Fungi - Indoor Environments

Exposure to fungi can result in allergic reactions, cause toxic effects, or lead to infections. For building owners and managers, exposure to fungi has become a risk management concern. This fact sheet provides an overview of the growing problem of fungi in indoor environments and information on the health issues, environmental assessment, remediation, hazard communication, and prevention measures for contaminated buildings.

FUNGI GROWTH

Fungi grows inside of buildings in wet locations. For any business that owns or manages a building, preventing the growth of fungi has become a top risk management concern. Airtight buildings, poor construction practices, leaking plumbing and roofs, and seasonal and regional weather conditions, such as high humidity, foster fungi growth. As fungi grows, so does the health hazards to workers, accompanying cleanup costs, and the potential for third-party claims for negligence or bodily injury.

The most common symptoms of fungal exposure are cough, congestion, runny nose, eye irritation, and aggravation of asthma. Symptoms of office workers exposed to moldy surfaces typically include fatigue, respiratory ailments, and eye irritation.

A few years ago, fungi contamination claims were rare. However, with the increased awareness of indoor air quality issues, claims are on the increase. Recently, in California, newspaper workers sued a building landlord for $10 million for fungi contamination resulting in lung and sinus infections. The workers alleged the building owner failed to make repairs causing fungi growth. In New York, 500 plaintiffs sued two apartment complex owners and managers for fungi contamination. An Illinois school district sued for negligence for not taking care of a mold condition caused by a flood.

INSPECTION

Black mold colonies growing among green mold colonies.

The appearance of mold, water damage, or musty odors should be addressed immediately. All sources of water should be stopped and the nature and extent of water damage should be determined. All water-damaged materials should be dried and repaired. Mold-damaged materials should be remediated.

Visual Inspection

A visual inspection is the first step in identifying a possible contamination problem. In addition, ventilating systems should be visually assessed for damp filters, overall cleanliness, and damp conditions elsewhere in the system.

Careful inspection of ceiling tiles, wallboard, cardboard, paper, etc., should be performed.

Bulk/Surface Sampling

Although bulk/surface sampling is not required to undertake a remediation, samples may need to be collected to identify specific fungal contaminants as part of the building occupants' medical evaluation or to identify the presence or absence of mold if a visual inspection is equivocal.

A trained and experienced individual should conduct the sampling. Bulk samples are normally collected by scraping or cutting material from a moldy surface with a clean tool into a clean plastic bag. Surface samples are collected by wiping the contaminated area with a sterile swab or by stripping with clear tape. A laboratory accredited in environmental microbiology by the American Industrial Hygiene Association should be used to analyze the samples.

Air Monitoring

Air monitoring should be conducted if:

- An individual(s) has been diagnosed with a disease that is or may be associated with a fungal exposure.
- There is evidence from a visual inspection or bulk sampling that ventilation systems may be contaminated.

The presence of mold is suspected but cannot be identified by a visual inspection or bulk sampling.

If air monitoring is performed, outdoor air samples should be collected concurrently at an air intake and at a location representative of outdoor air. This action is necessary for comparative purposes.

Individuals trained in sampling for microbial contaminants should conduct air sampling. A laboratory accredited in environmental microbiology by the American Industrial Hygiene Association should be used to analyze the samples.

REMEDIATION

The objective of remediation is to remove or clean contaminated materials in a way that prevents fungal contamination from leaving a work area and entering a non-abatement area. In addition, the health of the workers performing the remediation should be protected.

The following general remediation specifications should be implemented:

- Non-porous (e.g., glass, metals, etc.) and semi-porous (e.g., wood, concrete, etc.) materials that are structurally sound and moldy can be cleaned and reused.
- Cleaning of all mold-contaminated surfaces should be done with a detergent solution.
- Ceiling tiles, insulation, wallboard, and other porous materials with more than a small area of contamination should be removed and discarded. There are no special requirements for disposal of mold contaminated materials.

- Assistance from a professional restoration consultant should be attained when restoring porous materials with more than a small area of contamination.
- Materials to be reused should be dry and free from all visible mold.

HAZARD COMMUNICATION

When fungal growth requiring large-scale remediation is found, occupants in the affected area(s) should be notified of its presence. Notification should include regular memos and/or meetings with occupants, a description of the measures to be taken and a schedule for completion. If possible, remediation activities should be scheduled during off-hours when occupants are less likely to be affected.

PREVENTION

The key to prevention is moisture control.

- Keep heating, ventilation and air conditioning (HVAC) drip pans clean, flowing properly and unobstructed.
- Watch for condensation and wet spots. Fix sources as soon as possible.
- Maintain low indoor humidity, below 60% (30-50% ideally)
- Fix leaky plumbing and leaks in the building envelope promptly.
- Clean and dry wet or damp spots within 48 hours.
- Perform regular building/HVAC inspections and maintenance as scheduled.

For more Information on this topic, please contact Alliant Risk Control Consulting at (949) 260-5042 or riskcontrol@alliant.com

Alliant Insurance Services, Inc. • 1301 Dove Street • Suite 200 • Newport Beach, CA 92660
PHONE (888) 737-4752 • www.alliant.com