

Safe debris removal from completely or partly burned structures

OHS information for employers

Safety should be the first priority of employers and workers during a wildfire and once recovery begins. This resource gives information for those performing debris clean-up and demolition of structures involved in wildfires. The [Alberta Asbestos Abatement Manual](#) will also provide in-depth information.

According to Section 34 of the Occupational Health and Safety (OHS) Code, the employer is required to remove materials that may potentially release asbestos fibres before demolition. If the structure has collapsed completely due to fire damage, and no asbestos can be abated, mechanical abatement techniques can be used to clean up the debris. No acceptance is required in this case. In all other cases, an [acceptance](#) is required.

Key information

- Ash and burned debris from fires may contain hazardous substances.
- Employers should select respirators appropriate for your site's specific hazards.
- Employers must ensure workers are medically fit to wear respirators and that the worker is clean shaven before fit testing.

Exposure and health risks

Ash and burned debris from structures completely or substantially burned from fires may contain hazardous substances, such as polycyclic aromatic hydrocarbons (PAHs), asbestos and dioxins/furans. In some areas, chemicals have been applied to

burned structures to reduce airborne dust generation and can contain crystalline silica. These substances may become airborne when the materials are disturbed, so care is required during clean-up to ensure workers are protected.

The chemical hazards of dust and soot exposure can worsen respiratory diseases (such as asthma) or lead to new symptoms of respiratory disease such as shortness of breath, wheeze and cough.

Mental health disorders such as posttraumatic stress injuries (PTSI), depression and anxiety can result from exposure to dangerous situations.

Musculoskeletal injuries related to over-exertion may also occur. As a result of these risks, employers are required to take all necessary steps to protect the health and safety of their workers including identifying and taking steps to address poor air quality, ash and burned debris.

A [health screening questionnaire](#) can help you determine if your workers have medical conditions that would put them at risk of worsening health as a result of participating in cleanup efforts related to wildfire (see 'For more information section').

For more information on the exposure and health risks of wildfire smoke, see the [Wildfire smoke](#) resource in the 'For more information' section.



What employers need to know about selecting respiratory protective equipment (RPE)

This information serves as a starting point for employers. You should select respirators appropriate for your site's specific hazards. To learn

more on respirator selection and use refer to the [Employer's guide to respiratory protective equipment](#) resource in the 'For more information' section.

All respirators must be approved by the National Institute of Occupational Safety and Health (NIOSH) per section 246 of the OHS Code.



Employers must ensure workers are medically fit to wear respirators, are fit tested and are clean shaven where the respirator seals to the skin of the face (if a tight-fitting respirator is used) before they can be fit tested and during respirator use, if the efficacy of the equipment depends on a tight facial seal.

Three scenarios are outlined below with guidance on selecting RPE.

1. Contractors and crews involved in clean-up with **direct contact** with ash and burned debris.
 - At a minimum, employers should provide workers with a NIOSH-approved half-face air purifying respirator with P100/activated carbon filter cartridges at a minimum.
 - Cartridges should be replaced at the beginning of each work day or in accordance with the calculated change out schedule, whichever time period is lower.
 - A powered-air purifying respirator (with combination cartridges) is an alternate option for workers involved in manual work. They offer a higher level of protection, provide eye protection and will feel cooler due to air flow.
2. Contractors and crews involved in clean up inside and outside of buildings with **no direct contact** with ash and burned debris.
 - At a minimum, employers should supply workers (including volunteers) with NIOSH-approved half-face air purifying respirators with P100 filters or disposable P100 respirators.
3. Workers inside buildings who **are not involved in clean-up activities** (e.g. office staff).
 - These workers do not need respiratory protection; however, windows and doors should be kept closed and air conditioning should be kept on.

- If workers have irritation effects or concerns or if air filtration systems are not working, employers should provide a respirator. An N95 respirator would be acceptable.

How to ensure safe removal of debris

This information is a starting point for employers. In addition to the information below, employers must also ensure other applicable provisions (for example, first aid, excavating, etc.) in the OHS Code are complied with. Conduct occupational monitoring during work to help evaluate work procedures and personal protective equipment. For more information on [Asbestos removal in the demolition and renovation industry](#), see our "For more information" section.

Other recommended personal protective equipment for workers within the work perimeter

- Workers should not have any exposed skin. Use impermeable protective coveralls and gloves. Tape gloves to the sleeves of coveralls.
- Rubber steel-toed boots that can be easily cleaned, with coveralls extended over boots, not tucked inside.
- Protective eyewear with side shields or goggles (not required by equipment operators if windows of equipment can be kept closed). Tight fitting chemical goggles are best to protect eyes from irritant gases if a half-face respirator is used.
- If a full face-piece respirator is used, protective eyewear is not required.

Procedures for safe debris removal

- Separate off work area with perimeter taping or other barriers.
- Ensure waste materials are thoroughly soaked with water before disturbing. Additional wetting may be required once the bonding encapsulate surface is broken to ensure the materials underneath are wet.

- Conduct removal by machine; workers in excavating equipment should keep windows closed and air conditioning systems on.
- Waste bins should be lined with polyethylene sheeting (or similar). This will facilitate cleaning, and is important because waste materials can be alkaline (high pH).
- During transport of waste to the disposal site, the waste must be kept covered.

Procedures for safe decontamination

- Provide workers with site-specific decontamination procedure training prior to the start of work.
- Provide an area just outside the work perimeter where workers can wash their face and hands and take off personal protective equipment. The area should include disposal bins for used coveralls, gloves, and respirator cartridges and an area to clean boots and respirators. The area should be supplied with clean water and a water/mild detergent solution.
- Equipment and tires of vehicles transporting waste out of area should be cleaned prior to moving to a new area. For excavators, the key areas to be cleaned are tires and scoops.
- Wipe down interiors of excavators with a wet cloth at the end of each work day and park them with windows closed.
- Workers must not bring any equipment or protective clothing from the work area home or to their accommodations unless it has been cleaned.
- A clean area (such as a trailer) should be provided for workers to eat, drink and have breaks. Soiled/used protective equipment should not be brought into this area—workers must decontaminate before eating, drinking or using tobacco products.
- Because heat stress may become a hazard, ensure workers are trained to recognize the signs of heat stress, have plenty of drinking water available and implement a work/rest schedule.
- If a worker's skin comes into contact with debris, the affected area should be washed with clean water and soap as soon as possible.

Contact us

OHS Contact Centre

(Complaints, questions, reporting serious incidents)

Anywhere in Alberta

- 1-866-415-8690
- Edmonton & surrounding area

- 780-415-8690

Deaf or hearing impaired

- 1-800-232-7215 (Alberta)
- 780-427-9999 (Edmonton)

OHS Online Incident Reporting

(Potentially serious, mine or mine site incidents)

oirportal.labour.alberta.ca/pre-screening/

Website

alberta.ca/OHS

Get copies of the *OHS Act*, Regulations and Code

Alberta Queen's Printer

qp.gov.ab.ca

Occupational Health and Safety

alberta.ca/ohs-act-regulation-code.aspx

For more information

Alberta Asbestos Abatement Manual (ASB001)

ohs-pubstore.labour.alberta.ca/asp001

Applying for an acceptance to demolish an asbestos containing building (ASB003)

ohs-pubstore.labour.alberta.ca/asp003

Asbestos exposure in the demolition and renovation industries (ASB004)

ohs-pubstore.labour.alberta.ca/asp004

Hazard assessment and control (BP018)

ohs-pubstore.labour.alberta.ca/bp018

Respiratory protective equipment: An employer's guide (PPE001)

ohs-pubstore.labour.alberta.ca/ppe001

Wildfire smoke (FI007)

ohs-pubstore.labour.alberta.ca/fi007

Wildfire recovery: Sample health screening questionnaire (FI005)

ohs-pubstore.labour.alberta.ca/fi005

Wildfire recovery: Information for workers and employers (FI010)

<https://ohs-pubstore.labour.alberta.ca/FI010>

Working safety in the heat and cold (GS006)

ohs-pubstore.labour.alberta.ca/gs006

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