



MARION COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH

CORY FRANK, DIRECTOR
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MARION COUNTY COURTHOUSE
214 E. MAIN, SUITE #2
KNOXVILLE, IA 50138

FOR IMMEDIATE RELEASE

June 25, 2010

Marion County Residents Feel the Effects of Flooding on their Homes and Businesses in Relation to Mold following Flooded Basements and Other Living Spaces

Heavy amounts of rainfall have impacted all areas within Marion County and as a result have left many residential and commercial properties inundated with flooded basements and crawlspaces. Also potential for main floor flooding exists with more rainfall and flash flooding events. Marion County Environmental Health recommends that all residents follow safe practices while experiencing potential hazards within their home including cleaning and disinfecting flood or water contaminated items within their homes. Remember to use the guideline, "If in Doubt, Throw it Out" while cleaning and discarding your household items. Rising flood water may contain potential pathogens as well as chemicals that could impact your health and cause other public health concerns. Wet or flooded basements have the potential to grow mold if the water is not removed or damp conditions persist. Please contact the Marion County Environmental Office regarding any questions regarding proper cleanup or issues surrounding potential mold growth. Also, please refer to the Iowa Department of Public Health's website for flood fact sheets as well as flooded basement information.

<http://www.idph.state.ia.us/EmergencyResponse/Flooding.aspx>



Reentering Your Flooded Home

When returning to a home that's been flooded after natural disasters such as hurricanes, tornadoes, and floods, be aware that your house may be contaminated with mold or sewage, which can cause health risks for your family.

When You First Reenter Your Home

- If you have standing water in your home and can turn off the main power from a dry location, then go ahead and turn off the power, even if it delays cleaning. If you must enter standing water to access the main power switch, then call an electrician to turn it off. **NEVER turn power on or off yourself or use an electric tool or appliance while standing in water.**
- Have an electrician check the house's electrical system before turning the power on again.
- If the house has been closed up for several days, enter briefly to open doors and windows to let the house air out for awhile (at least 30 minutes) before you stay for any length of time.
- If your home has been flooded and has been closed up for several days, presume your home has been contaminated with mold. (See "Protect Yourself from Mold" at www.bt.cdc.gov/disasters/mold/protect.asp.)
- If your home has been flooded, it also may be contaminated with sewage. (See "After a Hurricane or Flood: Cleanup of Flood Water" at www.bt.cdc.gov/disasters/floods/cleanupwater.asp.)

Dry Out Your House

If flood or storm water has entered your home, dry it out as soon as possible. Follow these steps:

- If you have electricity and an electrician has determined that it's safe to turn it on, use a "wet-dry" shop vacuum (or the vacuum function of a carpet steam cleaner), an electric-powered water transfer pump, or sump pump to remove standing water. If you are operating equipment in wet areas, be sure to wear rubber boots.
- If you do not have electricity, or it is not safe to turn it on, you can use a portable generator to power equipment to remove standing water. **Note: If you must use a gasoline-powered pump, generator, pressure washer, or any other gasoline-powered tools to clean your home, never operate the gasoline engine inside a home, basement, garage, carport, porch, or other enclosed or partially enclosed structures, even if the windows and doors are open. Such improper use can create dangerously high levels of carbon monoxide and cause carbon monoxide poisoning.**
- If weather permits, open windows and doors of the house to aid in the drying-out process.
- Use fans and dehumidifiers to remove excess moisture. Fans should be placed at a window or door to blow the air outwards rather than inwards, so not to spread the mold.
- Have your home heating, ventilating, and air-conditioning (HVAC) system checked and cleaned by a maintenance or service professional who is experienced in mold clean-up **before you turn it on**. If the HVAC system was flooded with water, turning on the mold-contaminated HVAC will spread mold throughout the house. Professional cleaning will kill the mold and prevent later mold growth. When the service determines that your system is clean and if it is safe to do so, you can turn it on and use it to help remove excess moisture from your home.
- Prevent water outdoors from reentering your home. For example, rain water from gutters or the roof should drain away from the house; the ground around the house should slope away from the house to keep basements and crawl spaces dry.
- Ensure that crawl spaces in basements have proper drainage to limit water seepage. Ventilate to allow the area to dry out.

For more information, visit www.bt.cdc.gov
or call CDC at 800-CDC-INFO (English and Spanish) or 888-232-6348 (TTY).

October 27, 2004

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Iowa Department of Public Health Division of Environmental Health

Reentering Your Flooded Home

Overview: When returning to a home that's been damaged by natural disasters like tornadoes, and floods, be aware that your house may contain hazards, which can cause health risks for your family.

When You First Reenter Your Home

- If you have standing water in your home, turn off the main power to your home if you can do it from a dry location. **NEVER turn power on or off yourself or use an electrical tool or appliance while standing in water: Call your power company or an electrician disconnect your power from the outside.**
- Have an electrician check the house's electrical system before turning the power on again.
- If the house has been closed up for several days, enter briefly to open doors and windows to let the house air out for awhile (as least 30 minutes) before you stay for any length of time.
- If your home has been flooded and has been closed up for several days, presume your home has been contaminated with mold. (See "Frequently Asked Questions About Mold")
- If your home has been flooded, it also may be contaminated with sewage or chemicals. (See "Cleaning and Disinfecting After a Flood")

Dry Out Your House

If flood or storm water has entered your home, dry it out as soon as possible. Follow these steps:

- Use a wet-dry vacuum (or the vacuum function of a carpet steam cleaner), and electric-powered water transfer pump, or sump pump to remove standing water. If you are operating equipment in wet areas, be sure to wear rubber boots.
- If electricity is unavailable, you can use a portable generator to power equipment to remove standing water.
- **If you must use a gasoline-powered pump, generator, pressure washer, or any other gasoline-powered tools, never operate the gasoline engine inside a home, basement, garage, carport, porch, or other enclosed or partially enclosed structures, even if the windows and doors are open. Improper use can create dangerously high levels of carbon monoxide and cause carbon monoxide poisoning.**
- If weather permits, open windows and doors of the house to aid in the drying out process.

Dry Out Your House (Cont.)

- Use fans and dehumidifiers to remove excess moisture. Fans should be placed at a window or door to blow the air out of the structure rather than in.
- Have your home heating, ventilating, and air-conditioning (HVAC) system checked and cleaned by a professional who is experienced in mold clean-up **before you turn it on.** If the HVAC system was flooded with water, turning on the mold-contaminated HVAC system can spread mold throughout the house. Professional cleaning will remove the mold and prevent later mold growth. When the service determines that your system is clean and if it is safe to do so, you can turn your HVAC system on and use it to help remove excess moisture from your home.
- Prevent water outdoors from reentering your home. For example, gutters should be kept free of debris; rain water from gutters or the roof should drain away from the house; the ground around the house should slope away from the house to keep basements and crawl spaces dry.
- Ensure that crawl spaces in basements have proper drainage to limit water seepage. Ventilate to allow the area to dry out.

Source: <http://emergency.cdc.gov/disasters/mold/pdf/reenterfloodedhome.pdf>



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I've found my house or basement area covered in mold, how do I clean it up?

- 1) If the material is **non-porous** (it **will not** absorb water) such as a concrete, tile or vinyl flooring, plastic patio furniture, plastic toys, tub surrounds, paneling, molding, etc., use a mild household detergent solution to wipe away the mold.
- 2) If it is a **porous** surface (it **will** absorb water) such as drywall, carpeting, furniture, bedding, clothing, stuffed animals, books, etc., remove, discard, and replace the items or surfaces the mold is growing on.
- 3) It is not necessary to use bleach on mold, unless your intention is to disinfect the surface.
- 4) If you choose to use bleach to disinfect an area or to remove mold stains, follow these guidelines and refer to the Cleaning Mold Checklist.
 1. Clean the surface first and remove all debris.
 2. Provide ventilation with a fan, open window, or door.
 3. Pour ¼ cup of bleach per into one gallon of water and use a spray bottle to spray down the surface. Keep the surface wet for 15 minutes before wiping it down.
 4. Never mix bleach with ammonia or any other cleaners.
 5. Rinse the area with clean water.
 6. Use a fan to dry out the room.
- 5) **KEEP THE AREA DRY!** Maintain humidity levels below 50%. Run a dehumidifier after the area has been clean and the source of the water is gone.
- 6) Any appliances that may have become wet or were under water should be checked by an electrician or service company before plugging them back in and removing them. Remove the filters from furnaces and replace with a new one.

IF IN DOUBT, THROW IT OUT!



Iowa Department of Public Health Division of Environmental Health

Frequently Asked Questions about Mold

Overview: Mold is a natural part of the outdoor environment. Mold is present in outdoor air at some level throughout the year. In order for mold to grow indoors, there must be a significant source of water, moisture or humidity.

How do I know if I have a mold problem?

If you see or smell mold in your home, you probably have some mold growth.

What causes mold?

Mold growth problems are ALWAYS caused by a moisture or water problem. It does no good to clean the mold if you haven't solved the water issue first.

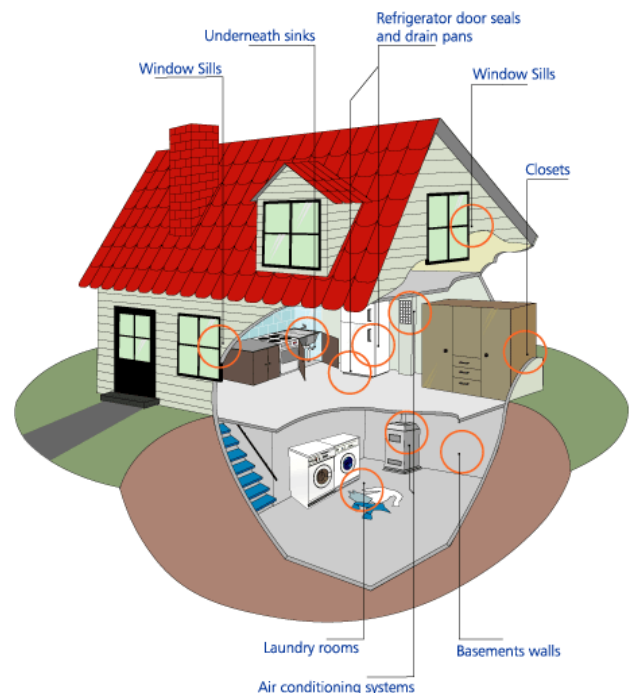
Where should I look for mold?

Look for mold in places where there may be water issues (under sinks, in laundry rooms, kitchens, bathrooms, where a roof has leaked, in the basement, etc.).

Should I test my home for mold?

No. The Iowa Department of Public Health does **NOT** recommend testing for mold for several reasons:

- Mold is present at some level in outdoor air throughout the year so test results may be unreliable.
- It is very difficult, even for professionals, to get meaningful test results for mold.
- Mold testing is very costly.
- There are no regulatory levels or guidelines for comparing test results.



Will mold make me sick?

Mold can cause an allergic reaction in some individuals. About 50% of the population of the United States is allergic to mold. If you are NOT allergic to mold, it is unlikely that you will have health effects from mold exposure. If you are allergic to mold, your reaction depends on how sensitive you are to mold. Symptoms of an allergic reaction are

- Itchy or watery eyes, runny nose,
- Sinus drainage,
- Respiratory discomfort, and
- Cough.

I've identified the area covered in mold, how do I clean it up?

If the material is **non-porous** (it **will not** absorb water) such as a concrete, tile or vinyl flooring, plastic patio furniture, plastic toys, tub surrounds, paneling, molding, etc., use a mild household detergent solution to wipe away the mold. If it is a **porous** surface (it **will** absorb water) such as drywall, carpeting, furniture, bedding, clothing, stuffed animals, books, etc., remove, discard, and replace the items or surfaces the mold is growing on.

It is not necessary to use bleach on mold, unless your intention is to disinfect the surface. If you choose to use bleach to disinfect an area or to remove mold stains, follow these guidelines:

1. Clean the surface first and remove all debris.
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4. Never mix bleach with ammonia or any other cleaners.
5. Rinse the area with clean water.



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Mold Clean-up Kit Supply List

- 1) 2 gallon pail or 5 gallon bucket (You can get these at your local hardware store or large department stores like Wal-Mart)
- 2) One gallon of household bleach. Bleach that is more than 6 months old should not be used.
- 3) Clean water
- 4) Long sleeve gloves (kitchen latex or vinyl)
- 5) Particulate mask
- 6) Box fans or stand fans
- 7) Spray bottles OR deck sprayer
- 8) Eye protection- glasses or goggles
- 9) Cleaning sponge or scouring pads
- 10) Dumpster
- 11) Large heavy duty trash bags

REMEMBER:

IF IN DOUBT, THROW IT OUT!



Iowa Department of Public Health
Division of Environmental Health

Cleaning and Disinfecting After a Flood

Follow these simple rules for cleaning and disinfecting items after flooding:

1. Make sure the item is in **good repair**. Items that have been torn, splintered, cracked, broken, dented, etc. should be discarded and replaced.
2. To clean small items soaked by flood waters that are **porous** (**will** absorb water) such as bedding, clothing, stuffed animals, etc.
 - Pre-soak items in cold water before machine washing to remove mud and filth. DO NOT pre-soak in your washer as it may cause damage. Curtains, blankets, accent rugs and other large items can be hung on a line and hosed down to remove mud and filth.
 - Use hot water and detergent when washing items. Be careful not to overload the washing machine.
 - Add 1 cup of liquid chlorine bleach to wash water before adding clothes or other items, use ½ cup bleach for front loading washers.
 - Tumble dry in a dryer or hang items to dry in the sun.
3. Large items that are **porous** such as patio upholstered furniture, mattresses wall to wall carpeting, etc., that have been soaked by flood waters **MUST** be discarded.
4. To clean items that are **solid** (**will not** absorb water) such as a concrete, tile or vinyl flooring, plastic patio furniture, plastic toys, picture frames, etc. use a mild household detergent solution to clean the item.
5. To disinfect **solid** items (after cleaning), make a mild bleach and water solution (1/4 cup of bleach to one gallon of water). Use the solution in one of these ways:
 - Immerse small objects in the bleach/water solution for one minute. Remove from the solution and allow to air dry.
 - Spritz/spray the bleach/water solution on the item until thoroughly wet and allow to air dry.
 - Use a cloth dipped in the bleach/water solution to completely wipe the item down and allow to air dry.

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After the Flood: What to do about Personal Items

Overview: Sewage and chemicals found in flood waters may have contaminated your clothing, furniture, and bedding. Some items can be saved, while other items need to be thrown out. Start cleaning as soon as possible to prevent further damage.

Where do I Start?

Sort what you can keep and what you need to throw away. If there is any doubt about an item, the safest action is throw it away and buy new.

Clean any salvageable non-porous (does not absorb water) items with detergent or soap and water. Then, wipe down or wash with a solution of bleach and water. **Use a ¼ cup of household bleach per 1 gallon of water to disinfect surfaces.**

Clothing and Cloth Materials

Decide what you can keep. Many items labeled “dry clean only” and other damaged items are already ruined. Throw these away.

- Separate wet items to keep clothing colors from running together.
- If you cannot wash clothing right away, rinse items with clean water. Reshape clothing and lay flat to air dry.
- Wash clothing on the hottest setting possible. Then rinse with bleach and water solution. If clothing cannot be bleached, use a color-safe (oxygen) bleach product.
- Reshape dry cleanable items and lay flat to dry. Dry cleaning may not be effective.

Upholstered Furniture

Remove the fabric. Plan to re-upholster. Throw away all padding and stuffing that is contaminated with sewage or chemicals. Throw away any material that is impossible to dry, clean, or disinfect.

- Clean the furniture with soap and water.
- Disinfect by wiping down the furniture with bleach and water solution.
- Dry the furniture completely. Use a fan and indirect heat. Air drying outside may be effective. To protect exposed wood, dry in direct sunlight.

Bedding

It is best to throw out mattresses and pillows that are contaminated with flood waters. It is possible to clean other bedding.

- Rinse bedding with clean water to remove mud and other debris.
- Wash bedding in detergent and water. Use the hottest water possible.
- Disinfect by rinsing in a bleach and water solution.
- Dry in the dryer at the hottest setting possible or air dry in the sunlight.

Carpet and Rugs

Throw away carpet and pads that are heavily contaminated with flood water, sewage, and other residue. You may be able to save carpet and rugs that have been soaked with cleaner groundwater. It is important to dry out carpet quickly to prevent mold from growing.

- Remove carpet and rugs from the house. Throw away carpet pads.
- Soak up excess water from carpets with a wet vacuum and blankets and towels.
- Shampoo the carpet or rug.
- Disinfect by using a sponge dipped in bleach and water solution. Test first to make sure the color does not fade out.
- Rinse several times with clear water sponged onto the carpet.
- Allow carpet to dry completely.
- Do not replace any carpet or rugs until the subfloors are dry.

Appliances

Dirty flood water can cause many problems if it gets into your appliances. If it gets into the electrical parts, they can corrode and cause the appliance to short out. If flood water gets into the insulation, it can cause odor and mold problems. Many flood-damaged appliances can be saved, but first they must be completely dried. Flood-damaged appliances should be checked by a service technician.

Be sure the electricity is completely shut off in your house before removing any appliance!

- Motors, electrical parts, and metal parts need to be cleaned.
- Do not hose down appliances. Spraying water into appliances can cause more damage.
- Remove and replace any wet insulation inside the appliance.
- Clean the outside of the appliance with a household cleaner or soap and water. Clean the inside with 1-2 tablespoons baking soda mixed in 1 quart of water.
- Disinfect by rinsing the inside and outside with a solution of bleach and water.

Refrigerated appliances contain a refrigerant gas that can harm the environment. They should not be dumped or put in a landfill. Please check with your local landfill to find out where to drop off flood-damaged appliances for proper recycling.

Source: Kansas State University Cooperative Extension Service