



Standard Operating Procedure
for
Mold Remediation

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The University of Memphis

Mold Remediation Standard Operating Procedure

Purpose

The purpose of this document is to provide guidelines for remediating building materials contaminated with mold. It is the intent of Environmental Health and Safety (EH&S) that all mold remediation be conducted as safely as possible.

Scope and Application

The scope of this Standard Operating Procedure is applied based on the surface area affected by the mold contamination. EH&S will assess the affected area prior to any remediation efforts, and actions will be implemented as follows:

- **Less than ten (10) square feet of surface area impacted by mold growth**
EH&S will request remediation by properly trained Physical Plant personnel in accordance with this guidance document and accepted best practices.
- **Ten (10) square feet up to one hundred (100) square feet of surface area impacted by mold growth**
EH&S will evaluate area and request remediation by properly trained Physical Personnel or through Campus Planning and Design. Remediation contractors will perform all work in accordance with this guidance document and accepted best practices.
- **One hundred (100) or more square feet of surface area impacted by mold growth**
EH&S will request remediation through Campus Planning and Design. Remediation contractors will perform all work in accordance with this guidance document and accepted best practices.
- **Mold impacting ten (10) or more square feet within an HVAC system and mold associated with suspected asbestos containing materials will be addressed on a case-by-case basis.**

Responsibilities

University Employees

University employee should contact EH&S when mold growth is observed.

Environmental Health and Safety (EH&S)

EH&S personnel have the following responsibilities:

- Receive mold contamination complaints from University employees and students.
- Evaluate areas suspected to be contaminated by mold growth and provide recommendations to Physical Plant and/or Campus Planning and Design on remediation.
- Assist Physical Plant in identifying the underlying causes of water intrusion and mold growth and develop the appropriate response(s) to prevent recurrence.
- Assess conditions for occupancy after water restoration or mold remediation activities.
- Communicate with building occupants, Physical Plant, and Campus Planning and Design.
- Provide training to Physical Plant Employees on mold remediation for areas where mold growth impacts areas of less than 10 square feet and from 10 up to 100 square feet.
- Provide general information and materials to University employees about mold growth. Information should include causes, health impacts, remediation process, and prevention.

Physical Plant

Physical Plant employees have the following responsibilities:

- Identify and repair the source(s) of water leak(s) or intrusion.
- Notify EH&S immediately when discovering suspected mold growth.
- Remediate areas as directed by EH&S that contain mold growth of less than ten (10) square feet and, when directed, between 10 and 100 square feet.
- Communicate with building occupants and EH&S with regard to remediation scheduling, relocation of personnel, and related information.

Campus Planning and Design

Campus Planning and Design will execute the following responsibilities:

- Arrange and manage contract services for sampling, analysis, and remediation of mold.
- Notify and coordinate with the Tennessee Division of Risk Management as necessary.
- Communicate with building occupants and EH&S with regard to remediation scheduling, contractor activity, relocation of personnel, and related information.

Contractors

Mold remediation contractors have the following responsibilities:

- Assess and document the extent of damage (e.g., water or mold) in the structure, systems, and building contents using appropriate monitoring and detection equipment.
- Communicate assessment results to EH&S and Campus Planning and Design.
- Designate a project leader, representing the contractor, to work with EH&S, Physical Plant, and Campus Planning and Design during the entire project.
- Provide EH&S, Physical Plant, and Campus Planning and Design with a written action plan. Depending on the response activity, the action plan will include a timeline and goals for drying and the implementation of mold remediation techniques.
- Notify EH&S, Physical Plant, and Campus Planning and Design of situations that may require deviation from the original action plan.
- Record and document all activities and services performed in response to the problem.
- Complete the project in a manner which complies with all government regulations and University procedures.

Procedures

Mold growth within an occupied building is indicative of a water problem. The cause of the water problem must be investigated and resolved to prevent remediating the same site multiple times. Likewise, when water is introduced into the indoor environment, the impacted area must be dried as soon as possible, but not later than 24 to 48 hours, depending on conditions, to avoid promotion of mold growth.

Once the source of water intrusion is identified and eliminated, or concurrent with such efforts when deemed appropriate, one or more methods for remediating visible mold growth must be implemented. Each situation will dictate which method is most appropriate. Refer to Appendix 2 for examples of method selection.

Methods

Method 1: Wet vacuum – steam cleaning may be an alternative for carpets and upholstery.

Method 2: Damp wipe with plain water or with water/detergent solution. Scrub as necessary.

Method 3: HEPA vacuum thoroughly dry surfaces. Dispose of HEPA contents in a well-sealed plastic bag.

Method 4: Discard contaminated material in a sealed plastic bag. HEPA vacuum area after material has been removed, then dispose of HEPA contents in a well-sealed bag.

Personal Protective Equipment (PPE)

Employees engaging in the abatement of mold shall use the following PPE as appropriate:

- Safety glasses or goggles
- N95 Respirator
- Disposable Coveralls
- Gloves

Employees with questions concerning the appropriate PPE, should contact their supervisor or EH&S.

Work Area Containment

General isolation is required for all mold remediation projects.

Containment of a work area for in-house work of less than 10 square feet is generally not needed. For areas greater than 100 square feet, and when EH&S determines that containment is needed, appropriate precautions must be implemented prior to performing remediation work. The following are best management practices for containment:

- Close all doors and restrict general access to the workplace while remediation is being performed.
- Perform work during hours of minimal building occupancy, such as nights or weekends, where possible.
- Shut down HVAC systems in the immediate area of the work and/or cover air returns in the impacted area.
- Close windows in the workplace and turn off any portable fans; however, employees performing remediation will require fresh air in the work area if chemicals such as bleach are used.
- Install plastic containment as required.

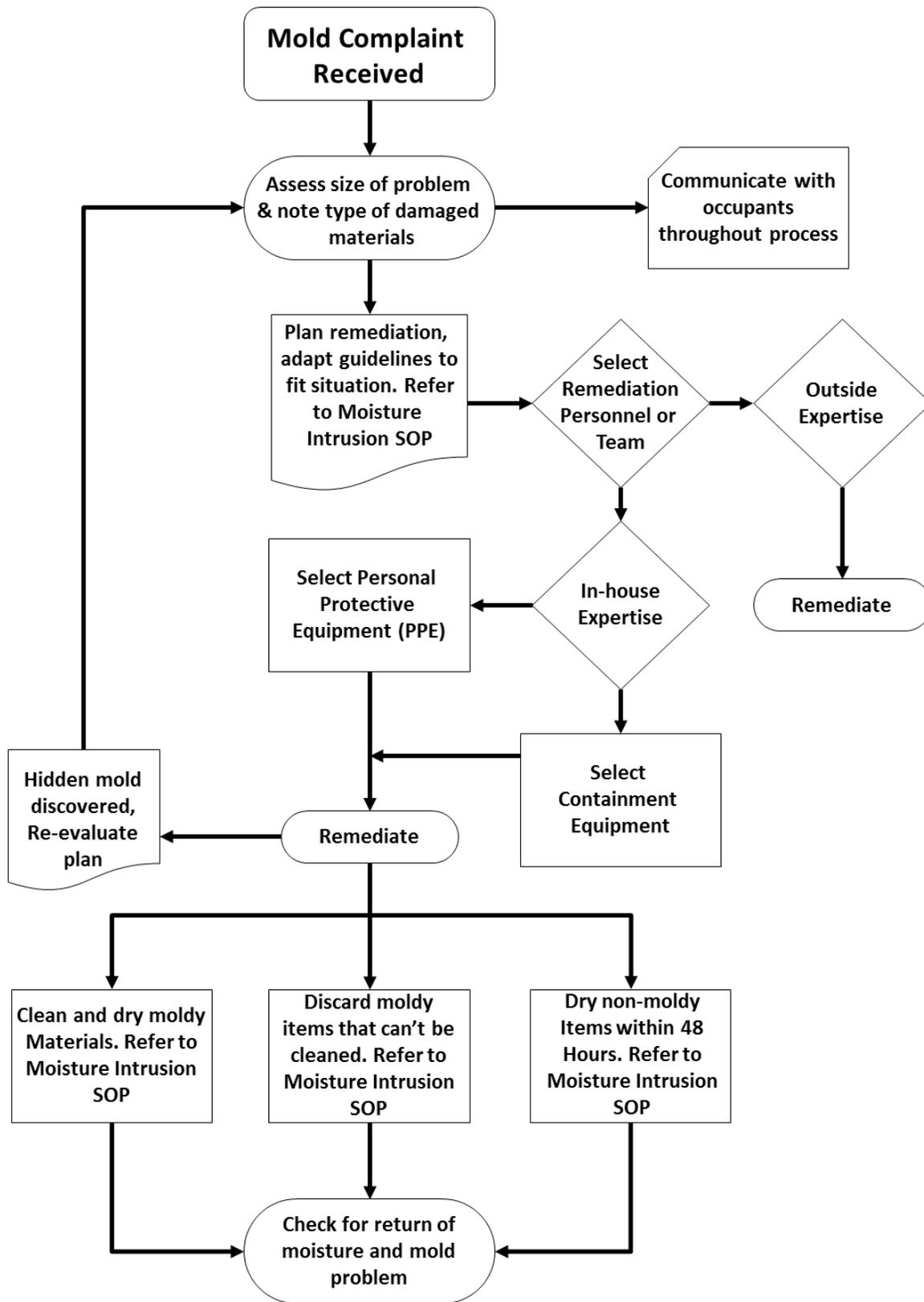
Disposal

Once mold contaminated materials have been removed and sealed in plastic bags, the waste can be disposed of as regular trash. No special labeling or disposal requirements are necessary.

Definitions

Containment	A component or enclosure designed or intended to control the release of mold or mold-containing dust or materials into surrounding areas in the building.
Indoor Air	Air within the envelope of a building, including air in spaces normally occupied by persons in the building, but excluding air in attics and crawl spaces that are vented to the outside of the building.
Indoor Mold	Mold contamination that was not purposely grown or brought into a building that has the potential to affect the indoor air quality of a building
Mold	Any living or dead fungi or related products or parts, including spores, hyphae, and mycotoxins.
Mold Remediation	The removal, cleaning, sanitizing, demolition, or other treatment, including preventive activities, of mold, or mold-contaminated matter that was not purposely grown at location. Preventive activities include those intended to prevent future mold contamination of remediated area, including applying biocides or anti-microbial compounds.
Mold Sampling	The examination of a sample collected during a mold assessment for the purpose of: <ul style="list-style-type: none">• Determining the presence and/or amount of mold.• Identifying the type of mold.

Appendix 1: Mold Response Plan Flow Chart



Appendix 2: Guidelines for Remediating Building Materials with Mold Growth

This Appendix accompanies the Methods Section of the Standard Operating Procedure and applies to areas where mold growth was caused by clean water.

Material or Furnishing Affected	Cleanup Methods	Personal Protective Equipment	Containment
SMALL – Total Surface Area Affected Less than 10 square feet			
Books and papers	3	Recommended N-95 respirator, gloves, and goggles	None Required
Carpet and backing	1, 3		
Concrete or cinder block	1, 3		
Hard surface, porous flooring (linoleum, ceramic tile, vinyl)	1, 2, 3		
Non-porous, hard surfaces (plastics, metals)	1, 2, 3		
Upholstered furniture and drapes	1, 3		
Wallboard (drywall and gypsum board)	3		
Wood surfaces	1, 2, 3		
MEDIUM – Total Surface Area Affected Between 10 and 100 square feet			
Books and papers	3	Limited¹ or Full² Use professional judgment, consider potential for remediator exposure and size of contaminated area	Limited¹ Use professional judgement, consider potential for remediator/occupant exposure and size of contaminated area
Carpet and backing	1, 3, 4		
Concrete or cinder block	1, 3		
Hard surface, porous flooring (linoleum, ceramic tile, vinyl)	1, 2, 3		
Non-porous, hard surfaces (plastics, metals)	1, 2, 3		
Upholstered furniture and drapes	1, 3, 4		
Wallboard (drywall and gypsum board)	3, 4		
Wood surfaces	1, 2, 3		
LARGE – Total Surface Area Affected Greater than 100 square feet OR Potential for Increased Occupant/Remediator Exposure during Remediating Probable to be Significant			
Books and papers	3	Full² Use professional judgment, consider potential for remediator/exposure and size of contaminated area	Full² Use professional judgement, consider potential for remediator exposure and size of contaminated area
Carpet and backing	1, 3, 4		
Concrete or cinder block	1, 3		
Hard surface, porous flooring (linoleum, ceramic tile, vinyl)	1, 2, 3, 4		
Non-porous, hard surfaces (plastics, metals)	1, 2, 3		
Upholstered furniture and drapes	1, 3, 4		
Wallboard (drywall and gypsum board)	3, 4		
Wood surfaces	1, 2, 3, 4		

¹Limited PPE consists of gloves, N-95 respirator or half-face respirator with HEPA filter, disposable overalls, goggles/eye protection

²Full PPE consists of Gloves, disposable full body clothing, head gear, foot coverings, full-face respirator with HEPA filter