

UNIVERSITY OF SOUTH CAROLINA

MOLD REMEDIATION PROCEDURES

Scope and Application

The purpose of this document is to establish procedures for in-house clean-up of building materials that contain mold. The scope of work allowable by University personnel will be limited to 100ft² or less of contiguous space. Sources include the *New York City Department of Health & Mental Hygiene Guidelines on Assessment and Remediation of Fungi in Indoor Environments* and the EPA document, *Mold Remediation in School and Commercial Buildings*

Background

In all situations, the underlying cause of water accumulation must be rectified or fungal growth will recur. Any initial water infiltration should be stopped and cleaned immediately. An immediate response (within 24 to 48 hours) and thorough clean up, drying, and/or removal of water damaged materials will prevent or limit mold growth. If the source of water is elevated humidity, relative humidity should be maintained at levels below 60% to inhibit mold growth. Emphasis should be on ensuring proper repairs of the building infrastructure, so that water damage and moisture buildup does not recur.

Procedures

If building materials have become wet due to water leaks, floods, or high humidity, it is essential that the water/moisture be controlled as soon as possible to prevent mold growth. Guidelines for drying, water cleanup and mold prevention are listed in Section I. If mold has been found growing on building materials, consult Section II to determine proper remediation techniques. Depending upon the size of the affected area(s) some combination of personal protection/containment may be required. These additional controls are listed in Section III.

Section I – Guidelines for Response to Clean Water Damage within 24–48 Hours to Prevent Mold Growth

Water Damage – Cleanup and Mold Prevention (for damage caused by CLEAN WATER)	
WATER DAMAGED MATERIAL	ACTIONS
Books and Papers	<ul style="list-style-type: none">• For non valuable items, discard books and papers.• Photocopy valuable/important items, discard originals.• Freeze (in frost-free freezer or meat locker) or freeze-dry.

Carpet and Backing – dry within 24–48 hours	<ul style="list-style-type: none"> • Remove water with water extraction vacuum. • Reduce ambient humidity levels with dehumidifier. • Accelerate drying process with fans.
Ceiling Tiles	<ul style="list-style-type: none"> • Discard and replace.
Cellulose Insulation	<ul style="list-style-type: none"> • Discard and replace.
Concrete or cinder block surfaces	<ul style="list-style-type: none"> • Remove water with water extraction vacuum. • Accelerate drying process with dehumidifiers, fans, and/or heaters.
Fiberglass insulation	<ul style="list-style-type: none"> • Discard and replace.
Hard surface, porous flooring (Linoleum, ceramic tile, vinyl)	<ul style="list-style-type: none"> • Vacuum or damp wipe with water and mild detergent and allow to dry; scrub if necessary. • Check to make sure underflooring is dry; dry underflooring if necessary.
Non-porous, hard surfaces (plastics, metals)	<ul style="list-style-type: none"> • Vacuum or damp wipe with water and mild detergent and allow to dry; scrub if necessary.
Upholstered furniture	<ul style="list-style-type: none"> • Remove water with water extraction vacuum. • Accelerate drying process with dehumidifiers, fans, and/or heaters. • May be difficult to completely dry within 48 hours. If the piece is valuable, you may wish to consult a restoration/water damage professional who specializes in furniture.
Wallboard (drywall and gypsum board)	<ul style="list-style-type: none"> • May be dried in place if there is no obvious swelling and the seams are intact. If not, remove, discard and replace. • Ventilate the wall cavity, if possible.
Window drapes	<ul style="list-style-type: none"> • Follow laundering or cleaning instructions recommended by the manufacturer.
Wood surfaces	<ul style="list-style-type: none"> • Remove moisture immediately and use dehumidifiers, gentle heat, and fans for drying. • Treated or finished wood surfaces may be cleaned with mild detergent and clean water and allowed to dry. • Wet paneling should be pried away from wall for drying.

Section II – Building materials/items/furnishings.

Non-porous (e.g., metals, glass, and hard plastics) and semi-porous (e.g., wood, and concrete) materials that are structurally sound and are visibly moldy can be cleaned and reused. Cleaning should be done by damp wiping with a detergent solution.

Carpeting, backing and fabric upholstered furniture can be cleaned using wet vacuuming, or steam cleaning. After carpeting has dried, repeat cleaning with a HEPA vacuum.

Books may be cleaned using a HEPA vacuum.

Wallboard (gypsum board and drywall) should be removed and discarded. Seal in plastic bags and dispose of as normal waste. HEPA vacuum surrounding area.

Ceiling tiles that have visible mold should be removed and discarded.

The use of gaseous, vapor-phase, or aerosolized biocides for remedial purposes is **not** recommended. The use of biocides in this manner can pose health concerns for people in occupied spaces of the building and for people returning to the treated space if used improperly. Furthermore, the effectiveness of these treatments is unproven and does not address the possible health concerns from the presence of the remaining non-viable mold.

Section III – Additional controls/protection based on size of affected area

Small Isolated Areas (30 sq. ft or less) – e.g., ceiling tiles, small areas on walls, small sections of carpet or upholstery

- a. Remediation can be conducted by regular building maintenance staff. Such persons should receive training on proper clean up methods, personal protection, and potential health hazards. This training can be performed as part of a program to comply with the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200).
- b. Respiratory protection (e.g., N95 disposable respirator), in accordance with the OSHA respiratory protection standard (29 CFR 1910.134), is recommended. Gloves and eye protection should be worn.
- c. The work area should be unoccupied. 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 recovering from recent surgery, immune suppressed people, or people with chronic inflammatory lung diseases (e.g., asthma, hypersensitivity pneumonitis, and severe allergies).
- d. Containment of the work area is not necessary. Dust suppression methods, such as misting (not soaking) surfaces prior to remediation, are recommended.
- e. Contaminated materials that cannot be cleaned should be removed from the building in a sealed plastic bag. There are no special requirements for the disposal of moldy materials.

- f. The work area and areas used by remedial workers for egress should be cleaned with a damp cloth and/or mop and a detergent solution.
- g. All areas should be left dry and visibly free from contamination and debris.

Large Isolated Areas (30 – 100 sq. ft.) – e.g., individual wallboard panels, larger sections of carpeting

- h. Remediation can be conducted by regular building maintenance staff. Such persons should receive training on proper clean up methods, personal protection, and potential health hazards. This training can be performed as part of a program to comply with the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200).
- i. Respiratory protection (e.g., N95 disposable respirator), in accordance with the OSHA respiratory protection standard (29 CFR 1910.134), is recommended. Gloves and eye protection should be worn.
- j. The work area should be unoccupied. 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).
- k. Contain the work area with polyethylene sheeting. Entryway should be a vertical slit in sheeting, with covering flap. Maintain work area under negative pressure by inserting an external HEPA vacuum hose to the containment. Block supply and return air vents within containment.
- l. Dust suppression methods, such as misting (not soaking) surfaces prior to remediation, are recommended.
- m. Contaminated materials that cannot be cleaned should be removed from the building in sealed plastic bags. There are no special requirements for the disposal of moldy materials.
- n. The work area and areas used by remedial workers for egress should be HEPA vacuumed (a vacuum equipped with a High-Efficiency Particulate Air filter) and cleaned with a damp cloth and/or mop and a detergent solution.
- o. All areas should be left dry and visibly free from contamination and debris.