

# Cleaning up burned structures

## OHS information for employers

This resource provides health and safety information regarding debris cleanup and demolition of structures involved in wildfires.

### KEY INFORMATION

- Ash and burned debris from fires may contain hazardous substances.
- Partially burnt structures can be a safety hazard.
- Employers must put controls in place to protect workers from all existing and potential hazards.

### Safety risks

Partially burnt structures may have the potential to collapse or pose other serious safety risks. As an employer, you may wish to consult a professional engineer for guidance on how to safely proceed with work. Situations can range from simple to complex: always make sure you have appropriate controls in place to protect workers.

For more on occupational health and safety (OHS) consulting, read [Tips on selecting an OHS Consultant](#).

### Health risks

A number of health risks may be associated with cleaning up or demolishing burnt structures. Here are two examples.

#### Chemical hazards

Ash and debris from burned structures may contain hazardous substances, such as asbestos, polycyclic aromatic hydrocarbons (PAHs), and dioxins/furans. Also, general dusts and soot can affect health. Dust and soot exposure can worsen respiratory diseases, such as asthma, or lead to new symptoms of respiratory disease, such as shortness of breath, wheezing and coughing.

Learn more about these health risks in [Wildfire smoke](#).

#### Ergonomic hazards

Musculoskeletal injuries related to over-exertion may also occur. Learn about manual handling hazards and how to address them in [Ergonomics in the workplace: Identifying and controlling manual handling hazards](#).

### Legal requirements

Employers must take all reasonably practicable steps to protect the health and safety of their workers. To learn about the general duties of employers in the OHS Act, read [Guide to OHS: Employers](#).

Also, there are a number of technical requirements from the OHS Code that may apply to fire-related cleanup and demolition. Two examples are below. Consult the OHS Code directly to ensure you comply with all applicable requirements.

#### Asbestos abatement

Before demolishing a building or other structure, or cleaning up a structure that has collapsed from fire damage, employers must remove any materials that may potentially release asbestos fibres. See the [Alberta Asbestos Abatement Manual](#) for detailed information and procedures.

However, there are some situations where it is unsafe to remove asbestos before demolishing a building. An [OHS allowance](#) issued in January 2023 allows demolition of a building, in some specific situations, without first removing materials with the potential to release asbestos fibres, as long as the terms and conditions in the allowance are followed.

#### IMPORTANT

This OHS allowance applies only if a professional engineer has certified that the structural integrity of the building is (or may become) compromised due to abatement activities such that it would create a hazard to workers.

#### Selecting respiratory protective equipment

If you select respirators to protect workers from airborne hazards, the respirators must be appropriate for your site's hazards.

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

Employers must select respirators in accordance with Section 247 of the OHS Code. That section directs to the

CSA standard, which also gives requirements for fit testing respirators. Some types of respirators may only be effective if a worker is clean shaven where the seal of the respirator contacts the skin. To learn more about respirator selection and use, see [Respiratory protective equipment: An employer's guide](#).

## Cleanup scenarios

Below are two commonly encountered cleanup scenarios, with examples of respiratory and personal protective equipment that might be used.

### Direct contact with ash and burned debris

- General industry practice includes providing workers with a NIOSH-approved half-face air purifying respirator, with P100/activated carbon combination filter cartridges.
- A powered-air purifying respirator with P100/activated carbon combination filter cartridges is an alternate option for workers involved in manual work where there is significant physical exertion. Benefits of powered-air purifying respirators include:
  - A higher level of protection.
  - Eye protection.
  - Feeling cooler due to the mechanical air flow.

### No direct contact with ash and burned debris

- General industry practice includes supplying workers (including volunteers) with at least a NIOSH-approved half-face air purifying respirator with P100 filters.

#### OTHER COMMONLY USED PERSONAL PROTECTIVE EQUIPMENT FOR WORKERS WITHIN THE WORK PERIMETER

- 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 are 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, separate protective eyewear is not required.

## Example safe work procedures

When you develop safe work procedures, you must always follow all applicable requirements of the occupational health and safety laws (for example: first aid, or working safely with powered mobile equipment).

Below are two examples of safe work procedures that could apply to debris clean up or demolition work after a fire.

Note that if asbestos is present, employers should conduct air monitoring during work to help evaluate work procedures and personal protective equipment. See [Asbestos exposure in demolition and renovation](#) for more information.

### Safe debris removal (example procedure)

- Cordon off the work area with perimeter taping or other barriers.
- Ensure waste materials are thoroughly soaked with water before disturbing them. Additional wetting may be needed once the bonding encapsulate surface is broken in order to ensure the materials underneath are wet.
- Remove materials using machines. Workers in excavating equipment should keep windows closed and air conditioning systems on.
- Line waste bins with polyethylene sheeting or a similar material. This will facilitate cleaning and is important because waste materials can be alkaline (that is, have a slightly high pH).
- Secure and cover waste during transport to a disposal site.

### Safe decontamination (example procedure)

- Provide workers with site-specific decontamination 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, as well as an area to clean boots and respirators. Supply the area with clean water and a water/mild detergent solution.
- Clean equipment and tires of vehicles transporting waste out of area before moving them to a new area. For excavators, the key areas to clean are tires and scoops.
- Wipe down the interior of excavators with a wet cloth at the end of each work day and park them with their windows closed.
- Workers should not bring any equipment or protective clothing home or to their housing accommodations unless the equipment has been cleaned first.
- Provide a clean area (such as a trailer) for workers to eat, drink and have their breaks. Soiled/used protective equipment should not be brought into this area.
- Ensure workers decontaminate themselves 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, ensure they 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.

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## Contact us

### OHS Contact Centre

Anywhere in Alberta

- 1-866-415-8690

Edmonton and surrounding area

- 780-415-8690

Deaf or hard of hearing (TTY)

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

### Notify OHS of health and safety concerns

[alberta.ca/file-complaint-online.aspx](https://alberta.ca/file-complaint-online.aspx)

Call the OHS Contact Centre if you have concerns that involve immediate danger to a person on a work site.

### Report a workplace incident to OHS

[alberta.ca/ohs-complaints-incidents.aspx](https://alberta.ca/ohs-complaints-incidents.aspx)

### Website

[alberta.ca/ohs](https://alberta.ca/ohs)

## Get copies of the OHS Act, Regulation and Code

### Alberta King's Printer

[alberta.ca/alberta-kings-printer.aspx](https://alberta.ca/alberta-kings-printer.aspx)

### OHS

[alberta.ca/ohs-act-regulation-code.aspx](https://alberta.ca/ohs-act-regulation-code.aspx)

## For more information

Alberta Asbestos Abatement Manual (ASB001)

[ohs-pubstore.labour.alberta.ca/asb001](https://ohs-pubstore.labour.alberta.ca/asb001)

Asbestos exposure in demolition and renovation (ASB004)

[ohs-pubstore.labour.alberta.ca/asb004](https://ohs-pubstore.labour.alberta.ca/asb004)

Director order (OHS allowance for demolition of structurally compromised buildings without first removing asbestos)

[open.alberta.ca/publications/ohs-director-order-ohs-allowance-for-demolition-of-structurally-compromised-buildings](https://open.alberta.ca/publications/ohs-director-order-ohs-allowance-for-demolition-of-structurally-compromised-buildings)

Ergonomics in the workplace: Identifying and controlling manual handling hazards (ERG043)

[ohs-pubstore.labour.alberta.ca/erg043](https://ohs-pubstore.labour.alberta.ca/erg043)

Guide to OHS: Employers (LI009)

[ohs-pubstore.labour.alberta.ca/li009](https://ohs-pubstore.labour.alberta.ca/li009)

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

[ohs-pubstore.labour.alberta.ca/ppe001](https://ohs-pubstore.labour.alberta.ca/ppe001)

Tips on selecting an OHS consultant (GS009)

[ohs-pubstore.labour.alberta.ca/gs009](https://ohs-pubstore.labour.alberta.ca/gs009)

Wildfire smoke (FI007)

[ohs-pubstore.labour.alberta.ca/fi007](https://ohs-pubstore.labour.alberta.ca/fi007)

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