

# **Raleigh Housing Authority Leased Housing Department Mold Remediation Guideline**

## **Overview**

Mold is naturally occurring and there are many types. Mold is present almost everywhere in indoor and outdoor environments. Outdoors, molds play a key role in the breakdown of leaves, wood, and other plant debris. Without molds, our environment would be overwhelmed with large amounts of dead plant matter.

Mold produces tiny spores to reproduce, just as some plants produce seeds. Mold spores waft through the indoor and outdoor air continually. When mold spores land on a damp spot indoors, they may begin growing and digesting whatever they are growing on in order to survive. There are molds that can grow on wood, paper, carpet, and foods. When excessive moisture or water accumulates indoors, mold growth will often occur, particularly if the moisture problem remains undiscovered or un-addressed. There is no practical way to eliminate all molds and mold spores in the indoor environment; the way to control indoor mold growth is to control moisture.

Moisture control is the key to mold control. Molds need both food and water to survive; since molds can digest most things, water is the factor that limits mold growth. Molds will often grow in damp or wet areas indoors. Common sites for indoor mold growth include bathroom tile, basement walls, areas around windows where moisture condenses, and near leaky water fountains or sinks. Common sources or causes of water or moisture problems include roof leaks, deferred maintenance, condensation associated with high humidity or cold spots in the building, localized flooding due to plumbing failures or heavy rains, slow leaks in plumbing fixtures, and malfunction or poor design of humidification systems. Uncontrolled humidity can also be a source of moisture leading to mold growth, particularly in hot, humid climates.

We live with mold every day and generally don't suffer any ill effects but in large airborne concentrations it can cause runny noses, eye irritation, cough, congestion, and aggravation of asthma. Potential health effects and symptoms associated with mold exposures include allergic reactions, asthma, and other respiratory complaints. These effects can be amplified in infants, seniors, and already sick people.

## **Tenant and Landlord Responsibilities**

The tenant bears the responsibility to clean mold formed in bathrooms, kitchens, and near windows. However, if the mold persists after proper ventilation and cleaning of the area, the tenant must notify the landlord of the existence of mold. Once notified the landlord must inspect the affected areas and assess the type of treatment needed to help eliminate the problem.

If the landlord is unresponsive after five (5) days, the tenant should submit a complaint in writing to the landlord providing a copy of the same complaint letter to the Inspections Division. A tenant complaint inspection will be conducted following normal inspection procedures.

In the case of mold growth in closets or other areas that are not considered to “normal” or “expected” areas where indoor mold is prone to grow, once notified in writing the landlord has sole responsibility to assess the situation and to determine possible underlying causes. Additionally, the landlord shall be responsible for all cleanup and costs associated with the remediation of the mold from minor cleanup to complete removal and replacement of drywall. This policy does not apply to outdoor storage closets and sheds. If the landlord is unresponsive after receiving notice from the tenant in writing, a tenant complaint inspection will be conducted once written documents are received by the Inspections Division.

Any unit from which a tenant has been moved due to the existence of mold issues will not be allowed to participate in the Section 8 program until the landlord has provided the copies of test results to show that the mold has been properly remediated.

### **Basic Mold Cleanup**

1. Fix the source of the water problem or leak to prevent mold growth.
2. Reduce indoor humidity (to 30-60%) to decrease mold growth by: venting bathrooms, dryers, and other moisture-generating sources to the outside; using air conditioners and de-humidifiers; increasing ventilation; and using exhaust fans whenever cooking, dishwashing, and cleaning.
3. Clean and dry any damp or wet building materials and furnishings within 24-48 hours to prevent mold growth.
4. Materials should be dried quickly; mold will grow within about 2 days.
5. Remove the mold using a non-ammonia soap or detergent. Never mix bleach and ammonia. Surfaces from which the mold cannot be completely removed should be treated with enough chlorine bleach to keep the surface moist for at least 15 minutes, rinsed, then rapidly dried.
6. Disinfect by applying a solution of 1-cup chlorine bleach per 1 gallon water or follow manufacturer’s recommendations. The surface should be thoroughly moistened with the solution. Keep the surface wet with the bleach solution 10 to 15 minutes to kill the mold. Allow the solution to dry naturally 6 to 8 hours.
7. Clean mold off hard surfaces with water and detergent, and dry completely. Absorbent materials such as ceiling tiles, that are moldy, may need to be replaced.
8. Prevent condensation: Reduce the potential for condensation on cold surfaces (i.e., windows, piping, exterior walls, roof, or floors) by adding insulation.
9. In areas where there is a perpetual moisture problem, do not install carpeting (i.e., on concrete floors with leaks or frequent condensation).

### **Intermediate Mold Cleanup**

1. Seal ventilation ducts/grills in the work area and areas directly adjacent with plastic sheeting.
2. The work area and areas directly adjacent should be unoccupied. Ensure that spaces near the work area is vacated especially infants (less than 12 months old), persons having undergone recent surgery, immune suppressed people, or people with chronic inflammatory lung diseases (e.g., asthma, hypersensitivity pneumonitis, and severe

allergies). If the remediation process will require the tenant to be displaced for more than an 8 hours period, it is the responsibility of the landlord to make suitable accommodations for tenant and provide written notification to the Leased Housing Inspections Division with expected completion date.

3. Dust suppression methods, such as misting (not soaking) surfaces prior to remediation, are recommended.
4. Contaminated materials that cannot be cleaned should be removed from the building in sealed plastic bags.
5. The work area and surrounding areas should be HEPA vacuumed and cleaned with a damp cloth and/or mop and a detergent solution.
6. All areas should be left dry and visibly free from contamination and debris.
7. If the remediation procedures are expected to generate a lot of dust (e.g., abrasive cleaning of contaminated surfaces, demolition of plaster walls) or the visible concentration of the fungi is heavy (blanket coverage as opposed to patchy), then it is recommended that the remediation procedures for Level IV are followed.

#### **Level IV: Extensive Contamination (greater than 100 contiguous square feet in an area).**

A health and safety professional with experience performing microbial investigations should be consulted prior to remediation activities to provide oversight for the project. The following procedures are recommended:

- a. Personnel trained in the handling of hazardous materials.
- b. Containment of the affected area.
- c. Vacating people from spaces adjacent to the work area is not necessary but is recommended in the presence of infants (less than 12 months old), persons having undergone recent surgery, immune suppressed people, or people with chronic inflammatory lung diseases (e.g., asthma, hypersensitivity pneumonitis, and severe allergies).

#### **Methods to Remove Mold from Various Surfaces**

##### **Painted Surfaces Inside of Units**

Scrub moldy surfaces with a solution of 1-cup chlorine bleach to 1-gallon water. A little detergent may be added to the solution, but never mix bleach with cleaners containing ammonia. Rinse with clean water and allow to thoroughly dry before painting or papering.

##### **Painted Exterior Surfaces**

Scrub mold on paint with a solution of 1/3 cup detergent that does not contain ammonia, 1-quart chlorine bleach and 3 quarts water.

##### **Bathrooms**

Scrub surfaces with a solution of 1-cup chlorine bleach, 1-tablespoon detergent that does not contain ammonia and 1 gallon water. Keep the surface wet for about 10 minutes, and then rinse well with water and dry.

### **Roofs with Asphalt Shingles and Fiberglass Panels**

Use a mixture of 3 parts chlorine bleach and 1 part water at the rate of 1 gallon per about 40 square feet. This solution will damage metal rain gutters and plants, so control runoff and rinse surfaces contacted by the solution.

### **Wood Shingles, Decks and Other Untreated Wood**

Scrub surfaces with a solution of 1-quart chlorine bleach and 1 ounce detergent in 3 quarts water. Rinse thoroughly. If stains remain, increase the concentration of bleach to water and re-treat. Allow wood to dry thoroughly before painting or enclosing.

### **Clothing and Other Textiles**

Brush, shake, sun and air mildewed textiles outdoors. Launder washable items with detergent and chlorine bleach when appropriate.

### **Leathers**

Dyes used on leathers are very sensitive to numerous substances. Moisten a cloth with a solution of 1-cup denatured alcohol to 1-cup water, wipe away visible mold, dry in circulating air.

### **Carpet and Rugs**

Discard pads containing mold. It is nearly impossible to clean and destroy all molds in a pad. It is best to hire a professional carpet cleaner or restorer to clean wall-to-wall carpet. If you try to save the carpet yourself, apply rug shampoo with a carpet shampooer according to manufacturer's directions. Expose mold growing on the back of carpet to the direct rays of the sun. Paint the carpet backing with a solution of ¼ teaspoon chlorine bleach to 1-cup water or another sanitizing product applied according to the label directions. Rinse several times. After shampooing and sanitizing, dry the carpet or rugs quickly by laying them outdoors in the sun and wind, or use fans to speed drying.

### **Upholstered Furniture and Mattresses**

Brush surface mold away with a broom outdoors. Vacuum the furniture using an upholstery attachment. Discard the disposable vacuum cleaner bag. Use the services of a professional upholstery cleaner, or sponge the item with detergent suds and wipe with a clean cloth. Avoid getting the stuffing wet. Wipe furniture with a cloth moistened with a solution of 1 cup denatured or rubbing alcohol to 1 cup water and dry thoroughly. Place the item in the sun for a few hours and air it thoroughly or use a fan and indirect heat to dry. If mold is growing deep in the padding of an upholstered piece, nothing will eliminate the mold or odor except renovation or replacement.

### **Books**

Stand books on end. Spread out pages to dry. Wipe off mold with a clean, dry cloth. After a few hours, stack and press to avoid wrinkling. Alternate opening and stacking the books until they are completely dry. Sprinkle talcum powder or cornstarch on pages to absorb moisture. Books may be frozen until you have time to work with them. Place books in a closed container with moth crystals to stop mold growth.