



Shrinking time between disaster and recovery.



Mold Remediation Guide

This guide provides an overview on mold and walks you through an effective mold remediation process, which can be undertaken with help from your family and/or neighbors. **Remember, you DO NOT and SHOULD NOT have to spend thousands of dollars on mold remediation.**

An Overview of Mold

WHY IS MOLD GROWING IN THE 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?

Because molds produce allergens (substances that can cause allergic reactions), irritants, and in some cases, potentially toxic substances (mycotoxins), they have the potential to cause health problems. Inhaling or touching mold or mold spores may cause immediate or delayed allergic reactions, which could include hay fever-type symptoms, such as sneezing, runny nose, red eyes, and skin rash (dermatitis), or additional irritation to the throat and lungs. Molds can also cause asthma attacks in people with asthma who are allergic to mold. Research on mold and health effects is ongoing. For more detailed information, consult a health professional.

HOW DO I GET RID OF MOLD?

It is impossible to get rid of all mold and mold spores indoors, because they occur naturally floating through the air and in house dust. The mold spores will not 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.

COMMON SOURCES OF EXCESS MOISTURE AND MOLD GROWTH INCLUDE:

- Roof leaks and associated moisture in walls, ceilings and attics
- Wet subfloor or wet carpet and/or flooring
- Water sitting in a basement or crawl space and creating high humidity in home.
- Plumbing backups
- Mold spores in HVAC ducts
- Inadequate attic ventilation

Mold Cleanup Guidelines

The tips and techniques presented in this section will help you clean up your mold problem. Professional cleaners or remediators may use methods not covered in this publication. Please note that mold may cause staining and cosmetic damage and it may not be possible to clean an item so that its original appearance is restored. Follow these steps:

- Fix plumbing leaks and other water problems as soon as possible. Dry all items completely.
- Non-porous items like plastics and metals can be scrubbed with detergent and water and dried.
- Absorbent or porous materials, such as ceiling tiles, insulation, 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.
- Do not paint or caulk moldy surfaces. Clean up the mold and dry the surfaces before painting. Paint applied over moldy surfaces is likely to peel.

WHAT TO WEAR WHEN CLEANING MOLDY AREAS



Avoid breathing in mold or mold spores. In order to limit your exposure to airborne mold, you should wear an N-95 respirator, available at many hardware stores and online (Cost:\$12-\$25.) 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. Please note that the Occupational Safety and Health Administration (OSHA) requires that respirators fit properly (fit testing) when used in an occupational setting; consult OSHA for more information (800-321-OSHA or www.osha.gov).



Wear gloves. Long gloves that extend to the middle of the forearm are recommended. When working with water and a mild detergent, ordinary household rubber gloves may be used. If you are using a disinfectant, a biocide, 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. When demolishing moldy construction materials, a pair of leather gloves can be worn over disposable gloves to better protect hands from rough materials.



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

MOLD REMEDIATION PROCEDURE

The purpose of this procedure is to:

- Kill mold caused by flooding
- Dry out materials holding enough moisture to accommodate high mold growth
- Ensure no new mold grows
- Provide a general cleaning
- Increase the quality of life and health for the homeowner

STEP 1

Locate the source of water/moisture.

Inspect exterior of house for cracks and penetrations that may be allowing water infiltration. The source must be addressed before mold remediation work begins to ensure that mold does not have the opportunity to grow again.*

STEP 2

Use 6mm plastic to contain the area of mold remediation.

Use duct tape or staples to attach sheeting. Tape plastic sheeting around any supply and return vents.

STEP 3

All volunteers must be wearing respirators before entering the house during this stage.

Clean out respirators with antibacterial wipes (and let dry) before using. Respirators must be worn for at least 24 hours after wire brushing when in the house.

STEP 4

Remove nails and staples.

Remove nails and staples from the face of every top plate, base plate, stud, and ceiling/floor joists. Drive any protruding nails into wooden subfloor.

STEP 5

All exposed surfaces of the framing need to be scrubbed with a wire brush.

Brush up and down, side to side, circularly and diagonally.**

- Once surface is scrubbed, mark an "X" on the stud with a permanent marker or wax crayon, indicating a fully scrubbed surface. It is very difficult to discern what has been scrubbed -- marking with an X keeps track. This stage activates any latent mold in the wood, and brings it out to be killed. It also increases the surface area of the framing, allowing fungicide to penetrate deeper to access more of the stud.
- While scrubbing, have volunteers fold shop towels into sixths.
- Fill a spray bottle with Mold Control solution. Spray all wood marked with an "X". Wipe down using a shop towel. Once a face of the shop towel is dirty, flip it to a different face. Do not double dip used towels into Mold Control solution. When the stud is wiped down on all sides, circle the "X" with the permanent marker or wax crayon.



TIMELINE:
2 - 5 DAYS

SUPPLIES:

RESPIRATORS
P100 FILTERS
LEATHER WORK GLOVES
NITRILE GLOVES
TYVEK SUITS
GOGGLES
DISH SOAP
ANTIBACTERIAL WIPES
WIRE CUTTERS
BROOMS
DUSTPANS
HAMMERS
DEMO HAND TOOLS
6MM PLASTIC ROLL
STAPLERS
DUCT TAPE
UTILITY BLADES
WIRE BRUSHES
PERMANENT MARKERS OR WAX
CONSTRUCTION CRAYONS
LADDERS
MOLD CONTROL (CONCROBIUM)
SPRAY BOTTLES
SHOP TOWELS
TRASH BAGS
HEPA VACUUM

STEP 6

Vacuum all exposed surfaces 3 times.

If you have access to a HEPA (High-Efficiency Particulate Arresting) vacuum: Vacuum all exposed surfaces 3 times to minimize the spread of live and dead mold spores.

STEP 7

Dispose of mold-contaminated items.

Dispose of mold-contaminated items in sealed, doubled 6mm trash bags, twisted, folded over and taped shut at the top.

STEP 8

Framing must be dried out thoroughly before reconstruction, to minimize the possibility of future mold growth.

A common requirement is for framing to test below 17% moisture. Requirements may vary by city and state. The dry out process can be done using a combination of dehumidifiers, air blowers, and heating equipment.

** If during your inspection of the house, you find mold spores in your HVAC ducts, contact a professional.*

*** If accessible, operate an air scrubber(s) with a HEPA filter during mold demo and remediation. This equipment draws air out of the construction zone, catching the mold spores and reducing their ability to spread through the construction zone.*

HOW DO YOU 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 revisited 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.

HOW SOON CAN YOU REBUILD AFTER REMEDIATION IS FINISHED?

You must make sure wooden framing has completely dried out (below 17% moisture) before installing drywall, flooring, or other finish material. Most molds are able to grow at moisture percentages of 20% or higher in wooden framing. There are three major factors in the speed of drying out wooden framing, which are heat, humidity, and time. Air blowers and dehumidifiers are tools used to speed up the dry-out process. Where possible, turning the heat to 90 degrees can make a large impact in the time it takes to dry out your house framing. Once the framing has been assessed to meet moisture regulations, you may begin the rebuilding process.

IS SAMPLING FOR MOLD NEEDED?

In most cases, if visible mold growth is present, sampling is unnecessary. Since no EPA or other federal limits have been set for mold or mold spores, sampling cannot be used to check a building's compliance with federal mold standards. Surface sampling may be useful to determine if an area has been adequately cleaned or remediated. Sampling for mold should be conducted by professionals who have specific experience in designing mold sampling protocols, sampling methods, and interpreting results. Sample analysis should follow analytical methods recommended by the American Industrial Hygiene Association (AIHA), the American Conference of Governmental Industrial Hygienists (ACGIH), or other professional organizations.

For more information, please visit: SBPUSA.org  /SBPUSA  @SBPUSA