



Mould – What Building Owners and Managers Need to Know and Do

In recent years there has been mounting concern over health and liability risks from moulds. What does all this mean for building owners and managers? That's what we asked our expert panel.

Responsibility to Act

Q: what is a facility owner's or manager's responsibility for keeping a building mould free?

David Miller: Current knowledge indicates the need to prevent damp conditions and mould growth and to remediate any fungal contamination. In Canada, this direction arises from Health Canada (2004), the American Conference of Government Industrial Hygienist Bioaerosols: assessment & control (1999) and the Canadian Construction Association (2004).

Tedd Nathanson: Building owners and managers are required to design, construct, operate and maintain their facilities following current regulations, codes, standards, guidelines, and good practice.

In addition, under Federal and Provincial labour codes, employers are responsible for the safety and health of their employees and the public within their workplace. Case law has established that 'mould should not grow in buildings.' Therefore, it is prudent and cost-effective for both the builder and the employer to avoid mould growth.

Health Indicators

Q: What illnesses tend to become more common when a building has a serious mould problem?

David Miller: Although the health risks of mould exposure are not fully known, many studies have found a significant association between mould exposure and either physician-diagnosed asthma or

asthma related symptoms. So we would expect to higher rates of asthma symptoms. One might also see an increase in nose and eye irritation, congestion, headache, flu-like symptoms, fatigue, and skin rash, particularly among people with pre-existing health conditions such as asthma and rhinitis.

Melva Bellefontaine: Exposure to mould can exacerbate existing respiratory conditions, such as asthma. When a building has a mould problem, fungal spores are produced and released into the air. These inhaled spores irritate the respiratory tract, aggravate asthma symptoms and cause more frequent and severe asthma attacks. The higher the fungal spore level, the more health problems, including chest tightness, cough, wheezing, runny nose, skin rash, or even headache, nausea and vomiting. Studies indicate the effects are greater in people who have asthma or who are allergic to mould, but some non-sensitized people may also be affected.

Inspecting For Mould

Q: What do you need to do if you see mould growing in your building and how do you know if it needs to be professionally removed? At what point should you consider taking mould samples?

Elia Sterling: The Canadian Construction Association provides guidelines that depend primarily on the scale, or size, of the mould growth. For building finishes and components (e.g., drywall, ceiling tile, carpet, etc.) the guideline levels are as follows:

Level 1 (Small Scale): Areas less than 1 square metre (10 square feet): regular building maintenance staff may perform abatement. Occupants should not be present within the remediated area.



Larger areas (Levels 2 and 3): A health and safety professional experienced in performing microbial investigations should be consulted prior to starting remediation to provide oversight and inspection of remediation activities.

Where contamination is evident, it is seldom necessary to test mould-suspect materials. However, where mould growth is suspected and not visible, or where the presence and types of mould must be confirmed for health or

legal reasons, then bulk, surface, or air samples should be obtained for laboratory analysis.

Communicating with Building Occupants

Q: What should you say to building occupants if you suspect or know you have a mould problem?

Melva Bellefontaine: For level 2 and 3 contaminations, federal / provincial health and safety acts and regulations require that you advise occupants and visitors about the possible risks of both mould exposure and the remediation process of related risks.

This is especially important for those with long-term health problems. Keep communications open with them at all stages of the investigation and remediation. Encourage those with asthma to seek medical advice and call the Asthma Society of Canada at 1-866-787-4050 or visit www.Asthma.ca for more information and suggestions.

Operations and Management

Q: How large a role does building operation and maintenance play? What are the key points to know here?

Jonathan Solomon: Proper moisture control, and good building maintenance practices are essential to preventing mould growth within buildings. Mould growth will occur to some

degree in every building. However, establishing regular maintenance routines and an annual building envelope inspection (inspecting caulked joints, roofs, flashings, landscaping, etc.), developing written procedures /accountability for immediately dealing with leaks/floods, increasing an awareness of related building systems (including continuing education), and promoting relationships with outside building service trades/industry experts, can all help prevent mould from becoming a significant problem. Canada Mortgage and Housing Corporation (CMHC) and the National Research Council of Canada – Institute for Research in Construction (NRCC-IRC) have good guidance in these areas.

Floods and Remediation

Q: What about floods? Are there remediation best practices?

Mark Lawton: After a flood, you should inspect to determine the full extent of contamination. Once the initial investigation is completed, fungal damage should be expeditiously remediated using state-of-the-art protocols such as those developed by Public Works and Government Services Canada, the IICRC, the US EPA, and the City of New York. As well, quality assurance should be carried out according to standard protocols such as those of the AIHA.

New Construction and Demolition

Q: What is required during construction and demolition? What else is advisable?

Tedd Nathanson: When decommissioning or demolishing a building with mould, it is

can also be helpful to consult trade organizations and industry experts.

Mould growth is part of every construction / demolition project; implementing an effective Construction Mould Management Program will foster good communication, help maintain your



important to protect workers and avoid cross-contamination to neighboring spaces. The Canadian Construction Association (CCA) provides guidelines for such situations.

Jonathan Solomon: When constructing buildings, one should understand and focus on those stages and practices that are most at risk for mould growth, plan for water assessment / management, and plan for mould assessment / abatement. In addition to the CCA guidelines that Tedd mentioned, Health Canada also provides guidance in this area. It

schedule, improve the quality of the construction, decrease liability and save you money.

Resources

Health Canada's "Fungal Contaminants in Public Buildings: a Guide to Recognition and Management http://www.hc-sc.gc.ca/hecs-sesc/air_quality/pdf/fungal.pdf and "Fungal Contamination in Public Buildings: Health Effects and Investigation Methods" http://www.hc-sc.gc.ca/hecs-sesc/air_quality/publications/fungal_contamination/toc.htm

Public Works and Government Services Canada's Remedial Procedures for Water Damage in Buildings http://source.pwgsc.gc.ca/rps/aes/es/content/www_units_iaq_pub-e.html

Canadian Construction Association's "Mould Guidelines for the Canadian Construction Industry" (CCA-82-2004) <http://www.cca-acc.com/mould/>

New York City Guidelines on Assessment and Remediation of Fungi in Indoor Environments <http://www.ci.nyc.ny.us/html/doh/html/epi/moldrpt1.html>

The Institute of Inspection, Cleaning and Restoration Certification's Standard and Reference Guide for Professional Water Damage Restoration, S500, and Standard and Reference Guide for Professional Mold Remediation, S520 <http://www.iicrc.org>

The US EPA's Mould Remediation in Schools and Commercial Buildings http://www.epa.gov/iaq/molds/mold_remediation.html

The American Industrial Hygiene Association's Facts about Mold: For the Professional. <http://www.aiha.org/GovernmentAffairs-PR/html/mold-professional.htm>

Asthma Society of Canada <http://www.asthma.ca>

Healthy Indoors Partnership www.healthyindoors.com

Panel

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Notes

Healthy Indoors Partnership (HIP) is a not-for-profit organization that promotes healthier indoor environments in Canada through multi-stakeholder collaboration. We connect people, ideas and resources from government, industry, educational and research institutions, and public interest groups to collaborate on common indoor environmental health issues. For more details go to www.healthyindoors.com.

The views expressed in this publication are those of the panelists and not necessarily those of HIP, HIP members, or Health Canada.

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Health Canada has recently published revised guidelines on health effects and investigation methods for mould (see Resources.) For more information on indoor air quality issues contact Health Canada's Air Health Effects Division: air@hc-sc.gc.ca or (613) 957-1876.