



FEMA

Disaster News

CLEAN NOW TO PREVENT MOLD, BREATHE EASIER WHEN WARMER WEATHER ARRIVES

If your home was flooded it could be harboring mold. Disaster recovery and health officials warn that victims of flooding should clean flood-damaged homes thoroughly now to avoid possible health problems from mold and mildew in the warmer months ahead.

Care must be taken to clean and completely dry any areas of the home that have gotten wet from floodwaters to prevent structural damage and adverse health effects from mold.

“People are anxious to get on with their lives after a flood, but if you had flood waters in your home take the time to clean thoroughly so problems don’t arise later that affect your home or your health,” Federal Emergency Management Agency (FEMA) Coordinating Officer Ron Sherman said.

Mold growth is a common occurrence in flood-damaged homes. Mold is made up of simple microscopic organisms that are found virtually everywhere. Mold could become a problem in your home if there is enough moisture available to allow mold to thrive and multiply. Dampness in basements, walls, carpets, and wood caused by flooding provides an environment for mold to flourish.

Exposure to high levels of mold can cause adverse health problems. Mold can also cause structural damage to your home. Mold can often be seen in the form of discoloration, ranging from white to orange and from green to brown and black, and it gives off a musty or earthy smell.

For some people, a relatively small number of mold spores can cause health problems. The basic rule is, if you can see or smell mold, take steps to eliminate the excess moisture, and to cleanup and remove the mold. It is important to quickly identify and correct any moisture sources before health problems develop.

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Infants, children, immune-compromised patients, pregnant women, individuals with existing respiratory conditions, (allergies, multiple chemical sensitivity, and asthma) and the elderly appear to be at higher risks for adverse health effects from mold.

Allergic reactions may be the most common health problem of mold exposure. Typical symptoms reported (alone or in combination) include:

- Respiratory problems, such as wheezing, and difficulty in breathing
- Nasal and sinus congestion
- Eyes - burning, watery, reddened, blurry vision, light sensitivity
- Dry, hacking cough
- Sore throat
- Nose and throat irritation
- Shortness of breath
- Skin irritation
- Central nervous system problems (constant headaches, memory problems, and mood changes)
- Aches and pains
- Possible fever

For proper cleanup after a flood, disaster recovery officials recommend following these steps:

Before beginning extensive cleanup work on a flooded home, make sure the electricity is turned off. Unplug appliances and lamps. Remove light bulbs and cover plates of wall switches and outlets that got wet. If local building inspection code allows you to disconnect wiring from switches and outlets, do so and throw them away. If your building inspector says that you cannot disconnect the wiring, pull them forward, away from the wall, and leave them connected.

- Remove as much mud as possible. Once you have checked the water system for leaks, hose down the inside of the house and its contents. It is best to use an attachment that sprays soap to wash and rinse the walls, floors, furniture, sockets, electrical boxes, and other major items that got muddy. Use a non-ammonia soap or detergent, or a commercial cleaner, in hot water, and scrub the entire area affected by the mold. A stiff brush or cleaning pad works well on block walls or uneven surfaces. Rinse clean with water. A wet/dry vacuum is handy for this process.
- Use of a dehumidifier can help dry out the area; open cupboard and closet doors to keep air circulating.
- Remove heating and cooling registers and ducts, then hose them to prevent contamination when blowing through the ducts at a later date. Next, wash with a disinfectant that is Ammonia-derivative, phenolic or pine-oil based. If ducts are in a slab or otherwise inaccessible, have them cleaned professionally.
- Disinfect and dry the moldy area. It is critical to remove the source of moisture, before beginning to cleanup, as mold growth will return, if the area becomes wet again.
- Bag and dispose any material that has moldy residue, such as rags, paper, leaves, or debris. Harder materials such as glass, plastic, or metal can be kept after they are cleaned and disinfected.
- Wear gloves when handling moldy materials.

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- Moldy materials should be removed as follows:
 - Remove porous materials (examples: ceiling tiles, sheetrock, carpeting, wood products)
 - Carpeting can be a difficult problem – drying does not remove the dead mold spores. If there is heavy mold, consider replacing.
 - Allow the area to dry 2 or 3 days.
 - If flooded, remove all Sheet-rock to at least 12 inches above the high water mark.
 - Visually inspect the wall interior and remove any other intrusive molds. (This step may have to be carried out by a licensed contractor).

- Use caution, as mold spores are easily released when moldy material is dried out. When cleaning these damaged materials, consider wearing a mask or using a respirator. Respirators can be purchased from hardware stores; select one for particle removal (sometimes referred to as a N95 or TC-21C particulate respirator). Respirators are not as effective removing bleach fumes, so minimize your exposure when using bleach or other disinfectants.

- After thorough cleaning and rinsing, disinfect the area with a solution of 10% household bleach (1 1/4 cup bleach per gallon of water). Using bleach straight from the bottle will not be more effective. **Never mix bleach with Ammonia – the fumes are toxic.** Avoid excessive amounts of runoff or standing bleach. Make sure the working area is well ventilated.

- Try cleaning a small test patch of mold first. If you feel that this adversely affected your health, you should consider paying a licensed contractor or professional to carry out the work.

- General cautions:
 - Ask others to leave the areas when being cleaned.
 - Work over short time spans and rest in a fresh air location.
 - Air your house out well during and after the work.

If mold odors persist, continue to dry out the area and search for any hidden areas of mold. If the area continues to smell musty, you may have to re-clean the area. Continue to dry and ventilate the area. Don't replace flooring or begin rebuilding until the area has dried completely.

On March 1, 2003, FEMA became part of the U.S. Department of Homeland Security. FEMA's continuing mission within the new department is to lead the effort to prepare the nation for all hazards and effectively manage federal response and recovery efforts following any national incident. FEMA also initiates proactive mitigation activities, trains first responders, and manages Citizen Corps, the National Flood Insurance Program and the U.S. Fire Administration.

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