sampling for asbestos in the vicinity of the ACM by a qualified person (see section 5.2 for further details on air monitoring).

As well, the phrase "any other effective manner" is inclusive of any method that effectively prevents the exposure of employees to asbestos. This may include maintaining the ACM in good condition and would require frequent and regular visual inspections and air sampling in the vicinity of the ACM by a qualified person to monitor the ACM integrity. As well, the employer must ensure that the integrity of the ACM is maintained by protecting it from physical damage and from other sources of damage, such as water damage. When the ACM integrity is less than a good condition, as determined by a qualified person, then the employer must use another control method to prevent the exposure of employees to asbestos.

4. Required steps in a risk assessment

A risk assessment must be conducted by a qualified person before asbestos abatement work begins. The purpose of a risk assessment is to determine if the proposed work on the ACM is a low, moderate or high risk activity. A risk assessment is based on the type and amount of asbestos present in the ACM and the extent of work on ACM that needs to be done in order to prevent employees from being exposed to airborne asbestos fibres.[2]

Additionally, for low, moderate and high risk activities, as well as to asbestos-containing friction materials, the employer must comply with COHSR sections 10.8 and 10.9 which state:

> **10.8** Every hazardous substance stored, handled or used in a workplace shall be stored, handled or used in a manner whereby the hazard related to that substance is reduced to a minimum.
>
> **10.9** Where a hazardous substance is stored, handled or used in a workplace, any hazard resulting from that storage, handling or use shall be confined to as small an area as is practicable.

When specialized asbestos abatement contractors are hired by an employer to conduct an asbestos abatement project, the contractor must develop and implement appropriate asbestos abatement procedures. The employer must ensure that the procedures and control measures of the contractor are in place. The employer must also conduct air sampling in the vicinity of the asbestos abatement especially if normal work or occupancy will continue in the building during the abatement. The employer must also instruct employees not to enter or disturb the asbestos abatement enclosure (COHSR 10.13, 10.26.2).

5. Asbestos sampling

5.1 Monitoring

COHSR section 10.26.8 states that:

> **(1)** An employer shall ensure that a qualified person takes air samples to test for airborne asbestos fibres:
>
> **(a)** **in the vicinity of the containment system** during any work activity that involves asbestos-containing material and, in the case of a work activity that lasts longer than 24 hours, at least daily;
>
> **(b)** **in the clean room** during removal and clean-up operations and, in the case of removal and clean-up operations that last longer than 24 hours, at least daily; and
>
> **(c)** in contaminated areas that are **inside the containment system** as necessary during removal and clean-up operations.
>
> **(2)** The employer shall ensure that the following air samples are taken:
>
> **(a)** two samples for every area **in an enclosure** that is 10 m^2 or less;
>
> **(b)** three samples for every area **in an enclosure** that is more than 10 m^2 and not more than 500 m^2; and
>
> **(c)** five samples for every area **in an enclosure** that is more than 500 m^2.
>
> **(3)** Within 24 hours after obtaining the air sampling test results, the employer shall:
>
> **(a)** post a copy of the results in a conspicuous place in the work place; and
>
> **(b)** make the results available to the policy committee, if any, the work place committee and the health and safety representative.

For high risk and moderate risk activities that use an enclosure, a containment system, or a clean room, a qualified person must conduct daily air sampling of asbestos fibres in the prescribed work area for the full shift of the asbestos abatement employees to monitor the concentration of airborne asbestos fibres. Please refer to the ESDC Labour Program guideline ***Canadian Occupational Chemical Agent Compliance Sampling Guideline*** for more details on proper air sampling.[15] Furthermore, a qualified person should use suitable air sampling equipment that can easily detect a concentration of airborne asbestos fibres of 0.1 f/cc. When a qualified person takes air samples for occupational exposure to asbestos, the sampling results must be compared to the asbestos OEL of 0.1 f/cc or to a concentration of "zero" airborne asbestos fibres. The qualified person has responsibility for air sampling. They may use 50% of the 0.1 f/cc OEL as an action level for additional control measures for daily asbestos air monitoring. Daily air sampling for airborne asbestos fibres is not required for low risk activities, including low risk activities that last longer than 24 hours if an enclosure, a containment system, or a clean room is not constructed or used. In a low risk activity, no airborne asbestos fibres can be generated, only non-friable ACM can be worked on, and an enclosure is not required. If airborne asbestos fibres are generated or friable ACM is encountered, then the risk activity level must be reclassified from low to moderate or high.[2]

In any case where there is a likelihood that asbestos fibres may be released, a qualified person may take air samples [COHSR 10.19(3)]. Importantly, all analyses of asbestos samples must be conducted in a laboratory that is accredited for the relevant analysis methods.

5.2 Clearance air sampling

COHSR 10.26.9 (1) states that:

> Before dismantling a containment and after all asbestos dust, waste and debris have been cleaned up, removed or encapsulated, an employer must ensure that clearance air samples are taken **inside the enclosure** and the concentrations of airborne asbestos fibre are determined in accordance with Method 7400 set out in the document entitled NIOSH Manual of Analytical Methods published by the National Institute for Occupational Safety and Health, as amended from time to time, or in accordance with a scientifically proven method used to take and analyze a representative sample of airborne asbestos fibre.

Furthermore, the use of transmission electron microscopy (TEM) to analyze samples from clearance air sampling is a more powerful alternative analysis method compared to phase contrast light microscopy (PCM) that is required in the above COHSR section. NIOSH Method 7400 uses PCM to analyze for asbestos fibres, while NIOSH Method 7402 uses TEM to analyze for asbestos fibres.[14] Thus, a qualified person may choose to use TEM to analyze samples taken from clearance air sampling for asbestos fibres instead of PCM.

Importantly, clearance air sampling must be conducted after the surfaces inside the enclosure are completely dried. Inside the enclosure, forced air equipment must be used to ensure that any fibres are dislodged from all surfaces immediately before sampling. Any dislodged fibres must be kept airborne during air sampling by forced air equipment, such as fans. Clearance air sampling is successful only if the concentrations of airborne asbestos fibre measured inside the enclosure are at 0.01 f/cc or less. One of the procedures that may be used for conducting clearance air sampling is described in the document ***EPA 600/4-85-049: Measuring Airborne Asbestos Following an Abatement Action***.[16]

Subsequently, the employer must comply with COHSR 10.26.10 which states:

> Within 24 hours after obtaining the clearance air sampling results, an employer shall:
>
> **(a)** post a copy of the results in a conspicuous place at the workplace; and
>
> **(b)** make the results available to the policy committee if any, the workplace committee and the health and safety representative, and provide a copy of the results to the Minister.

6. Required control measures and protection equipment for low, moderate and high risk activities

The specific control measures required for each risk level depend on the type of work being conducted. The employer must develop and implement procedures and control measures for asbestos work at any level of risk. The use of protective clothing and equipment applies to all three risk levels.[2] Protective clothing must be a coverall that after use must be disposed according to waste disposal requirements. If reusable work clothing is used, the clothing must not be brought home for washing, but left at work and washed according to the employer procedures for washing contaminated work clothing.

The spread of ACM from a work area must be controlled by measures appropriate to the work to be done. Control measures including the use of polyethylene drop sheets or other suitable material that is imperious to asbestos must be used to prevent the release of asbestos fibres into the workplace. The thickness of a polyethylene sheet for asbestos containment must be at least one layer of polyethylene that is 0.15 mm (6 mil) thick or greater.[10] Drop sheets must not be reused. Barriers and portable enclosures must not be reused unless they are rigid and can be cleaned thoroughly.

A qualified person must only allow access to the asbestos abatement area to employees who are trained in asbestos abatement and who are provided appropriate personal protective equipment.

ACM must be thoroughly wetted before and during removal, unless wetting would create a hazard or cause damage. A wetting agent must be added to water that is to be used to control the spread of asbestos [COHSR 10.1, 10.26.2(d)]. Additionally, where wet removal operations are to be carried out, existing electrical power distribution systems that are not water-tight must be de-energized and locked-out. Additionally, temporary electrical power distribution systems for tools and equipment involved in wet removal operations must be equipped with ground fault circuit interrupters (COHSR Part VIII).

6.1 Ventilation

The employer must ensure that for all asbestos work activities, the ventilation system requirements of COHSR sections 10.17 and 10.18 are met.

The employer must assess the effectiveness of HEPA filters:

- after a HEPA filter is replaced in a vacuum cleaner or ventilation system;
- before use in high risk work activity; and
- at least annually.

Where the workplace has a general ventilation system which may be subject to cross contamination from any containment, the spread of asbestos-containing material from the work area must be prevented by disabling the general ventilation system and sealing all openings or voids, including ventilation ducts to and from the asbestos abatement area.

Air from a system used to control asbestos in a workplace must not be recirculated into the workplace. In some medium and all high risk activities, the release of airborne asbestos fibres must also be controlled by installing a ventilation system equipped with HEPA filters inside the enclosure. This system must be used to create and maintain a negative air pressure suitable to contain asbestos fibres, such as 0.02 inches of water (5.0 Pascals), in the enclosure relative to the area outside the enclosure.[10] The maintenance of a relative negative air pressure helps to prevent the spread of asbestos fibres and is required for high risk operations.[2] Since the negative air unit exhausts air from the enclosure through a HEPA filter and pulls in some cleaner replacement air from outside the enclosure, it also helps to reduce airborne asbestos concentrations within the enclosure. The replacement air and air pressure must be checked at regular intervals to ensure the containment system has no air leaks.

HEPA filters contaminated with asbestos fibres must be discarded as asbestos waste.[2] The relative negative air pressure requirement is not required for situations where a building will be demolished and will only be entered by employees involved in the asbestos operation and by demolition workers.[2, 10]

6.2 Protection equipment

When conducting work on ACM, the employer must comply with COHSR section 12.1:

> **12.1** Where:
>
> **(a)** it is not reasonably practicable to eliminate or control a health or safety hazard in a workplace within safe limits; and
>
> **(b)** the use of protection equipment may prevent or reduce injury from that hazard, every person granted access to the workplace who is exposed to that hazard shall use the protection equipment prescribed by this Part.
>
> **12.2** All protection equipment referred to in section 12.1:
>
> **(a)** shall be designed to protect the person from the hazard for which it is provided; and
>
> **(b)** shall not in itself create a hazard.
>
> **12.3** All protection equipment provided by the employer shall:
>
> **(a)** be maintained, inspected and tested by a qualified person; and
>
> **(b)** where necessary to prevent a health hazard, be maintained in a clean and sanitary condition by a qualified person.

As well, the employer must comply with COHSR section 9.44, which states requirements for a change room or clean room where employees must change from street clothes to work clothes for health and safety reasons. Personal service rooms, including change rooms and decontamination rooms; work areas, and other areas must have an illumination level and temperature in conformity with COHSR Part VI and Part IX.[2]

The employer must provide disposable or reusable protective clothing, consisting of full body coveralls that fit snuggly at the ankles, wrists and neck and must:[2]

- be made of a material that does not readily retain nor permit penetration of asbestos;
- include suitable footwear;
- be repaired or replaced if torn; and
- if disposable, be discarded as asbestos waste after use.

6.3 Respiratory protection

The use of respiratory protection applies to all three risk levels.[2] The employer must ensure that a workplace respiratory protection program is established before work on ACM or in the vicinity of ACM is conducted. As well, the respiratory protection program must meet the requirements of the most current edition of ***CSA Z94.4: Selection, Use and Care of Respirators***.[17]

The respiratory protection program must sufficiently address:

- roles and responsibilities;
- hazard assessments;
- respirator selection;
- training;
- respiratory fit testing;
- use of respirators;
- cleaning, inspection, maintenance and storage of respirators;
- health surveillance;
- program evaluation; and
- recordkeeping.

The employer must appoint a program administrator to supervise the establishment of the workplace respiratory protection program and to have responsibility for the program.[2, 17]

The employer must ensure that NIOSH-certified respirators for protection against asbestos are provided to and used by all employees involved in asbestos work activities. Respirators must meet the requirements of the most current edition of *CSA Z94.4: Selection, Use and Care of Respirators* according to COHSR section 12.7.[2, 17]

Respirators must be used during:

- work in a designated work area
- the installation or implementation of control measures in a designated work area;
- other work operations, such as maintenance and repair activities in a designated work area; and
- emergencies.

Notwithstanding COHSR section 12.7, every respirator must be cleaned, disinfected and inspected after use on each shift, or more often if necessary, when issued for the exclusive use of one employee, or after each use when used by more than one employee.[2, 17]

6.4 Monitoring

Monitoring the concentration of airborne asbestos fibres in the work area during the work shift of employees is a requirement for high risk activities and moderate risk activities that use an enclosure, a containment system, or a clean room (COHSR 10.26.8). Monitoring is also a control measure. It is important for a qualified person to use this control measure to inform whether other control measures in place, such as the enclosure, HEPA ventilation system, waste removal, decontamination, and RPE, are functioning properly to control employee exposure to asbestos. If air monitoring results show that the concentration of airborne asbestos fibres in the work area or in the vicinity of the work area are too great, then control measures in place must be improved and additional measures may be necessary to reduce the risk of employee exposure to airborne asbestos.[2]

For more details on asbestos air monitoring, refer to the Monitoring subsection (Section 5.2) of the Asbestos Sampling section.

6.5 Low risk activities

The following control measures apply **only** to non-friable ACM. Work on friable ACM must be classified as a moderate or high risk activity. The use of any power tools, even if attached to a HEPA-filtered dust collection device, means that the work activity must be classified as a moderate or high risk activity. For a work activity to be classified as low risk, only non-powered hand tools may be used.[2] As well, dust containing asbestos fibre cannot be generated in the low risk work activity or else the work activity becomes a moderate risk activity and controls appropriate for a moderate risk activity would be required to continue working in that area.[2]

The minimum PPE required is a half-face respirator equipped with HEPA filter cartridges (P100) and coveralls. A water source sufficient to wet the non-friable ACM must be present in the asbestos abatement work area.[2] The use of only polyethylene drop sheets to cover the floor of a work area to contain non-friable ACM to the work area is only acceptable for low risk asbestos abatement. As well, facilities for the washing of the hands and face must be made available to employees and must be used by every employee when leaving the work area (COHSR 10.26.6).

An enclosure, a containment system, and a clean room are not required for low risk activities.[2]

6.6 Employer's responsibilities before moderate or high risk activities commence

As part of the workplace asbestos exposure control plan, the employer must ensure that procedures and control measures for moderate risk activities and high risk activities are developed and implemented [COHSR 10.26.2 (e)]. It is a recommended practice that the employer notifies a Health and Safety Officer at the ESDC Labour Program district office in writing at least 48 hours before moderate or high risk activities commence.[10] If during any demolition, alteration or repair of any part of a workplace, undocumented and unaccounted for suspect ACM is discovered, the employer must:

- ensure that work ceases until the material has been identified and all precautionary measures have been taken; and
- notify the workplace health and safety committee or the health and safety representative.

6.7 Moderate risk activities

The minimum PPE required for moderate risk activities is a half-face respirator equipped with HEPA filter cartridges (P100) and coveralls. Any invasive use of a power tool that is attached to a dust collecting device equipped with a HEPA filter on ACM is a moderate risk activity as well as the other activities in the definition of moderate risk activity.[2]

The work area must be separated from the rest of the workplace by walls, barricades, fencing, polyethylene or other suitable means.[2] An enclosure is strongly recommended for moderate risk activities. A HEPA filter ventilation system within the enclosure may not be necessary to further control employee exposure to asbestos.[10] As well, there are other considerations in a workplace that would require a higher level of exposure control in order to protect workers. For example, a moderate risk activity occurring in an operational workplace where employees will continue working near the area of the asbestos containment. In such a case, the qualified person in charge of the work activity must choose an appropriate level of exposure control based on requirements and the situation in the specific workplace.

According to the definition of moderate risk activity, where ACM is likely to be lying on any surface, including a false ceiling, any friable material that is likely to be disturbed must be removed by using a vacuum equipped with a HEPA filter when access to the work area is obtained. Friable ACM that is not crumbled, pulverized or powdered and that may be disturbed or removed during the work activity must be thoroughly wetted before the work activity and kept wet during the work activity, unless wetting would create a hazard or cause damage.[2]

6.7.1 Decontamination

Before leaving the work area, an employee must:[2]

- decontaminate their protective clothing by using a vacuum equipped with a HEPA filter, or by damp wiping, before removing the protective clothing; and
- if the protective clothing is not to be reused, dispose of in a specialized ACM waste container.

Facilities for the washing of hands and face must be made available to employees and must be used by every employee when leaving the work area (COHSR 10.26.6).

6.7.2 Glove bags

According to COHSR 10.26.5, when a glove bag is used for the removal of asbestos insulation from pipes, ducts and similar structures, the employer must ensure that:

> **(a)** the glove bag is sealed to prevent the release of asbestos fibres into the work area;
>
> **(b)** the glove bag is inspected for damage or defects immediately before it is attached to the pipe, duct or similar structure and at regular intervals during its use;
>
> **(c)** all waste from asbestos-containing material that is on surfaces is washed to the bottom of the glove bag and all exposed asbestos-containing material is encapsulated when it is inside the glove bag;

(d) the glove bag is evacuated using a vacuum cleaner that is equipped with a HEPA filter to remove the air inside the bag prior to the removal of the glove bag; and

(e) after the glove bag is removed, all exposed surfaces are cleaned with a damp cloth and a vacuum cleaner that is equipped with a HEPA filter.

6.8 High risk activities

These requirements apply to friable ACM and a high level of control is necessary to prevent employee exposure to excessive concentrations of airborne asbestos. The minimum PPE required is a full-face respirator equipped with HEPA filter cartridges (P100) and coveralls.[2] A full asbestos containment enclosure with a decontamination shower, clean/change room, and work activity room is required for high risk activities. The use of only a glove bag containment system for high risk work on ACM is not sufficient to prevent employee exposure to asbestos and to contain asbestos fibre to the work area.[2]

Any invasive use of a power tool that is not attached to a dust collecting device equipped with a HEPA filter on ACM is a high risk activity as well as the other activities in the definition of high risk activity. The use of heavy equipment for friable and non-friable asbestos abatement is covered in COHSR 10.1 high-risk activity definition paragraphs (a), (e) and (f).[2] Heavy equipment, such as a back hoe, is a type of powered tool due to its engine. Heavy equipment is not a non-powered hand-held tool due to its large size, weight and power. For use of heavy equipment in an outdoor high risk activity, refer to section 6.8.3.

Where ACM is lying on the surface of a false ceiling, and it is likely to be disturbed, it must be removed by using a vacuum equipped with a HEPA filter when access to the work area is obtained.[2] Before commencing work that is likely to disturb friable ACM that is crumbled, pulverized or powdered and that is lying on any surface, the friable material must be removed by damp wiping or by using a vacuum equipped with a HEPA filter. Friable ACM that is not crumbled, pulverized or powdered and that is likely to be disturbed or removed during the work must be thoroughly wetted before the work and kept wet during the work.[2]

The employer must, at conspicuous locations, post and keep posted signs warning of asbestos hazards [COHSR 10.13, 10.26.2(c)].

6.8.1 Enclosure

The employer must provide and maintain a containment that includes ventilation and a decontamination facility. The employer must inspect the containment and the decontamination facility at least daily to ensure their effectiveness is maintained.[2, 10]

The employer must ensure that the design of the decontamination facility includes:

- a physical connection to the containment;
- a shower facility;
- a room suitable for changing into street clothes and for storing clean clothing and equipment (clean room or change room); and
- provision for the safe entry and exit of employees.

The rooms must be arranged in sequence and constructed in such a way that a person entering or leaving the work area must pass through each room.

When leaving the work area, an employee must enter the decontamination facility and must, in the following order (COHSR 10.26.6):

- Decontaminate protective clothing by using a vacuum equipped with a HEPA filter, or by damp wiping, before removing the protective clothing;
- If the protective clothing is not to be reused, place it in a container;
- Shower with the respirator still on;
- Remove and clean the respirator; and
- Dispose the used respirator cartridges as asbestos waste.

At the completion of the work and before disassembling the containment, the employer must (COHSR 10.26.7, 10.26.9):

- visually inspect the area inside the containment to ensure that an effective clean-up has been completed;
- treat all exposed surfaces inside the containment with an approved encapsulate to bind any remaining asbestos fibres; and
- conduct clearance air sampling.

Additionally, according to COHSR 10.26.10, within 24 hours after obtaining the clearance air sampling test results, the employer shall:

> **(a)** post a copy of the results in a conspicuous place in the work place; and
>
> **(b)** make the results available to the policy committee, if any, the work place committee and the health and safety representative, and provide a copy of the results to the Minister.

6.8.2 Permanent enclosure design

When ACM in the workplace is controlled by a permanent enclosure, the employer must ensure that the enclosure is airtight, and if feasible, that electrical, plumbing, ventilation and similar services are located outside the enclosure and the access to the enclosure is controlled to authorized persons only.[2, 10] Outside an asbestos enclosure, the employer must post and keep posted signs warning of the asbestos hazard [COHSR 10.13, 10.26.2(c)].

6.8.3 Outdoor high risk activities

Where high risk activities involving friable ACM are conducted outdoors, enclosures are not required, but the work area must be separated from the surrounding area by barricades, fencing or other means at a suitable distance to prevent an asbestos inhalation hazard to other people in the vicinity of the work area.[2, 10] For additional requirements that may apply to outdoor high risk activities, please refer to Environment and Climate Change Canada (ECCC).[18]

Additionally, control measures for employee protection required for indoor high risk activities other than enclosures are still required for outdoor high risk activities.[2] Steps must be taken to ensure that asbestos dust and waste cannot fall freely from one elevated work area to another. This may include the use of drop sheets made of polyethylene or other material that is impervious to asbestos on work surfaces. Care should be taken to ensure that the material used does not create a slipping hazard that may put workers at risk of falling.[10]

A decontamination facility must be located as close as feasible to the outdoor work area. The decontamination facility must consist of a room suitable for changing into protective clothing and for storing contaminated protective clothing and equipment; a shower room; and a room suitable for changing into street clothes and for storing clean clothes and equipment.[10] The decontamination facility must be constructed so that anyone entering or leaving the work area must pass through each room. Customized trailers outfitted with three-room decontamination facilities are available for use as decontamination facilities. These units can be moved from one work site to the next and are commonly used for outdoor work.[10]

6.9 Other control measures

Pressure spraying equipment of any type must not be used to remove ACM from buildings or structures. Compressed air must not be used to remove ACM from any surface in accordance with COHSR sections 10.21 and 10.22.

An employee must not eat, drink or smoke in the asbestos abatement area or transport food or tobacco products into an asbestos abatement area.[2] Notwithstanding COHSR section 10.9, the employer must prevent the cross contamination of asbestos dust and debris to other work areas during the work. All spills and sudden releases of ACM must be cleaned up as soon as possible.

6.9.1 Asbestos-containing material ceiling tiles

COHSR 10.1 low-risk activity definition paragraph (a) applies to installing or removing less than 7.5m^2 of non-friable ACM ceiling tiles. If an area of 7.5m^2 or greater of non-friable ACM ceiling tiles is installed or removed, then this becomes a moderate risk activity.[2]

COHSR 10.1 moderate-risk activity definition paragraph (e) applies to removing greater than 2m^2 of ceiling tiles that contain friable ACM or are in proximity to friable ACM and are removed without being broken, cut, drilled, abraded, ground, sanded or vibrated; or else, it becomes a high risk activity. If 2m^2 or a smaller area of this type of ceiling tile is removed without being broken, cut, drilled, abraded, ground, sanded or vibrated, then this this work activity must be considered low risk.[2]

6.9.2 Non-friable asbestos-containing material floor tiles

Vinyl floor tiles are covered under COHSR 10.1 low-risk activity definition paragraphs (b) and (c). Vinyl tiles with ACM are addressed indirectly as non-friable ACM.[2] As well, applicable types of non-friable asbestos-containing floor tiles are not limited to vinyl asbestos floor tiles.[10] Furthermore, if following a hazard investigation, it has been determined by a qualified person that there will be no release of asbestos fibres by wetting and performing an invasive work activity, such as installing, removing, breaking or drilling vinyl asbestos floor tiles using only non-powered hand tools, then this process must be considered a low-risk work

activity. If this invasive work activity is not wetted to control the spread of asbestos fibres or powered tools are used, then it must become a moderate-risk activity.[2] However, non-invasive work activities that do not generate dust from the asbestos containing floor tiles, such as washing, cleaning, and polishing, do not require a hazard investigation.

6.9.3 Emergencies

The below section of COHSR Part XII applies to asbestos-related emergencies.

> **12.1** Where:
>
> **(a)** it is not reasonably practicable to eliminate or control a health or safety hazard in a workplace within safe limits; and
>
> **(b)** the use of protection equipment may prevent or reduce injury from that hazard, every person granted access to the workplace who is exposed to that hazard shall use the protection equipment prescribed by this Part.

Thus, emergency personnel such as firefighters wearing their full protective gear including a full face respirator with a self-contained breathing apparatus (SCBA) would comply with any workplace requirements for personal protective equipment.[2, 10]

7. Disposal of asbestos-containing material waste

COHSR section 10.26.4 states that:

> **(1)** During any work activities that involve **friable** asbestos-containing materials, **at frequent and regular intervals** as determined by a qualified person, at the end of each work shift and immediately after the work activity is completed, an employer shall ensure that:
>
> **(a)** all asbestos dust, waste and debris are removed by vacuuming with a vacuum cleaner that is equipped with a HEPA filter, damp-mopping or wet-sweeping the area that is contaminated with the asbestos dust, waste or debris; and
>
> **(b)** any drop sheets that are contaminated with asbestos dust, waste or debris are wetted.
>
> **(2)** **All asbestos** dust, waste or debris and any drop sheets that are contaminated with asbestos dust, waste or debris shall be placed in a container referred to in section 10.26.11.

The bolding of certain words of COHSR section 10.26.4 above is for emphasis. COHSR subsection 10.26.4(1) specifies friable ACM for frequent waste removal to emphasize friable ACM over non-friable ACM for priority waste removal. COHSR subsection 10.26.4(2) addresses non-friable ACM with the wording of "all asbestos". COHSR subsection 10.26.4(2) does not state that non-friable ACM waste must be immediately removed from the work area.[2]

The employer must remove all asbestos debris from the work area in a suitable container for asbestos debris and dust. As well, the employer must remove asbestos dust from the outside of the container and surfaces inside the enclosure with a damp cloth or with a vacuum cleaner equipped with a HEPA-filtered exhaust at regular intervals while the work is in progress, at the end of each work shift, and at the completion of the asbestos abatement work.[2] The containers containing asbestos waste must be removed from the work area.[2]

COHSR section 10.26.11 states that:

> Containers for the containment of asbestos dust, waste and debris and asbestos-containing material shall be:
>
> **(a)** dust tight;
>
> **(b)** suitable to contain asbestos dust, waste and debris;
>
> **(c)** impervious to asbestos;
>
> **(d)** identified as containing asbestos dust, waste or debris;
>
> **(e)** cleaned with a damp cloth or a vacuum cleaner that is equipped with a HEPA filter immediately before being removed from the work area; and
>
> **(f)** removed from the workplace frequently and at regular intervals as determined by a qualified person.

The employer must dispose of containers of asbestos waste in accordance with COHSR section 10.43.

> **10.43 (1)** If a hazardous product in the workplace is hazardous waste, the employer shall disclose the generic name and hazard information in respect of the hazardous product by:
>
> **(a)** applying a label to the hazardous waste or its container; or
>
> **(b)** posting a sign in a conspicuous place near the hazardous waste or its container.
>
> **(2)** The employer shall provide education and training to employees regarding the safe storage and handling of hazardous waste that is found in the workplace.

Reusable tools and equipment contaminated with asbestos must be cleaned after the work is completed using a vacuum equipped with a HEPA filter and/or using a damp cloth. It is also necessary to follow the manufacturer's instructions, if available. Additionally, after the work is completed, rigid barriers and portable enclosures must be cleaned, by using a vacuum equipped with a HEPA filter or by damp wiping, as soon as feasible after clearance air sampling has successfully been passed.[2]

ACM waste from asbestos abatement work must not be placed with regular garbage or regular construction waste for disposal. A specialized asbestos disposal service is required using a person qualified in the asbestos disposal process. The **Transportation of Dangerous Goods Regulations** (TDG) applies to ACM, since it is a hazardous substance.[19] Thus, all ACM waste must be accompanied by a waste manifest to the landfill when travelling in Canada.[19] Provincial and territorial hazardous waste regulations must also be complied with, where applicable.[10]

8. Creating an asbestos exposure control plan

Regulatory requirements for an asbestos exposure control plan are stated in COHSR section 10.26.2:

> **10.26.2** Before undertaking any work activity that involves asbestos-containing material, an employer shall, in consultation with the policy committee or, if there is no policy committee, the workplace committee or the health and safety representative, develop, implement and administer an asbestos exposure control plan that requires the employer to:
>
> **(a)** ensure that a hazard investigation under section 10.4 has been carried out by a qualified person and, in the event that there is a change in the work activity, review any report that was prepared as a result of the investigation and, if necessary, have a qualified person carry out another investigation;
>
> **(b)** ensure that a qualified person classifies the work activity as a low-risk activity, moderate-risk activity or high-risk activity;
>
> **(c)** ensure that all asbestos-containing material present in the workplace that is exposed or that will be disturbed is identified by signs and labels or by any other effective manner;
>
> **(d)** ensure that all friable asbestos-containing material present in the workplace is controlled by removal, enclosure or encapsulation or by any other effective manner to prevent employee exposure to asbestos;
>
> **(e)** ensure that procedures and control measures for moderate-risk activities and high-risk activities are developed and implemented; and
>
> **(f)** develop and implement an **employee** education and training program that is specific to asbestos-containing material.

An asbestos exposure control plan must be created by the employer in collaboration with the policy committee or, if there is no policy committee, the workplace committee or the health and safety representative. The plan must effectively address all aspects of asbestos in the workplace to prevent employee exposure to asbestos; including legislative requirements, roles and responsibilities, education and training of employees, initiation of work on ACM and suspected ACM, emergencies, asbestos air sampling, ACM labelling, and workplace asbestos inventory.[2] However, a full asbestos inventory of the entire building containing the workplace is not required; only for ACM that is exposed or that will be disturbed by an activity such as maintenance or construction.[2]

The bolding of "employee" in COHSR paragraph 10.26.2 (f) above is for emphasis. COHSR paragraph 10.26.2 (f) applies to federally-regulated employers and employees; not to asbestos abatement contractors who would be considered persons granted access who should be trained by their employers in accordance with relevant provincial regulations.[2, 10] Notwithstanding COHSR 10.26.2 (f), the employer is responsible to ensure that any person granted access is made aware of the known and foreseeable hazards, including the presence of ACM and possible exposure to asbestos fibres.[2]

While not a requirement, drawings, plans and specifications of all known ACM in the workplace are useful components of an asbestos exposure control plan and could be developed by the employer.[2, 10] Importantly, any hazard investigation report must be kept by the employer for at least 30 years after a qualified person signs the report (COHSR 10.6). Additionally, it is strongly recommended that all relevant documentation for the asbestos exposure control plan be kept and maintained by the employer for a period of at least 30 years.

9. Required control measures for asbestos-containing friction materials

Employers under federal jurisdiction that have or perform work on friction materials in their workplace must create an asbestos exposure control plan in accordance with COHSR section 10.26.2.

Additional regulatory requirements for automotive service procedures and friction materials are stated in COHSR section 10.26.3. If automotive service procedures may cause employees to be exposed to asbestos from friction material or dust arising from such material, the employer must ensure that the following control measures are implemented:[2, 10]

- Dry removal of friction material dust from automotive assemblies using compressed air, brushes or other similar methods is prohibited;
- Service work areas where friction material is handled are posted with signs to advise employees of the hazards and required precautions;
- Work procedures are followed to minimize the generation of airborne dust;
- Employees use personal protective equipment including coveralls and RPE in accordance with COHSR Part XII: Safety Materials, Equipment, Devices and Clothing and COHSR section 9.44;
- Waste material that may be contaminated with asbestos is promptly collected and disposed of in accordance with COHSR section 10.26.4; and
- Contaminated tools, equipment and work surfaces are free of asbestos after work is completed.

10. References

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