



Cleaning up after a Flood

After your home has been flooded it is important to clean up as soon as possible to protect your health and prevent further damage to your home and belongings. Residents who have been evacuated should not return home after a flood until cleanup is finished and a supply of safe water and proper disposal of human waste and garbage has been arranged.

What are the health hazards after a flood?

When you arrive home, no part of a flooded installation can be assumed safe, not even the main breaker for the power supply. Before electrical equipment is tested or worked on, all power should be disconnected at the service panel with the main switch being left in the "off" position until work has been completed. In the event that flood water has risen above outlets, covers power cords, or is near the service panel contact your Local Distribution Company to disconnect power to your home. Once power has been turned off or disconnected a licensed electrical contractor should be contacted to determine if electrical equipment (wires, plugs) need to be replaced.

Do not plug in or attempt to use electrical appliances that have been wet until they have been checked or serviced by an electrician or service agency. Ask your electrician, or contact the manufacturer or dealer for the nearest service location.

Floodwaters are usually very dirty. During a flood, water leaves the normal course of streambeds and washes over the countryside. The floodwaters then come in contact with farmyards, manure piles, refuse heaps, outhouses, overflowing septic systems and other sources of disease, resulting in heavy contamination of the water. The contaminated water can make people sick and items that have been in contact with the floodwaters need to be handled properly. If flood damaged areas are not cleaned properly and quickly there is a danger of mould growing. Mould can be harmful to some individuals if inhaled or swallowed.

How do I properly clean up my home after a flood?

In situations of **extensive flood damage** or if floodwaters show evidence of being **heavily contaminated by sewage**, it may be necessary to do a more extensive cleanup in the home (carpets, crawl spaces, heating ducts). If you have extensive water damage or if wide spread mould problem develops professional assistance should be obtained.

In situations with a small amount of flood damage with **no indication of sewage contamination** of flood waters,

follow these cleaning directions as recommended by the Canada Mortgage and Housing Corporation.

- Contact your insurance agent immediately.
- Set up a step-by-step action plan to:
 - remove all water, mud and other debris
 - dispose of contaminated household goods
 - rinse away contamination inside the home
 - remove the rinse water
 - clean and dry out your house and salvageable possessions.
- Be prepared to make difficult decisions about what to keep and what to throw out. Household items that have been contaminated by sewage, or that have been wet for a long time, will have to be bagged, tagged and discarded according to local regulations.
- Assemble equipment and supplies:
 - gloves, masks (N95 respirators) and other protective gear
 - pails, mops, squeegees and plastic garbage bags unscented detergent
 - large containers for wet bedding and clothing, and lines to hang them to dry
 - you may also need to rent extension cords, submersible pumps, wet/dry shop vacuums, and dehumidifiers or heaters.
- Store valuable papers that have been damaged in a freezer until you have time to work on them.
- Remove standing water with pumps or pails, then with a wet/dry shop vacuum.
- Remove all soaked and dirty materials and debris, including wet insulation and drywall, residual mud and soil, furniture, appliances, clothing and bedding.
- Hose down any dirt sticking to walls and furnishings, then rinse several times, removing the remaining water with a wet/dry shop vacuum. Rinse, then clean all floors as quickly as possible. Flooring that has been deeply penetrated by flood water or sewage should be discarded.
- Work from the top down. Break out all ceilings and walls that have been soaked or that have absorbed water. Remove materials at least 500 mm (20 in.) above the high-water line. Removing only the lower part of the wall applies if action is taken immediately after the flood or wetting event. Gypsum board walls that have been exposed to high humidity or standing water for a prolonged period of time should be removed

in their entirety and discarded. Ceiling tiles and panelling should be treated like drywall.

- Wash and wipe/scrub down all affected or flooded surfaces with unscented detergent and water. Rinse. Repeat the process as needed. Concrete surfaces can be cleaned with a solution of TSP (tri-sodium phosphate) in water (one half cup TSP to one gallon of warm water). When using TSP, which is highly corrosive, wear gloves and eye protection.
- Surfaces that are dry and/or have not been directly affected by the flood water should be vacuumed with a HEPA vacuum cleaner. Further cleaning of concrete surfaces can be done with TSP. Washable surfaces can be washed with unscented detergent and water. Surface mould on wood can be removed with a vacuum-sander. Do not sand without simultaneous vacuuming. Wood that looks mouldy after sanding may need to be replaced.
- After cleaning the surfaces, ventilate or dehumidify the house until it is completely dry. Rapid drying is important to prevent mould growth. When the outside weather permits (low humidity and moderate temperature), open doors and windows and hasten the drying process with fans. If the outside weather is not suitable and you notice that drying is not happening fast, use dehumidifying equipment, renting extra units as necessary.

To determine if the outdoor air can help dry the air inside, place a hygrometer in the area to be dried. Let it stabilize then open a window and monitor the Relative Humidity (RH). If it goes down then it means the air is dry enough to assist the drying process. If the RH increases, close the window.

- Carpets must be dried within two days. Sewage-soaked carpets must be discarded. Homeowners can't effectively dry large areas of soaked carpets themselves. Qualified professionals are required.
- Ensure that all interior cavities and structural members are completely dry (which could take weeks) before closing cavities.

If there is potential that the floodwaters are **contaminated by sewage**, disinfection is recommended following cleaning of walls, hard-surfaced floors and other household surfaces to remove any bacteria and viruses. It is important that these surfaces that have been in contact with floodwaters that have been contaminated by sewage are disinfected to remove bacteria and viruses. Disinfect with a solution of 5 ml of household bleach mixed with 1 L of water.

When cleaning with a disinfectant be sure to ventilate the room by opening windows and wear rubber boots and waterproof gloves as strong solutions may irritate skin and cause respiratory symptoms.

Walls, hard-surfaced floors and many other household surfaces should be cleaned with soap and water until all visible soil is removed. Once surfaces appear clean disinfect with a solution of 5ml of household bleach mixed with 1 L of water. Disinfection is recommended because flood waters may be contaminated. Following cleaning it is important that surfaces that have been in contact with flood water are disinfected to remove bacteria and viruses.

What precautions should be taken for food and water safety after a flood?

Food and water safety are important after a flood or power outage due to a storm. Follow these guidelines to protect yourself and your family:

- If your well has been flooded, it could have been contaminated. Until you can get your well water tested, boil your water rapidly for at least one minute before use, or use bottled water for drinking, making infant formula, juices, cooking, making ice, washing fruits and vegetables or brushing teeth.
- Once the flooding has receded you may begin to disinfect your well. Refer to our fact sheet "*Well Disinfection Procedure*".
- Food items that have come into contact with floodwaters should be thrown out, with the exception of sealed canned goods. However, the outside of sealed canned goods must be thoroughly washed with clean water and disinfected.
- Without electrical power your refrigerator will keep food cool for 4-6 hours. Dispose of all foods that are a high-risk for contamination. These include: -
 - fish, poultry and meats, including cold cuts
 - eggs, milk and cheese and other dairy products
 - soups, stews, casseroles
 - any food that may have come in contact with meat juices.
- If your chest freezer is full, foods inside should remain safely frozen for up to 48 hours after a power failure. If your freezer is half full, foods inside should remain safely frozen for 24 hours after a power failure. Throw out any food that has been sitting at room temperature for more than 2 hours and if in doubt throw it out!

Where can I find more information?

To speak to a public health professional call Your Health Connection at 721-7520 (1-877-721-7520). Information is also available on these websites:

Simcoe Muskoka District Health Unit

www.simcoemuskokahealth.org

Canada Mortgage and Housing Corporation

www.cmhc-schl.gc.ca

Centers for Disease Control and Prevention

www.cdc.gov