

Flooded Basement Clean-Up Tips

If your basement contains water, do not remove it until the water pressure on the outside of the walls has been relieved to prevent the walls from being pushed in or the floors from heaving. Remove it slowly as floodwaters recede.

A general rule of thumb if the water is deep, is to pump out about one-third of the water per day.

Turn off the main power switch if basement level is above any electrical appliances, outlet plugs or wiring. Use the following precautions if power switch is located in flooded area:

-) Stand on a dry wooden ladder or stool.
-) Wear high rubber boots free of cracks or pinholes.
-) Wear dry clothing and thick rubber or leather gloves
-) Make sure your hands and arms are dry
-) If practical, use a dry wooden or plastic rod to operate the switch; Do not use any material that contains metal.

Unplug all appliances. Carefully check the electric wiring and outlet plugs. Dry off wet appliances. Have a qualified electrician check the entire electrical system before using.

Once the basement is pumped dry, exposed surfaces should be scrubbed with mild soap and water and rinsed. Use a hose, start from the upper limit of flooding, and work down. Pay particular attention to surfaces that children can reach.

Floors and all surfaces that come into contact with floodwaters should be disinfected. It is suggested that a solution made from household bleach be used. To make the solution, add 1 tablespoon of household bleach to 1 gallon of water.

Start drying out the structure. Open doors and windows to increase ventilation. Open closet and cupboard doors and drawers. Electric fans may be used to improve air circulation for drying. Electric dehumidifiers can will reduce drying time.

If you have a gas or oil-fired forced air furnace, a heating serviceman should inspect the flooded components of the heating system. Debris lodged in passages could make operation dangerous, resulting in smoke, excess Carbon Dioxide, or poisonous Carbon Monoxide production.

A flooded hot water heater should be checked by an experienced repair person only. If the water supply has been contaminated, chlorinate the water heater tank after a pure water supply has been restored.

Carpets and rugs subjected to flood waters should be removed and cleaned. Discard heavily soiled carpets. In most cases, the padding must be discarded. Before removing your carpet, remove as much water as possible with a wet pick-up vacuum. Shampoo the rug with a mild detergent solution. Make use of fans to aid in drying carpets and rugs. Vacuum the carpet when dry.

Flood Food Safety Tips

As a rule of thumb, do not eat any food that has come in contact with floodwater. If the safety of any food or beverage is questionable follow the simple rule:

WHEN IN DOUBT, THROW IT OUT.

Canned Food

Do not eat any food that may have come into contact with floodwater. Discard any food without a waterproof container if there is any chance that it has come into contact with floodwater.

Undamaged, commercially canned foods can be saved if you remove the can labels, thoroughly wash the cans, and then disinfect them with a solution consisting of one cup of bleach in 5 gallons of water. Re-label your cans, including expiration date, with a marker.

Food containers with screw-caps, snap-lids, crimped caps (soda pop bottles), twist caps, flip tops, and home canned foods should be discarded if they have come into contact with flood water because they cannot be disinfected.

For infants, use only **pre-prepared** canned baby formula that requires no added water, rather than powdered formulas prepared with treated water.

Frozen and Refrigerated Foods

If your refrigerator or freezer may be without power for a long period:

Divide your frozen foods among friends' freezers if they have electricity;

Seek freezer space in a store, church, school, or commercial freezer that has electrical service; or Use dry ice -- 25 pounds of dry ice will keep a 10-cubic-foot freezer below freezing for 3-4 days. (Exercise care when handling dry ice, because it freezes everything it touches. Wear dry, heavy gloves to avoid injury.)

Thawed food can usually be eaten or refrozen if it is still "refrigerator cold," or if it still contains ice crystals. To be safe, remember, "When in doubt, throw it out." Discard any food that has been at room temperature for two hours or more, and any food that has an unusual odor, color, or texture.

Your refrigerator will keep foods cool for about 4 hours without power if it is unopened. Add block or dry ice to your refrigerator if the electricity will be off longer than 4 hours.

Water Quality During a Flood Event

Listen for public announcements on the safety of the municipal water supply. If you have a private water well and for any reason suspect that it has been contaminated, then have the well disinfected and tested. This should be done before drinking or cooking.

Water for Drinking, Cooking, and Personal Hygiene

Safe water for drinking, cooking, and personal hygiene includes bottled, boiled, or treated water. Here are some general rules concerning water for drinking, cooking, and personal hygiene. Remember:

Do not use contaminated water to wash dishes, brush your teeth, wash and prepare food, wash your hands, make ice, or make baby formula. If possible, use baby formula that does not need to have water added. You can use an alcohol-based hand sanitizer to wash your hands.

If you use bottled water, be sure it came from a safe source. If you do not know that the water came from a safe source, you should boil or treat it before you use it. Use only bottled, boiled, or treated water until your supply is tested and found safe.

Boiling water, when practical, is the preferred way to kill harmful bacteria and parasites. Based upon current EPA and CDC guidelines, bringing water to a rolling boil for 1 minute should make it safe to drink.

When boiling water is not practical, you can treat water with chlorine tablets, iodine tablets, or un-scented household chlorine bleach (5.25% sodium hypochlorite):

If you use chlorine tablets or iodine tablets, follow the directions that come with the tablets.

If you use regular strength, unscented household chlorine bleach, add 1/8 teaspoon (~0.75 mL) (8 drops) of bleach per gallon of water if the water is clear. For cloudy water, add 1/4 teaspoon (~1.50 mL) (16 drops) of bleach per gallon. Mix the solution thoroughly and let it stand for about 30 minutes before using it.

Note: Treating water with chlorine tablets, iodine tablets, or liquid bleach will not kill all parasitic organisms.

How to Disinfect Your Flooded Well

During a flood, your drinking well may become contaminated. To ensure safe drinking water from your well, follow the following procedure:

1. **PUMP** your well if the water is cloudy until the water is clear.
2. **CALCULATE** amount of chlorine bleach needed (see chart below).

Chlorine Dosages (Approximately 200ppm chlorine)

Type of Well	Type & Size of Well Casing	Amount of Chlorine Bleach needed
Drilled	6" diameter metal or plastic	1 Gallon
Dug	36" diameter concrete, plastic, metal	2 Gallons
Point	2" diameter plastic or metal	1 Cup

3. **MIX** chlorine with 5 gallons of clean water in a clean pail. Pour chlorine solution into well. Wait 2 hours.
4. **MIX** chlorine in well by placing the garden hose in top of well. Turn on outside tap. Circulate chlorine water for 1 hour. Turn off outside tap, remove hose and replace well cap.
5. **DISINFECT** water lines in house by turning on each cold water tap and run water until you smell chlorine, then turn off the taps.
6. **LET SIT** for 12 hours.
7. **DRAIN** off the chlorine water through the garden hose away from the house and septic system. Stop running the water when the smell of chlorine is gone. Drain the chlorine from each tap.
8. **WAIT** 48 hours to request a water sample from the Henry County Health Department- **419-599-5545**.

NOTE: Please wait until the water sample results are completed before beginning to use your water for drinking, cooking, washing hands/body, washing dishes, preparing drinks (baby formula), or brushing teeth.

TO DISINFECT YOUR HOT WATER TANK: Disinfect hot water tank by increasing temperature to 150°F for 12 hours. Notify household members to avoid scalding.

Sewage Cleanup Guidelines

- J Wear gloves and take extra precautions if you have cuts or sores.
- J Wear waterproof rubber boots to keep feet dry.
- J Disinfect items that come in contact with sewage.
- J Wash hand frequently.
- J Assume anything in contact with sewage is contaminated.

4-Step Clean-Up Procedure

Step 1. Gather up cleaning supplies. (Mops, brooms, buckets, gloves, cleaning products, disinfectants and trash bags)

Step 2: Sort affected goods to be repaired, discarded, or disinfected.

Recommended actions for items soaked by sewage:

Usually Throw Out	Always Throw Out	
Large carpets Books and paper products Foam rubber * Food (Discard all exposed food to sewage and floodwaters except food in sealed metal cans. Remove labels, wash in detergent and place in a chlorine solution of 1 teaspoon of laundry bleach for each 2 gallons of water, then air dry.	Cosmetics Medicine Medical supplies Stuffed animals Toys	Mattresses Pillows Upholstered furniture Carpet padding Cardboard

Step 3. Clean up one room at a time.

Use a 2-bucket system: One bucket for the cleaning solution and the other bucket for rinsing. After using the cleaning solution, rinse the mop, sponge or cloth in the rinse bucket. Wring it dry and re-wet it in the cleaning solution. Change the rinse water frequently.

After cleaning the room or item, go over it with a disinfectant to kill the germs and odor left by the sewage or floodwaters.

Recommended cleaning & disinfecting solutions:

<u>To Clean</u>	<u>To Disinfect</u>
1 st Choice: Non-sudsing household cleaners. 2 nd Choice: Laundry soap or detergent.	1 st Choice: 10% solution of liquid bleach (3/4 cup in 1 gallon of water). 2 nd Choice: Household disinfectant such as quaternary phenilic or pine oil disinfectants (check labels).

Step 4. Dry out your home and check for mold/mildew concerns.

Open outside doors and windows Circulate the air with fans
Open closet doors and cabinets. Run a dehumidifier

After completing the cleanup, wash your hands with soap and water. Use water that has been boiled for 1 minute (allow the water to cool before washing your hands). Wash clothes contaminated with flood or sewage water in hot water and detergent. Seek immediate medical attention if you become injured or ill.

** Do not mix bleach with other household chemical products especially ammonia or toilet bowl cleaner, the chemical reaction can produce a poisonous gas.

Be aware of potential damage to utilities (gas and electric) from contaminated water. If you are not comfortable working on your utilities or appliances, call a professional.

For more information visit <http://www.odh.ohio.gov/CDCsyndication/Flooding/floodclean.aspx>

Flooding Cleanup: Mold

Mold basics

Excess moisture, flooding and standing water contribute to the growth of mold in homes and buildings. Exposure to mold indoors can cause a variety of health problems including allergic reactions of various forms. Molds can easily be recognized by sight or smell since they usually release a bad odor or a foul stench.

People at greatest risk from mold

People with allergies, asthma, or other breathing conditions are more sensitive to mold. It is advisable to seek medical attention if you or a member of your family has a history of lung disease.

Possible health effects of mold exposure

Exposure to mold may cause a number of health problems. People who are allergic to mold may experience stuffy nose, irritated eyes, wheezing and skin irritation. Gradually, this may lead to difficulty in breathing and shortness of breath. Some people with chronic lung illnesses, such as obstructive lung disease, may develop infections in their lungs.

Safely removing mold

The most effective way to eliminate mold growth is to fix the moisture problem, remove mold from materials that can be cleaned and discard materials that cannot be cleaned or are physically damaged beyond use. To **clean** mold off hard household surfaces wash each item or surface with a mixture of clean hot water and detergent, scrub rough surfaces with a stiff brush, rinse with clean water and dry promptly. Finally, **clean** the surface with a diluted bleach solution (**1 cup of bleach to 1 gallon of water**) and dry the surface.

Protect yourself from mold

Hand washing is the single most important thing that you can do. Always be sure to wash hands after touching contaminated surfaces or objects before you eat or drink anything. The basic rule is, if you can see or smell mold, take steps to eliminate the excess moisture, and then cleanup and remove the mold. **It is important to remove the source of moisture before beginning to cleanup, or mold will return if the area becomes wet again.**

Additional safety guidelines for mold clean-up

- Wear rubber boots, rubber gloves, and goggles when cleaning with bleach.
- Open windows and doors to get fresh air.
- Never mix bleach and ammonia because the fumes from the mixture can be fatal.
- If the area of mold growth is more than 10 square feet, consult the U.S. Environmental Protection Agency (EPA) guide titled *Mold Remediation in Schools and Commercial Buildings* . Although focused on schools and commercial buildings, this document also applies to other building types. You can get it free by calling your local Health Department or the EPA Indoor Air Quality Information Clearinghouse at (800) 438-4318, or by going to the EPA web site at http://www.epa.gov/mold/mold_remediation.html

Flood Clean-Up: Lead and Asbestos

Clean-up that occurs after a flood can expose the homeowner to dangerous levels of asbestos and lead. One way to avoid this kind of hazardous exposure is to contact qualified contractors to remove the asbestos and lead from the home. For a list of contractors please contact the Ohio Environmental Protection Agency at 866-644-6362.

If homeowners plan to clean up their residences themselves, they should follow certain safety guidelines:

1. **PROTECT** all foods, appliances, personal items, cooking utensils and clothing from dust. Remove them from the work area or place them securely in plastic bags.
2. If possible, **REMOVE** and **REPLACE** lead-painted trim. If this is not possible, use a non-flammable chemical paint stripper (make sure it does not contain methylene chloride) to remove the paint. Follow product instructions.
3. Work in only **ONE** room at a time and be sure to **SEAL** it off from the rest of the house.
4. **WEAR** protective clothing, hair covering, shoes, goggles, gloves and an air-purifying respirator like an N95 mask (a paper mask is not sufficient) when removing lead-based paint. N95 masks are sometimes available at local hardware stores. **DO NOT** wear these clothes into clean areas of the house. At the end of the day, remove clothing in a designated change area and place in a closed container.
5. **COVER** carpets with heavy plastic and seal the edges with tape.
6. Place a **DAMP** floor mat outside the door to a work area to collect lead dust from the bottom of shoes.
7. **USE AN EXHAUST** window fan with an improvised filter (e.g., a 3-inch piece of foam rubber) or a furnace filter to prevent dust from spreading outdoors.
8. When removing exterior paint, **SEAL** windows and vents so that dust does not filter inside. Use a drop cloth or plastic sheeting sealed to the foundation with duct tape to prevent contamination of the soil around the house.
(OVER)
9. At the end of each work day, **COLLECT** all debris and large paint chips and thoroughly clean the work area. If available, use a HEPA (high-efficiency particulate air) vacuum cleaner (ordinary vacuums release dust into the air). Then **WASH** surfaces with a solution containing either Trisodium phosphate (TSP- available at hardware stores) or, a phosphate-free lead dissolving detergent (powdered dishwasher soap).
10. **COLLECT** wash water with a wet vacuum.
11. **WASH** all surfaces again 24 hours after de-leading is complete. Lead dust will continue to settle over a period of hours and days.
12. **DO NOT** eat, drink or smoke in an area where lead-based paint is being removed; these activities can transfer dust from hands and clothing to the mouth and cause health problems.

NOTE: The removal of lead-based paint using heat guns or torches, sand or water blasting, and dry sanding are dangerous to your health, and may cause death.

Flooding: Respiratory and Allergic Reactions

Excess moisture in buildings after a flood can create the potential for respiratory problems caused by bioaerosols, or airborne particles, released by bacteria, fungi, molds and related organisms or by the chemicals used to disinfect flooded living areas. While many of these bioaerosols occur naturally in the outdoor air and are responsible for hay fever and other allergies, they can cause similar problems indoors if allowed to proliferate.

Most bacteria and fungi can live and grow in or on both living and nonliving organic material. After a flood, damp carpeting, walls, insulation, upholstery, ceiling tiles, etc., can provide a suitable medium for these organisms to grow. When the organism is disturbed, for example, by walking across contaminated carpeting, it releases particles into the air where they can be inhaled by individuals living or working in the area.

High relative humidity (greater than 70%) in a structure leads to problems. Many materials exposed to floodwater will hold moisture for an extended period of time and present favorable growing conditions for these organisms. Even if materials do not feel wet, they may be holding a significant amount of moisture. Carpeting is a good example. The surface of the carpeting may feel dry, but the padding and the back side of the carpeting may be wet and harboring organisms. Dirty filters in heating, ventilation and air conditioning systems also are good reservoirs for organisms.

While respiratory ailments and allergies are the most common result of inhaling these organisms, they can have much more **serious effects**. In rare instances, exposure to bioaerosols can cause rampant infection characterized by fever, malaise, respiratory distress, shock and even death. **Seek medical attention if you have concerns.**

Since indoor sources of all these organisms always are associated with water, keeping the indoor environment free from water intrusion and at a relative humidity less than 50 percent and removing any pooled water as quickly as possible will retard indoor growth of bacteria and fungi. Hard surfaces supporting the growth of these organisms can be cleaned using dilute bleach, after which the surface should be rinsed with clean water and dried. Seriously contaminated soft materials (carpeting, draperies, furniture, fabric, wallboard, paper, insulation materials, etc.) may not be cleanable and should be discarded.

Respiratory protection is usually advisable for those doing cleanup. Masks will significantly reduce exposure to most spores but may not protect against gases or fumes. Check with the seller to ensure that the mask is appropriate for the job. The chemicals used in disinfection also may cause respiratory damage if misused or used in an unventilated area. Caution should always be used in mixing and using chemicals and while cleaning and disinfecting. Consult Henry County Health Department should you have questions about after flood clean-up recommendations at 419-599-5545.