

# Reopening Buildings, Homes, and Businesses After a Wildfire

If your home or business has been directly affected by a wildfire and you would like to consult with a public health inspector, contact Environmental Public Health by phone at 1-833-476-4743 or online using the Environmental Public Health web portal at <https://ephisahs.ahs.ca/create-case>.

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## Protect Yourself

When assessing and cleaning your establishment or home, wear personal protective equipment (PPE) appropriate to the hazards. This could include a respirator, gloves, and/or other protective clothing. People with asthma or respiratory conditions should only spend short periods in areas contaminated with ash and soot and wear respiratory protection.

### Health Impacts

- Smoke can irritate the skin, nose, throat, lungs and eyes and cause coughing and wheezing. Soot and ash can cause symptoms including eye and skin irritation and respiratory issues.
- If you have respiratory symptoms such as coughing, move away from the area, take any prescription inhalers as directed, and seek medical attention promptly if you are having trouble breathing.
- For more information on the health effects of wildfire smoke, please see [Wildfire Smoke and Your Health](https://myhealth.alberta.ca/Alberta/Pages/wildfire-smoke-health.aspx) (<https://myhealth.alberta.ca/Alberta/Pages/wildfire-smoke-health.aspx>).

### Breathing protection

- A multi-layered approach is recommended to reduce the health effects of wildfire smoke. This includes staying indoors with doors and windows closed as long as temperatures remain comfortable, cleaning indoor air, and

minimizing outdoor activities are all important actions you can take. Properly fitting personal protective equipment like N95, KN95 or P100 respirators may also help further reduce exposure to small particles in wildfire smoke.

- Look for “NIOSH 95” on the package. When correctly fitted, an N95 respirator blocks approximately 95 percent of particles that are 0.3 microns or larger.
- Purchase respirators at hardware, safety/construction supply businesses and home improvement centres.
- Respirators can add physical stress to a person by making breathing harder. Individuals who doubt their ability to wear a respirator should consult with their physician.
- If you cannot locate N95 respirators, a well-fitting dust mask may provide some protection during cleanup. Many ash particles are larger than those found in smoke, and a dust mask can reduce the number of larger particles inhaled. Dust masks are not recommended to prevent exposure to the smaller particles found in smoke.

#### How to Self-Fit N95 Respirators:

Always read and follow the manufacturer’s directions when using a respirator.

- The respirator must cover the nose and mouth to keep you from breathing in dust and ash.
- If the respirator does not have a snug fit, it will not work correctly. The correct fit of the respirator requires contact with smooth skin. Respirators will not work effectively for people with facial hair such as a beard or moustache.
- Always use both straps on the respirator to hold it in place to keep air from leaking around the respirator.
- Do a user seal check, including positive and negative pressure checks, to verify that you have correctly put on the respirator and adjusted it to fit properly.
  - Negative pressure check - Place both hands completely over the respirator and inhale sharply. Be careful not to disturb the position of the respirator. The respirator should pull into your face. If air leaks around your face or eyes, adjust the nosepiece and straps, and repeat the negative pressure check.
  - Positive pressure check - Put your hands over the respirator and breathe out sharply. If your respirator has an exhalation valve, be sure to cover the exhalation valve when you exhale. No air should leak out of the respirator

if the respirator fits properly. If air leaks, re-adjust the nosepiece and straps and repeat the positive pressure check.

### Other Hazards

- Use a flashlight to look for hazards. If you detect or suspect any source of heat or smoke, notify the fire department immediately.
- Watch for hazards, including:
  - Slip, trip and fall hazards from unstable structures or wet and slippery surfaces;
  - Sharp objects such as metal pieces, concrete or wood;
  - Ash, soot and demolition dust;
  - Hazardous materials such as workplace chemicals, kitchen and bathroom cleaning products, pesticides, paint, batteries, and fuel containers which have been partially damaged or destroyed;
  - Propane cylinders for heating or from a BBQ.

### Initial Considerations

- Try to create an inventory of items inside and outside the buildings damaged by fire, smoke, chemicals, soot, or ash. Do not throw away damaged goods until your insurance company's representative advises, if applicable.
- Take plenty of pictures of your property and all damaged goods.

### Fire Retardants and Fire Residues

- If aerially fire retardant has been applied:
  - Avoid consuming food or water that was potentially contaminated with fire retardant residues.
  - Dispose of garden produce and drinking water that has been exposed to retardant or residues.
  - Thoroughly rinse cisterns or other drinking water holding tanks that may have been exposed to retardant or residues.
  - Wash outdoor equipment with clean water and detergent to remove residual fire contaminants.
  - NEVER use bleach to clean off the retardants, as the reaction between bleach and fire retardants will produce harmful and explosive gasses.

- Thoroughly flush your eyes and wash your skin with water and a gentle soap solution if you have direct contact with fire retardant, soot, ash, or smoke.
- Additional information on fire retardants can be found online at [Aerial Fire Retardants and Return to Your Home Following a Wildfire Evacuation](#) and [Human health risks associated with aerially applied fire retardants : screening level risk assessment](#)

## Check Your Utilities

- Check that electricity, hot and cold running water, sewage system, and gas utilities are correctly working. Contact your utility provider if you are unsure if the utilities are safe to use.
- Do not try to use any electrical appliances or power outlets that may have come in contact with fire, water, or fire retardant until they have been checked and cleared for use by a qualified electrician.

## Use Your Water Supply Safely

After returning from an evacuation, you should flush your water lines to remove stagnant water by running all hot and cold water taps for five minutes. If your service connection is long or complex, consider flushing for a more extended period.

- Your facility or home may be under a boil water advisory. If you are unsure, please check with the municipality or the service provider. Visit [Using water at home during a boil water advisory](#) for information on how to use water safely.
- When a boil water advisory is in effect, boiled water should be used for drinking, preparing foods, brushing teeth, or cleaning food contact surfaces.
- Boil water information for the below-listed types of public facilities is also available at [Coping with Emergencies | Alberta Health Services](#):
  - [Acute Care Health Sites](#)
  - [Community-based Health Care Settings](#)
  - [Schools](#)
  - [Child Care Facilities](#)
  - [Food Establishments](#)
  - [Swimming Pools](#)
  - [Personal Service Facilities](#)
- Once the boil water advisory is lifted, be sure to:

- Flush all hot and cold water-using fixtures by running the taps for five minutes. If your service connection is long or complex, consider flushing for a more extended period.
- Ensure equipment with water line connections, such as post-mix beverage machines, auto-fill coffee/tea makers, instant water heaters, ice machines, etc., are emptied/discarded, flushed, cleaned, and disinfected according to the manufacturer's recommendations before use.
- Flush, drain, clean and disinfect cisterns that contained the affected water source. See [How to Clean and Disinfect a Cistern](#).
- Run water softeners through a regeneration cycle per the manufacturer's recommendations before use.
- Consider draining and refilling water heaters if there was loss of electricity or gas for an extended period of time, or if water heaters have been set to below 45°C/110°F. Information on flushing water heaters is available at [How Do I Flush My Water Heater?](#)
- If you notice any issues with your water supply, contact your municipality or water provider for assistance.

### Discard items impacted by smoke, heat, ash, and chemicals

- Heat, smoke and lingering chemical residues from combustion can damage food, medicines, cleaners, cosmetics, and other toiletries.
- After inspection of your fire-damaged building, items may require disposal. Before disposing of items, make sure that you inventory those items as part of your fire insurance claim and take pictures of all items for your insurance records.

### Food

- Take stock of any food in your facility or home that you can see.
- For insurance purposes, take plenty of photos and write down an inventory of the contents of any fridges and freezers.
- Discard:
  - Food stored in refrigerators and freezers **IF** the temperature was warmer than 4°C at any time.
  - Please note that the temperature may have exceeded 4°C when the power was disrupted and then returned to 4°C.
  - Any spoiled food, even if the fridge always remained at 4°C.

- Open foods.
- Fire or smoke-damaged foods like dry goods (i.e., flour, sugar, spices, etc.) even if the package isn't open.
- Fire or smoked-damaged food products in plastic or paper-based packaging as the material is porous.
- Fire or smoked-damaged food products with caps and lids as they may not stay airtight.
- Unrefrigerated raw vegetables or fruits.
- Canned food where the can is bulging, rusted or dented.
- **If in doubt, throw it out.**
- Clean and sanitize the exterior of all canned foods before opening to ensure the contents are not contaminated when opened.
- Follow current local guidelines on where you can discard food waste

### Fridges and Freezers

- If your fridge or freezer was exposed to smoke and soot, you may be able to clean away the dust and soot from your appliances. However, if soot or smoke has entered through any openings, it could have damaged the internal components which may pose a safety and fire hazard. It is recommended that you:
  - Follow all guidance from your municipality regarding assessment, replacement and disposal of appliances.
  - Contact your insurance company to determine if you need to replace your fridge or freezer and whether you have coverage for this.
  - You may also be advised to consult a professional appliance technician to determine if the appliance is still safe to use or if it needs to be replaced.
- If your fridge or freezer was not damaged in the fire, clean and disinfect it after disposing all of the unsafe and spoiled foods. To do this:
  - Unplug the fridge and freezer.
  - Rinse or blow out (using an air hose) the coils and compressors.
  - Clean the inside of the appliance with soap and water, then rinse with clean water.
  - After cleaning, sanitize the interior with a bleach and water mixture. Mix 1/2 teaspoon (2 mL) of household bleach per 4 cups (1 L) of water.
  - Leave the doors of the fridge and freezer open to let them dry out.
  - Once the fridge and freezer are dry, reconnect the power.

- Wait until the inside temperature of the fridge reaches 4C before refilling it with food.
- Wait until the freezer is cold enough to freeze food before refilling it.

## Clean building and facilities:

### Restoration contractors:

- As much as possible, work with and through your insurance company. They will know reputable restoration and cleaning contractors who can help you understand the proper standards.
- If you choose a restoration contractor, check their references and certifications.
- If questions or issues arise, contact the Service Alberta Consumer Contact Centre (the toll-free number is 1-877-427-4088). They can help provide you with more information about various consumer issues.

### Building exterior and outdoor areas

- Scrape fire ash and soot remaining on your property as much as possible, place it in plastic bags or other containers to prevent it from being disturbed, and take it to a landfill. Wear personal protective equipment to protect yourself. Wet down remaining fire debris and/or fire retardant before removal.
- If the building was destroyed by fire, the restoration company will look after this for you as they begin the demolition and recovery process.
- Use a hose, sprayer or pressure washer on the building exterior, parking lots, walkways, vehicles, and outdoor furniture.
- Be careful when using pumps, pressure washers or generators in enclosed spaces. Carbon monoxide may be present in confined or poorly ventilated areas where pumps, generators, or pressure washers operate.
- If you have a private septic system, check the area around your system for damage, like sewage leaks. Contact a sewage disposal professional if you find damage to your septic system.
- Outdoor equipment may contain fire retardants that can be toxic to fish and some plants and may make people and pets sick if ingested. They can also cause eye irritation, dry skin and stinging to cuts and scrapes on your skin.
- Wash outdoor equipment with clean water and detergent to remove residual fire contaminants. To clean windows and glass, use clean water and a razor blade tool to help to remove the sticky residue.

- NEVER use bleach, as the reaction between bleach and fire retardants will produce harmful and explosive gasses.
- To remediate lawns, you can re-sod or reseed grassy areas.
- Consider adding new, clean soil to gardens if you suspect or know the area was impacted.

### Air Circulation

- Consult a professional to clean, restore and restart any building heating, ventilation and air conditioning (HVAC) systems.
- Get the air moving inside the building by using a fan and open windows, providing there is no smoke or air quality advisory for the area. Also, be careful with open doors and windows during windy conditions to prevent any ash/debris from the fires from entering the building.
- If available, use an air cleaner with high-efficiency particulate air (HEPA) or MERV-13 filters to remove small particles. For portable air cleaners, follow the manufacturer's instructions for placement, filter changes and room size.
- Portable air cleaners can filter out particulates from wildfire smoke and allergens, viruses, and chemicals associated with particulate matter. Building a Corsi-Rosenthal Box is an inexpensive option for facilities that cannot improve air filtration or ventilation by changing their HVAC system. Here is a YouTube video on how to build one:  
<https://www.youtube.com/watch?v=CXa8auzKx9Y>
- Ozone generators do not function as "air cleaners" despite advertising claims.

### Interior surfaces

- There may be smoke damage and soot in the building after the fire. Contact your insurance company and fire restoration company as soon as possible.
- The fire restoration contractor will be able to give you more information about the following:
  - Preventing further damage.
  - Determining which things can or cannot be adequately cleaned.
  - Thoroughly cleaning and deodorizing the building before people are allowed back in.
- Use personal protective equipment as appropriate, such as respirators, rubber gloves, rubber boots, long-sleeved shirts and pants.



- Wash all interior surfaces with a mild detergent or appropriate cleaning solution and rinse thoroughly. Include all locations where there is any ash, dust or fire odour.
- Wash the interior of the windows thoroughly.
- Wet wiping or mopping is safer and more effective than dry or dust mopping.
- Only a vacuum with a “HEPA” filter can catch ash particles. Using unfiltered vacuums will only move the ash around the building. Change your HEPA filter frequently.
- Ash left in place is reduced into smaller particles and becomes harder to remove from carpets and surfaces.
- Wash and clean all ash-contaminated items with mild detergent, changing the water frequently.

#### Fabric, carpets, and furniture

- Soot is oily and can stain carpets, curtains, and soft furnishing, and it must be removed before you try to clean or deodorize those items.
- Steam clean carpets, drapes, and curtains, changing the water frequently.
- Furniture may be difficult or almost impossible to clean if it is upholstered, especially if the smoke odour has permeated into these furnishings.
- Furniture may be steam cleaned or may need to be replaced.
- You can clean and rinse good-quality wood furniture.

#### Electronics

- Contact your insurance company for information about restoring/replacing electronic devices.
- Otherwise, it is recommended that you carry all electronic equipment outside and “blow out” the components with an air hose before the equipment is turned on. Ash can cause static charges.
- Consider unplugging, rolling out, or rinsing the coils and compressors on refrigerators and freezers (they must dry entirely before repowering).
- During a fire, indoor materials may end up in drainage systems and partly block them or sit there and rot. Carefully flush and disinfect floor drains and sump pits. Some physical scrubbing may be needed to get greasy dirt and grime off surfaces that can release pollutants into the indoor air.

### Repair water damage:

- If the building was damaged by water, you will need to get rid of all excess water to prevent the potential for mould growth.
- Check any water-damaged or water-stained surfaces and appliances for damage. Clean and disinfect indoor surfaces with a 1:10 parts household bleach to water solution (6 tsp bleach in 1 cup water or 5 mL bleach in 45 mL water). Outdoor surfaces should be cleaned with soap and water only.
- Dry all wet items as soon as possible.
- Dry or remove wet or waterlogged carpeting as quickly as possible, including the underlayment.
- You may need to use a dehumidifier to help remove excess moisture from the air inside the building.
- Let your insurance company and restoration contractor know as soon as possible if you find any visible mould growth or smell mould inside the building.
- If you discover a small amount of mould (typically under 10 square feet) and you wish to complete the work yourself, you can find more information here: [Managing Indoor Mould](#).

## Additional Considerations for Food Facilities

### Food

- Information on safe food practices is described above on page 5 and 6.

### Water

- Food facilities on cisterns and wells should submit bacteriological samples for analysis and receive acceptable results before reopening. Please contact your local Community Health Office for drop-off times or call 1-833-476-4743 or email us at <https://ephisahs.albertahealthservices.ca/create-case/>.
- Information on where to pick and drop off water samples can be found online. [Environmental Public Health - Water Sample Bottle Pick-up and Drop-off - InformAlberta.ca](#)

### Assess, Clean and Sanitize Equipment

- Thoroughly clean and sanitize all sinks before using them.
- [Assess all equipment, including refrigerators, coolers, freezers, ice machines](#) and meat slicers. If they are to continue to be used, clean and sanitize according to the directions on making sanitizing solutions below.
- Ensure all refrigerated storage (refrigerators and coolers) can maintain temperatures of 4°C or less.
- Use a commercial dishwasher or three-compartment sink to wash, rinse, and sanitize equipment, dishes and utensils using potable water. Ensure dishwashers are achieving the required temperatures and sanitizer concentrations.
- Clean and sanitize all food surfaces, including food preparation counters, seating tables and chairs, shelving, and other food-related storage areas with potable water.
- Ensure equipment is in good working order, as per manufacturer's specifications. Repair or replace severely damaged equipment.

### Sanitizing Solutions

- Cleaning and sanitizing will remove debris, soot, harmful microorganisms, and chemical residues that could pose a food safety risk. The first step is to remove dirt, dust, and residues physically. Cleaning equipment and surfaces with a solution of non-reactive cleaners (e.g., dish soap) and potable water will allow sanitizers to effectively remove harmful bacteria.

- Chemical sanitizers include:
  - chlorine bleach at a concentration of 100–200 ppm (approximately one tablespoon of bleach in one gallon of potable water), or
  - quaternary ammonium at a concentration of 200 ppm, or
  - other approved sanitizers.

#### Before Opening to the Public

- Verify that all refrigerated and freezer display cases, walk-in refrigerators, and walk-in freezers can consistently maintain proper temperatures. Refrigeration units must keep foods less than 4°C, and freezers must keep foods frozen. Ensure all refrigeration or freezing equipment maintain adequate temperatures before placing replacement food items in the units.
- Verify that all equipment used for food preparation (e.g., cooking, cooling, and reheating) can operate according to the manufacturer's specifications/instructions.
- Ensure handwashing basins, including in washrooms, are operational, stocked with hand soap and paper towels, and are accessible.

## Additional Considerations for Child Care Facilities and Schools

### Food

- Food spaces and equipment must be appropriately cleaned and sanitized if you provide meals, including snacks, to children at your facility. Review the information for food facilities included in this document.

### Clothing, Bedding, Plush Toys, etc.

- Launder all affected clothing, plush toys, bedding, and costumes. You may require numerous rinse cycles to extract the soot, ash, and smoke. Consider laundering offsite using a machine tagged for heavy contaminants at a laundromat. These are usually marked as “oilers.”
- Professional assistance is recommended to remove soot and smoke odour from mattresses.
- Do not save books, paper materials, plush toys, or mattresses if they become wet from the building’s fire suppression system or firefighting activities. They are too difficult to clean, sanitize, and dry before mould problems occur.
- Vacuum or damp-wipe books, cardboard, and other paper materials. If heavily damaged, they may need to be discarded.
- Furniture may be difficult or impossible to clean if upholstered, especially if the smoke odour has permeated into these furnishings. Upholstered furniture may be steam cleaned or may need replacement.
- Absorbent materials such as disposable diapers should be considered unusable if open to contamination. If the materials are contaminated with fire retardant or soot, discard the item as it cannot be cleaned.

### Clean and Sanitize Toys and Equipment

- Clean and sanitize all toys and equipment. Refer to the directions on making sanitizing solutions below.
- Use a commercial dishwasher or three-compartment sink to wash, rinse, and sanitize non-plush toys or toys without electronic components using potable water. Ensure dishwashers are achieving the necessary temperatures and sanitizer concentrations.
- **Before washing toys and equipment**, run the dishwasher empty through the wash- rinse-sanitize cycle three times. This practice will flush the water lines and clean and sanitize the dishwasher’s interior.

- For equipment such as sleeping mats and cots, where the material is impervious to moisture, these materials must be clean and sanitized prior to use.
- Chemical sanitizers include:
  - chlorine bleach at a concentration of 100–200 ppm (approximately one tablespoon of bleach in one gallon of potable water), or
  - quaternary ammonium at a concentration of 200 ppm, or
  - other approved sanitizers.

### Outdoor Play Equipment and Surfacing

- Use a hose or pressure washer to wash outdoor playground equipment impacted by soot or other contaminants including fire retardants [Aerial Fire Retardants and Return to Your Home Following a Wildfire Evacuation \(albertahealthservices.ca\)](#).
- Inspect all surfacing for contaminants. Spray down and remove visibly contaminated loose material fall surfacing (e.g., sand).
- Inspect the playground before allowing play by using a form like *Inspection and Maintenance Program for Playspaces* available here <https://www.albertahealthservices.ca/assets/wf/eph/wf-eph-inspection-maintenance-playspaces.pdf>.
- Do not allow children outside for outdoor play/recess until the play area and equipment have been assessed for contaminants and safety.
- Monitor the Air Quality Health Index (AQHI) to determine whether it is safe for children to play outdoors by using resources available on [Air Quality Health Index – Resources | Alberta.ca](#). Consider vulnerabilities such as the age of children, pre-existing health conditions like asthma, etc.

### Water

- Follow other drinking water instructions in this document. Make sure fountain faucets are cleaned and flushed before use.

## Additional Considerations for Personal Services

Personal service facilities include facilities that provide hair styling, hair removal, manicures and pedicures, facials and skin care services, tanning, piercing, tattooing and other services that enhance, preserve or alter the client's appearance.

### Equipment and Instruments

- The operator must inspect and assess all equipment and instruments in the facility. All equipment and devices affected by heat, ash, chemicals, smoke, soot, or water must be discarded or cleaned and disinfected as appropriate.
- Remove and discard items exposed to heat, ash, chemicals, soot, water, and smoke, such as the following.
  - Single-use items
  - Lotions, cosmetics, disinfectants, and other similar supplies
  - Things where the packaging has been compromised, and you do not have the equipment to disinfect them effectively.
  - Follow current local guidelines on where hazardous waste be discarded.
  - Items to be cleaned and disinfected/sterilized must be disassembled at the cleaning step.
  - Remember to thoroughly clean and disinfect all sinks before using them.
  - Soot is oily and can stain cloth materials and must be removed before you try to clean or deodorize cloth items.
  - Launder or dry clean all affected cloth (e.g., sheets, gowns, towels). You may have to run numerous rinse cycles to extract all materials. Consider laundering offsite using a machined tagged for heavy contaminants at a laundromat. These are usually marked as "oilers."

## Additional Considerations for Health Care Clinics

Community-based Health Care Settings (CHCS) include but are not limited to clinics offering medical, dental, podiatry, acupuncture, and chiropractic services. The advice below is not intended to replace any guidelines or recommendations required by the professional regulatory body overseeing the operation.

### Equipment & instruments

- The operator must inspect and assess all equipment and instruments in the facility. All equipment and devices affected by heat, ash, chemicals, smoke, soot, or water must be discarded or cleaned and disinfected/sterilized as appropriate.
- Medical device reprocessing (MDR) areas should be re-commissioned. Thoroughly clean and disinfect the MDR area and ensure tabletop sterilizers undergo operational requalification:
  - Operational requalification testing of both dynamic air removal and gravity sterilizers shall be conducted by running three consecutive cycles using biological indicator challenge tests.
  - Dynamic air removal (vacuum) sterilizers shall be tested with three consecutive air removal (Bowie-Dick) tests in an otherwise empty sterilizer.
- Use new single-use medical devices until the MDR area in the office has been re-commissioned.
- Review practices for MDR in the office to ensure that all aspects can be completed as required before considering commencing reprocessing activities.
- Reprocess (clean and sterilize) all packaged reusable instruments and instrument sets before use.
- Remove and discard items exposed to heat, ash, chemicals, soot, water and smoke, including:
  - Medicines, vaccines, disinfectants, alcohol-based hand rub, and other similar supplies (Follow local requirements for any medical waste)
  - Items where the packaging has been compromised.
- Contact your insurance company for information about restoring/replacing electronic devices.