



Mold Remediation

This document provides procedures for preventing mold growth or removing mold whenever mold is identified or conditions exist that are conducive to mold growth. A mold assessment will be performed in a timely manner whenever the following occurs:

- materials in a building are water damaged
- mold on surfaces of materials is visible
- mold growth in a work area is suspected, i.e., dampness, bowed ceiling tiles, stained drywall, odors, or multiple allergic types symptoms from occupants.

The goal of the assessment is to protect the health and safety of personnel and DU property. The EH&S Manager or a supervisor who has demonstrated competency regarding mold hazards and mold remediation will perform the assessment.

The mold assessment is performed to determine the likelihood of any mold proliferation or the extent of any visible mold, followed by the determination of the course of action for remediation. Additionally, the area will be assessed to determine if relocation of personnel is necessary and appropriate, the potential impact to the university, and the timeline for remediation. Depending on the extent of damage, an external contractor may be required for sampling and monitoring.

Remediation shall be initiated as soon as possible on any surfaces that are water damaged or contain visible mold. The method of remediation depends on the type of material and the extent of contamination. Building materials shall either be thoroughly and completely cleaned or entirely removed. Prior to cleanup activities, personnel shall identify and eliminate, if possible, the source or cause of mold growth. Such causes include water leakage, standing water, or an inadequate ventilation system.

Remediation consists of three types of activities:

- **Water damage cleanup** is performed within 24 to 48 hours of materials being water damaged. The assumption in this scenario is that no mold growth is present and will be prevented by expedient response. Facilities Management will make the determination, based on the extent of damage, whether cleanup will be performed internally or externally contracted.
- **Small scale mold remediation** is response to visible mold on contaminated materials less than 10 square feet. Facilities Management will perform small scale mold remediation. [Exception: Isolated “spots” of mold can be cleaned by any DU employee using a damp cloth and detergent. As always, the source or cause of mold growth should be identified and eliminated].



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- **Large scale mold remediation** is response to mold contaminated material greater than 10 square feet. Large scale mold remediation must be performed by a qualified contractor.

Listed below are requirements and response actions, which, for the most part, follow the U.S. Environmental Protection Agency guidelines, found in *Mold Remediation in Schools and Commercial Buildings* (http://www.epa.gov/mold/mold_remediation.html).

Water Damage Cleanup (must occur with 24 to 48 hours to prevent mold growth)

Water damaged material	Actions
Books and papers	Discard non valuable items; Photocopy valuable items, discard originals
Carpet and backing	Discard if feasible or water vacuum area & material; Dehumidify area; Ventilate with fans
Ceiling Tiles, Cellulose or fiberglass Insulation	Wrap in plastic and discard
Concrete or cinder block surfaces	Wet vacuum; Dehumidify area; Ventilate with fans
Porous flooring	Wet vacuum or damp dry with water & mild detergent; dry area
Non-porous flooring	Vacuum or damp dry with water & mild detergent; dry area
Upholstered furniture	Discard if feasible; Wet vacuum, dehumidify & ventilate; Consult with restoration professional if necessary
Wallboard (drywall)	Dry in place if material is intact with no swelling or remove & discard damaged section; ventilate wall cavity
Window drapes	Follow manufacturer's laundering recommendations
Wood surfaces	Damp dry, dehumidify, gentle heat, ventilate

Small Scale Mold Remediation

- Personnel will receive mold hazard awareness training by the EH&S Manager and training on proper cleaning methods from their supervisor.
- The EH&S Manager should be consulted prior to abatement work.
- Cleaning materials should consist of water with a mild detergent. A solution of water with bleach (1 cup of bleach to 1 gallon of water) can be used, if desired.
- Sufficient ventilation and lighting shall be provided for the abatement work.
- The EH&S Manager shall determine the need for engineering and administrative controls, including the use of High Efficiency Particulate Air (HEPA) negative air movers, HEPA vacuum cleaners, barrier containment with polyethylene sheeting and the need to relocate personnel.



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- Personal Protective Equipment (PPE) at a minimum shall include impervious gloves and goggles. N95 disposable respirators may be required at the direction of the EH&S Manager.
- Dust suppression such as misting should be used, as necessary.
- Discarded materials, including contents of HEPA (High Efficiency Particulate Air) vacuum, shall be wrapped in plastic containers and disposed at regular waste.
- The area should be left dry and visibly free of contamination and debris

Listed below are response protocols for specific materials that have been damaged by clean water, i.e., not contaminated with sewage or chemical or biological pollutants, or have visible mold.

Material	Actions
Books and papers	HEPA vacuum after material is thoroughly dry
Carpet and backing	Wet vacuum followed by HEPA vacuum after material is thoroughly dry
Ceiling Tiles, Cellulose or fiberglass Insulation	Seal in plastic containment and discard as regular waste
Flooring (porous & non-porous) and wood surfaces	(1) Wet vacuum (2) Damp-wipe with detergent or diluted bleach solution (3) HEPA vacuum after material is thoroughly dry
Upholstered furniture	Wet vacuum followed by HEPA vacuum after material is thoroughly dry
Wallboard (drywall)	HEPA vacuum after material is thoroughly dry

Large Scale Remediation

- Remediation will only be performed by a qualified contractor with appropriate training and experience.
- Contractor will provide documentation of relevant training such as Hazard Communication training and certification for respirator use, if applicable.
- Work area will be isolated by shutting down ventilation system and sealing off vents. The extent and amount of containment will be assessed and agreed upon by the remediation contractor and the EH&S Manager.
- Abatement activities will be in accordance with the U.S. Environmental Protection Agency *Guidelines for Remediating Building Materials with Mold Growth Caused by Clean Water* Table 2 (<http://www.epa.gov/mold/table2.html>)
- Waste materials will be discarded by the contractor.
- Contractor will provide a statement of work for the specific remediation.
- Facilities Management will notify building occupants in the nearby area prior to remediation.
- The EH&S Manager shall be notified prior to abatement work.