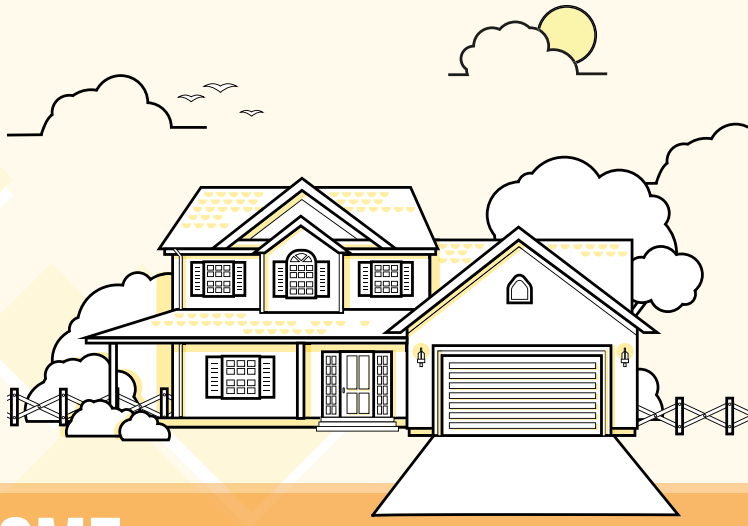
Healthy Homes



REMOVING MOLD IN YOUR HOME

Mold grows from spores, which are found naturally in the air and cannot be seen by the naked eye. Mold spores act like seeds, causing mold to grow under the right conditions. Mold itself is usually easy to detect. While testing is sometimes used to determine the presence of mold, it is generally not necessary or recommended. Usually a quick investigation with your eyes and nose can tell you if mold is present. Some common signs of mold include:

- Visible mold growth. Mold can appear in a variety of textures and colors; it often appears as a discoloration, stain, or fuzzy growth.
- Musty or earthy odor.
- Water damage and discoloration around an area.

Keep in mind that the first signs of mold might be the development of allergy-like symptoms. If you detect excess moisture or a musty odor, but do not see mold, be sure to check behind cabinets and wallpaper, and under carpeting. These are common hiding places for mold. Do a complete inspection of your home using the **UGA Mold and Moisture Checklist**, available at https://extension.uga.edu/publications/.

The key to controlling mold is to eliminate the source of the moisture problem.

Mold Removal Steps

If you find that mold is growing in your home, you will need to take steps to clean the mold, stop its growth and eliminate it from your home. Taking the following steps will help remove it from your home.

1. Fixing the Moisture Problem:

Mold cannot grow without moisture. Listed below are some common causes and solutions to many household moisture problems.

- Roof and plumbing leaks should be repaired quickly.
- Overflow from tubs, toilets, or sinks needs to be cleaned up and dried out quickly.

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- No exhaust fan in the kitchen or bathroom. Install and use exhaust fans vented to the outdoors when cooking and bathing.
- Unvented clothes dryer. Check to make sure the dryer vent is connected and vents outside your home.
- High humidity. The EPA suggests keeping indoor humidity below 60% relative humidity (RH), ideally between 30 and 50 percent. You can measure the RH using an inexpensive moisture or humidity meter usually available where hardware is sold.
- Poorly ventilated closets. Remove at least one-third of the clutter in closets to help increase air circulation, and leave the closet door open or install a louvered door.
- Poorly maintained, leaky and oversized air conditioning (A/C) systems. Dirty wet coils can result in mold in ductwork; oversized A/C units do not dehumidify adequately.

2. Drying Wet Materials:

This is very important when overflow or flooding has occurred. Using large fans along with dehumidifiers speeds up the drying process and reduces the risk of mold growing. If not available, run A/C and heaters at the same time to lower the RH of the air. If something cannot be dried within 48 hours, it should be discarded (if not structural). Some items may be placed in the sun to dry; however, items made of wood or paper may warp in the sun. Wet fibrous or open cell foam insulation inside walls must be replaced, even if the interior wallboard appears to be dry.

3. Removing Mold from Your Home:

If you find mold growth on building materials in your home, you may be able to tackle the area yourself. Some general guidelines to determine if this could be a DIY mold removal project are listed bleow.

- The area of mold growth is not extensive.
- The mold growth was not caused by sewage or contaminated water.
- You do not suspect that there is mold growth in the heating or cooling system of your house.
- You do not have any respiratory concerns.

DIY Mold Removal Guide

When cleaning or coming into contact with moldy items, it is important to take protective measures in order to minimize mold exposure. For further information, please refer to the EPA publication, A Brief Guide to Mold: Moisture and Your Home or Rebuild Healthy Homes.

Step 1: Put on protective equipment.

These items can be found in most hardware stores. Follow the instructions provided with each item to ensure proper use, so they provide the highest level of protection. Before beginning mold treatment and clean up, you should have on the following:

- Rubber gloves that extend to mid-forearm.
- Protective eyewear without vents.
- N-95 or higher rated respirator that fits properly.

Step 2: Seal off and ventilate the work area.

- Turn off any central air or heating systems in your home to reduce the spread of mold spores.
- Put plastic coverings over doorways and air vents.
- Open windows in the work area and place a fan in one
- window blowing to outdoors to pull spores outside.

Step 3: Remove and dispose of moldy porous items; clean and speed dry salvageable materials.

- Discard items contaminated with mold in sealed plastic bags.
- Items that are too large to be placed in a plastic bag should be wrapped with 6mil plastic and sealed with tape.
- The removal and cleaning process disturbs and can release mold spores from surfaces, so after completing the cleaning process, be sure to ventilate the area well. Open windows and use fans to pull airborne mold spores outdoors.
- After cleaning, try to get everything dry within 48 hours. Close windows and use dehumidifiers and fans to drop relative humidity to 30-50% to speed the drying process. If dehumidifiers are not available, use air conditioning and portable electric heaters at the same time.

Step 4: Check for Regrowth.

Regularly check the areas that you have cleaned or removed for mold growth, which can form again in 2-3 days. If mold reappears, it means that the moisture problem has not been properly taken care of. If this occurs you should:

- Clean the area again.
- Quickly dry wet areas with fans and dehumidifiers.
- Check the area with a calibrated moisture meter.

Do not replace insulation and wallboard until wood framing moisture content is 15% or lower. If the problem persists, the material should be removed and you may want to contact a professional water damage or mold restoration firm to remediate the problem.

8 WAYS TO KEEP YOUR HOME HEALTHY

Keep your home:

- ✓ DRY
- ✓ PEST-FREE
- ✓ CLEAN
- ✓ CONTAMINANT-FREE
- ✓ SAFE
- ✓ VENTILATED
- ✓ MAINTAINED
- ✓ GREEN AND TEMPERATURE CONTROLLED

For more information on rebuilding after a disaster, download the HUD Rebuild Healthy Homes Book or App.

https://www.hud.gov/info/disasterresources

Step 5: Close the Door on Mold.

Mold will take any opportunity to grow in your home. Make sure that you are always on the lookout for moisture problems, musty odors, and other signs that mold may be forming. Following mold prevention guidelines is the best safeguard against this uninvited and potentially harmful guest.

Mold Quick Facts

Use the UGA Extension Mold & Moisture Home Inspection Checklist (http://extension.uga.edu/publications/detail.html?number=C1083) to find the sources of moisture in your home. The most common sources of moisture are leaks and high humidity. Humidity in your home may come from a variety of sources, including water in the crawl space, poor drainage around the house, a large quantity of plants indoors, a large aquarium, or using an unvented heater indoors.

Removing mold

1. Fix the moisture problem
2. Dry the area
3. Remove the mold with a damp cloth and a solution of water and mild non-phosphate detergent

Preventing mold

- Eliminate the sources of moisture
- Invest in a hygrometer to keep track of the indoor humidity. Keep it below 60 percent, ideally between 30 and 50 percent.

Keeping your home dry is the best way to prevent mold problems.

To learn more go to healthyhomes.uga.edu.

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How to Clean Specific Items

Mold can be removed from most items if you act quickly, clean the item and dry it quickly. If an item is expensive or has sentimental value you may want to consult with a specialist. This includes companies that work in fire and water damage restoration, rug and carpet cleaning, furniture repair, and textile and art restoration. Look for specialists who are affiliated with professional organizations.

Household Item	Impacts of Mold	Cleaning Process
Clothing and Fabrics	Mold can cause permanent damage to some items.	For washable items, pretreat stains with a non-ammonia detergent. Read the product label and wash at the hottest temperature with detergent and appropriate bleach (oxygen based for colors and delicates; chlorine for bleach-safe colorfast items). Repeat as many times as needed to remove mold and mildew smell. Dry thoroughly. Caution: Do not dry prior to removing any stains since heat can set the stain. Dry clean non-washable items.
Carpeting, Rugs and Padding	Mold can be avoided if carpet is dried out within 48 hours of getting wet. Moldy padding should always be discarded.	Use a water extraction vacuum to dry wet carpeting. Remove and replace saturated carpet padding. Accelerate the drying process by using fans and dehumidifiers, air conditioning or heaters. Professionally shampoo or sponge-clean moldy areas of carpet, using carpet cleaning products. Use hydrogen peroxide on stubborn stains; test first. If the mold persists, discard the item.
Hard surface floors: Vinyl, Linoleum, Tile, Ceramic, Laminate, Wood	May be cleanable unless water remains under the flooring where it can damage substrate or subfloor.	Surface mold on hard flooring may be vacuumed with a HEPA vacuum (do NOT use a standard vacuum) or removed with a damp mop and a solution of water and mild non-phosphate detergent. Scrub or strip floor finish, if necessary. Dry quickly and thoroughly, making sure the subfloor is dry.
Ceiling Tiles	Seldom salvageable if damaged by water and mold.	If the tiles show minimal mold growth, you may be able to clean them. Wear protective clothing and clean with a damp cloth and solution of water and mild non-phosphate detergent. Dry quickly. A stainblocker coating may be needed before repainting to prevent water stains from showing through.
Drywall and other Wallboards	Mold may not be visible, but may be growing in the wall cavity.	Dry it within 48 hours. If the wall insulation is wet, it must be removed and discarded to reduce the risk of wood decay. To clean, use a HEPA vacuum and wipe with non-phosphate detergent. Damage caused by sewage water should be disinfected using a bleach and water solution.
Furniture - Hard-surfaced (wood, laminate, veneer, bamboo, steel, resin, etc.)	Cleanable, but some items may be damaged.	Remove mold with a damp rag and solution of water and mild non-phosphate detergent. If the damage was caused by sewage water, disinfect using a bleach and water solution. Dry thoroughly in a well-ventilated location, but not in direct sunlight, which may cause it to warp.
Upholstered Furniture and Mattresses	Seldom salvageable if damaged by water and mold.	If the item has sentimental value or was in contact with clean water for less than a few hours, you may be able to restore it. Upholstered furniture can be stripped to the frame; the frame disinfected using the solution above; and then reupholstered after the frame is completely dry. It is a good idea to have mattresses sanitized by a professional.
Leather Clothing and Furniture	Salvageable if cleaned. Clean when mold growth is first noticed.	Use a soft bristled brush or clean cloth to brush the mold spores off. Clean with a solution of water and non-phosphate detergent. Wipe off soapy residue and dry thoroughly. Items may be wiped down with a 50/50 mixture of water and isopropyl alcohol. Dry thoroughly then use a leather conditioner.

Removing Mold Caused by Flooding

Mold can start growing within 24 hours after a flood, so it is important to start drying the area out as quickly as possible. Before starting the cleanup work, take pictures of the damage and contact your insurance company. Some items may need to be discarded if they cannot be cleaned and dried completely within 24 to 48 hours. When cleaning be sure to wear personal protective equipment. This includes a N-95 or higher rated respirator, rubber gloves, and protective eyewear. Items should be cleaned with a barely damp cloth and a solution of water and mild non-phosphate detergent or cleaner. If the mold was caused by contaminated water, then the area should be disinfected with a solution of:

½ to 1 cup of household chlorine bleach

1 gallon of water

Before using bleach, test the cleaning solution on an inconspicuous part of the item. If the surface could be damaged then use a milder disinfectant, such as hydrogen peroxide. Do not use bleach on metals or near the air conditioning system. After cleaning, provide lots of space around the item, and dry quickly using fans to circulate the air. Disinfectants can kill mold, but drying thoroughly is key to preventing new growth.

For more information, read the Homeowner's and Renter's Guide to Mold Cleanup After Disasters. (https://www.cdc.gov/mold/pdfs/homeowners_and_renters_guide.pdf)

SAFETY TIPS WHEN USING BLEACH

- Read the label carefully
- Never mix bleach with ammonia or acids such as vinegar or lemon juice
- Use in a well-ventilated area
- Do not use at full strength
- Wear protective gear

Sources:

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