Mold – The Fungus That's Among Us

Mold Basics – Molds are are living organisms that are classified as fungi and are part of the natural environment. Molds can be found anywhere (indoors or outdoors) and at any time of the year. It is estimated that 100,000 species of mold exist throughout the world and approximately 1,000 species can be found in the United States alone.

Perishable food

Laboratory

Indoors

Molds play an important role in nature, breaking down organic matter such as fallen trees, vegetation and dead animals through decomposition. Without mold, we would not have certain foods, such as cheese or yogurt, nor would we have life-saving medicines, such as penicillin.

Molds can grow on virtually any surface so long as there is moisture, oxygen and a food source present. Molds reproduce by producing microscopic spores which travel through the air and are deposited onto sufaces where they can germinate, grow and begin digesting organic materials.

Mold spores are introduced into buildings through HVAC systems, open doors & windows, pets and foot traffic. When they land , they will germinate and begin to grow. Negative effects of mold on structures can range from unsightly stains to degradation of indoor air quality. It is impossible to eliminate all molds and spores inside a building; controlling moisture is the key to controlling mold.

Health Effects – Currently, there are no regulatory standards or recommendations (EPA or OSHA) for airborne concentrations of mold and/or spores. There is much debate and research on the relationship between mold exposures and health effects. Most indoor airborne exposures to mold do not present a risk of adverse health effects. Health effects may be immediate or delayed, and include:

-Allergic reactions resembling hay fever
-Irritation of the eyes, skin, nose & throat
-Asthma attacks in people that are allergic to mold
-Localized infections of the skin or mucous membranes

Evaluation – Some mold growth may give off an odor. People vary in their sensitivity to odor so the best way to detect mold is by using tools such as moisture meters, IR/thermal cameras and/or a boroscope. Moisture meters and IR cameras are used to test surfaces for water content or cold spots, where water is evaporating. A boroscope is used to probe behind surfaces to look for mold growth and/or damage.

Moisture meters

Infrared/thermal camera

Boroscope w/flexible cable

Water Intrusion & Water Damage

Water is necessary to life on Earth but undesired water intrusion into a building via drips, leaks and the like can result in a variety of negative consequences ranging from stains and odors to loss of structural integrity. These damages can be disruptive and costly to both building owners/operators and occupants.



Prevention – Act promptly whenever a spill, leak or other type of water intrusion is noted. A prompt response within 24-48 hours will often prevent or limit mold growth and involves clean-up, drying and/or removal of water-damaged materials. Consider the following:

-Identify & repair leaks
-Address water incursion
-Keep HVAC drip pans clean
-Venting kitchens & bathrooms
-Clean & dry wet spots w/i 48 hrs
-Vent appliances outdoors
-Keep humidity <70% indoors
-Maintain HVAC systems

Remediation - Remediation is the process of 1) identifying and correcting the water or humidity issue contributing to mold growth, and 2) using appropriate cleaning and drying methods on impacted surfaces. Remediation decisions should be made based on the following: the scope of contamination, the size of the area of growth and any potential for occupant exposure in the absence of containment.

Guidelines – Depending on the size of the impacted area, remediation can be performed either by FMS employees or licensed contractors. The use of solutions containing bleach is not recommended when wiping down surfaces is necessary. Rather, water or solutions of water & detergent should be used. The use of personal protective equipment (PPE) and/or area containment will be based on the size of the impacted area.

> **Small (<10 ft^2) –** May be performed by FMS employees wearing minimal PPE, i.e., nitrile gloves and goggles; An N-95 respirator is recommended; No containment required; Remediation activities may require relocating occupants of the impacted area.
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> **Medium (10-100 ft^2)** – May be performed by FMS employees or licensed contractors wearing limited or full PPE, i.e., nitrile gloves, Tyvek suit, goggles and half-face air purifying respirator; Limited containment made from polyethylene sheeting and use of a negative pressure HEPA fan for exhaust are required; Block supply & return vents; Remediation activities require relocating occupants from the impacted area.
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> **Large (>100 ft^2) –** Performed by licensed contractors only wearing full PPE; Full containment required as well as relocating occupants of impacted areas.

Consult the FMS Guidance document re Mold Remediation & Prevention prior to remediation work.