

# MOLD

## Mold Basics

- The key to mold control is moisture control.
- If mold is a problem in your home, you should clean up the mold promptly *and* fix the water problem.
- It is important to dry water-damaged areas and items within 24-48 hours to prevent mold growth.

### **Why Is Mold Growing In My Home?**

Molds are part of the natural environment. Outdoors, molds play a part in nature by breaking down dead organic matter such as fallen leaves and dead trees, but indoors, mold growth should be avoided. Molds reproduce by means of tiny spores; the spores are invisible to the naked eye and float through outdoor and indoor air. Mold may begin growing indoors when mold spores land on surfaces that are wet. There are many types of mold, and none of them will grow without water or moisture.

### **Can Mold Cause Health Problems?**

Molds are usually not a problem indoors, unless mold spores land on a wet or damp spot and begin growing. Molds have the potential to cause health problems. Molds produce allergens (substances that can cause allergic reactions), irritants, and in some cases, potentially toxic substances (mycotoxins). Inhaling or touching mold or mold spores may cause allergic reactions in sensitive individuals. Allergic responses include hay fever-type symptoms, such as sneezing, runny nose, red eyes, and skin rash (dermatitis). Allergic reactions to mold are common. They can be immediate or delayed. Molds can also cause asthma attacks in people with asthma who are allergic to mold. In addition, mold exposure can irritate the eyes, skin, nose, throat and lungs of both mold-allergic and non-allergic people. Symptoms other than the allergic and irritant types are not commonly reported as a result of inhaling mold.

### **How Do I Get Rid Of Mold?**

It is impossible to get rid of all mold and mold spores indoors; some mold spore will be found floating through the air and in house dust. The mold spores will now grow if moisture is not present. Indoor mold growth can and should be prevented or controlled by controlling moisture indoors. If there is mold growth in your home, you must clean up the mold and fix the water problem. If you clean up the mold, but don't fix the water problem, then, most likely, the mold problem will come back.

# **Mold Clean-Up Guidelines**

## **Tips and Techniques:**

- Bathroom: Places that are often or always damp can be hard to maintain completely free of mold. If there's some mold in the shower or elsewhere in the bathroom that seems to reappear, increasing the ventilation (running of fan or opening a window) and cleaning more frequently will usually prevent mold from recurring, or at least keep the mold to a minimum.
- Fix plumbing leaks and other water problems as soon as possible. Dry all items completely.
- Scrub mold off hard surfaces with detergent and water, and dry completely.
- Absorbent or porous materials, such as ceiling tiles and carpet, may have to be thrown away if they become moldy. Mold can grow on or fill in the empty spaces and crevices of porous materials, so the mold may be difficult or impossible to remove completely.
- Avoid exposing yourself or others to mold.
- Do no paint or caulk moldy surfaces. Clean up the mold and dry the surfaces before painting. Paint applied over moldy surfaces is likely to peel.
- If you are unsure about how to clean an item, or if the item is expensive or of sentimental value, you may wish to consult a specialist. Specialists in furniture repair, restoration, painting, art restoration and conservation, carpet and run cleaning, water damage, and fire or water restoration are commonly listed in phone books. Be sure to ask for and check references. Look for specialists who are affiliated with professional organizations.

## **What To Wear When Cleaning Moldy Areas**

**It is important to take precautions to LIMIT YOUR EXPOSURE to mold and mold spores.**

### **Avoid Breathing In Mold or Mold Spores:**

In order to limit your exposure to airborne mold, you may want to wear an N-95 respirator, available at many hardware stores and from companies that advertise on the Internet. Some N-95 respirators resemble a paper dust mask with a nozzle on the front, others are made primarily of plastic or rubber and have removable cartridges that trap most of the mold spores from entering. In order to be effective, the respirator or mask must fit properly, so carefully follow the instructions supplied with the respirator.

### **Wear Gloves:**

Long gloves that extend to the middle of the forearm are recommended. When working with water and mild detergent, ordinary household rubber gloves may be used. If you are using a disinfectant, a biocide such as chlorine bleach, or a strong cleaning solution, you should select gloves made from natural rubber, neoprene, nitrile, polyurethane, or PVC. Avoid touching mold or moldy items with your bare hands.

### **Wear Goggles:**

Goggles that do not have ventilation holes are recommended. Avoid getting mold or mold spores in your eyes.

## **How Do I Know When The Remediation Or Cleanup Is Finished?**

**You must have completely fixed the water or moisture problem before the cleanup or remediation can be considered finished.**

- You should have completed mold removal. Visible mold and moldy odors should not be present. Please note that mold may cause staining and cosmetic damage.
- You should have re-visited the site(s) shortly after cleanup and it should show no signs of water damage or mold growth.
- People should have been able to occupy or re-occupy the area without health complaints or physical symptoms.
- Ultimately, this is a judgment call; there is no easy answer. If you have concerns or questions, all the EPA Indoor Air Quality Information Clearinghouse at (800) 438-4318.

## **Moisture and Mold Prevention & Control Tips**

**Moisture control is the KEY to mold control.**

- When water leaks or spills occur indoors – ACT QUICKLY. If wet or damp materials or areas are dried 24-48 hours after a leak or spill happens, in most cases, mold will not grow.
- Clean and repair roof gutters regularly.
- Make sure the ground slopes away from the building foundation, so that water does not enter or collect around the foundation.
- Keep air conditioning pans clean and the drain unobstructed and flowing properly.
- Keep indoor humidity low. If possible, keep indoor humidity below 60 percent (ideally between 30 and 50 percent) relative humidity. Relative humidity can be measured with a moisture or humidity meter, a small instrument available at many hardware stores.

- If you see condensation or moisture collecting on windows, walls or pipes – ACT QUICKLY to dry the wet surface and reduce the moisture/water source. Condensation can be a sign of high humidity.

#### **Actions That Will Help To Reduce Humidity:**

- Vent appliances that produce moisture, such as clothes dryers, stoves, and kerosene heaters to the outside where possible. (Combustion appliances such as stoves and kerosene heaters produce water vapor and will increase the humidity unless vented to the outside.)
- Use air conditioners and/or de-humidifiers when needed.
- Run the bathroom fan or open the window when showering. Use exhaust fans or open windows whenever cooking, running the dishwasher or dishwashing, etc.

#### **Actions That Will Help Prevent Condensation:**

- Reduce the humidity.
- Increase ventilation or air movement by opening doors and/or windows, when practical. Use fans as needed.
- Cover cold surfaces, such as cold water pipes, with insulation.
- Increase air temperature.

## **Hidden Mold**

#### **Inspection of Hidden Mold:**

You may suspect hidden mold if a building smells moldy, but you cannot see the source, or if you know there has been water damage and residents are reporting health problems. Mold may be hidden in places such as the back side of drywall, wallpaper, or paneling, the top side of ceiling tiles, the underside of carpets and pads, etc. Other possible locations of hidden mold include areas inside walls around pipes (with leaking or condensing pipes), the surface of walls behind furniture (where condensation forms), inside ductwork, and in roof materials above ceiling tiles (due to roof leaks or insufficient insulation).

#### **Investigating Hidden Mold Problems:**

Investigating hidden mold problems may be difficult and will require caution when the investigation involves disturbing potential sites of mold growth. For example, removal of wallpaper can lead to a massive release of spores if there is mold growing on the underside of the paper. If you believe that you may have a hidden mold problem, consider hiring an experienced professional.

#### **Cleanup and Biocides:**

Biocides are substances that can destroy living organisms. The use of a chemical or biocide that kills organisms such as mold (chlorine bleach, for example) is not recommended as a routine practice during mold cleanup. There may be instances,

however, when professional judgment may indicate its use (for example, when immune-compromised individuals are present). In most cases, it is not possible or desirable to sterilize an area; a background level of mold spores will remain – these spores will not grow if the moisture problem has been resolved. If you choose to use disinfectants or biocides, always ventilate the area and exhaust the air to the outdoors. Never mix chlorine bleach solution with other cleaning solutions or detergents that contain ammonia because toxic fumes could be produced. Dead mold may still cause allergic reactions in some people, so it is not enough to simply kill the mold, it must also be removed.