



Mould at work

Introduction

Moulds (also called molds, fungi or mildew) are organisms that belong to the fungi kingdom and are neither plants nor animals. They are commonly found both indoors and outdoors. Moulds are an important part of the ecosystem, as they break down and recycle organic matter such as dead leaves.

Moulds multiply by producing very small spores. These are carried in the air, and if the spores land in a place which provides moisture and a food source, they may start to grow. Mould can develop on a wide range of surfaces, such as wood, paint, walls, fabric, paper and soil. Severe mould growth can cause structural damage to buildings. Mould growth indoors can present a health risk in some cases.

Mould - potential health effects

People can be exposed to mould by inhaling or having skin contact with mould spores or particles, or ingesting moulds. Some moulds release metabolites called mycotoxins, and people can be exposed to these chemicals through skin contact, inhalation or ingestion.

Exposure to mould may cause a range of symptoms, depending on factors such as:

- the species of mould present;
- the amount of mould the person is exposed to (generally related to the extent of mould present);
- length of time the person has been exposed; and
- individual susceptibility.

Some people can develop an allergic reaction to mould, and symptoms may include:

- asthma-like respiratory illness;
- watery, itchy, red eyes;
- chronic cough;
- headaches or migraines;
- rashes (dermatitis);
- tiredness;
- blocked nose and sinus problems; and
- frequent sneezing.

Some mycotoxins have been reported to cause more severe health effects, although this link is not conclusive.

Mould at work can be a work health and safety issue. Workers should be consulted about significant mould issues and how they are being resolved.

Causes of mould problems

To grow indoors, moulds need moisture and food. Moisture is the most important factor influencing mould growth indoors. Common sources of moisture indoors include roof and gutter leaks, flooding, leaking and burst pipes, water vapour (from showers, dryers, unflued gas heaters or industrial processes) and condensation of humid air on cold surfaces.

Preventing mould problems

In general, mould is prevented by preventing unwanted water entering the building, limiting the amount of water vapour released inside the building, and ventilating processes that release water vapour. For example:

- maintain the building in good condition;
- check plumbing for leaks;
- keep the building and furnishings dry;
- provide ventilation where showers, dryers, or other processes releasing water vapour are used;
- ensure air conditioning systems are designed for the local climate, especially in areas of high humidity, and well maintained;
- where people need to shower or change at work there should be provision to hang up damp towels or clothing; and
- when things get wet, dry them quickly (within 24-48 hours). Wet vacuum systems and fan dryers may be required in some cases.

Finding mould

Mould investigations should be conducted whenever:

- musty smells are reported;
- visible mould growth is seen;
- flooding or water leaks have occurred; or
- there has been a condensation problem identified.

Investigating mould can be difficult and in some cases may require an experienced professional with specialised equipment. Investigating mould requires caution since disturbing mouldy areas may spread mould throughout the building. Personal protective equipment (PPE) should be available during the investigation and used if significant mould growths are found. Suitable PPE may include disposable overalls, a Class P2 (Particulate) respirator, gloves and safety glasses.

The most important sign of a mould problem is visible mould. Mould can grow in the dark, including places such as the back of wall linings, the top side of ceiling tiles, the underside of carpets, and on roof materials in ceiling spaces.

If mould is found during a building investigation the size and extent of the mouldy area should be determined. The investigation should include finding the source of the water or moisture problems that allowed the mould to grow.

Where the source of the mould is unclear, or health concerns are present, sampling and laboratory testing may be required and in these cases specialist advice should be obtained. Routine sampling for mould is unnecessary, particularly in cases where visible mould is present. Keep in mind that the goal of mould remediation is to find the source of the water problem, fix it, and clean up the mould.

Cleaning up mould affected areas

Before starting the cleanup, control the source of the moisture.

Basic mould cleanup for small jobs

For less than 1 m² of affected area:

- close doors and seal air vents where possible to prevent mould spores spreading;
- ensure unprotected people leave the affected area during the cleanup;
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- wearing a P2 respirator (mask), gloves and safety glasses, scrub mould off hard surfaces with either:
 - detergent and water; or
 - three parts vinegar with one part water; or
 - three parts alcohol (eg methylated spirits) and one part water;
- dry the material completely;
- absorbent or porous materials, such as ceiling tiles and carpet, can be dried if the water has been present less than 48 hours. If items have been wet for a longer period, they may have to be thrown away if they become mouldy as their structure makes it very difficult to properly clean them.
- wet vacuums, dehumidifiers and fans assist in drying wet carpets and similar absorbent materials; and
- for valuable items that have been mould affected, seek specialist advice.

Mould cleanup for medium to large jobs

Medium jobs are where the area affected is 1-10 m² and large jobs are where the area affected is more than 10 m².

For medium to large mould problems, professional advice is recommended. Getting such advice at an early stage can result in the problem being fixed more quickly, provide the tools to find hidden mould, limit further spread of mould, and assist in identifying and resolving the moisture problem.

Additional controls in terms of the containment of the mould and the level of PPE required are likely to be needed for medium to large jobs. Medium to large jobs also require a higher level of consultation with, and provision of, information to stakeholders, including tenants and workers, as building occupants can be quite concerned about the issue and the remediation.

Finalising the mould cleanup

The cleanup is complete when:

- the moisture problem has been fixed;
- the mould has been removed from the affected areas – ie there is no visible mould or mouldy odour;
- an inspection of the affected area shortly after the cleanup finds no new water damage or mould regrowth; and
- if you have sampled (which, as noted above, is not mandatory), results indicate that the mould types and concentrations inside are similar to those outside.

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Sometimes there are different views on when the cleanup should be considered finalised, and in such cases professional advice is useful.

Legislation

Duties of employers

Where mould at a workplace presents a hazard to employees the employer has a duty of care to control this hazard as far as practicable, under Section 19(1) of the *Occupational Safety and Health Act 1984* (“the Act”).

When an employee reports health effects which may be related to mould the employer has an obligation under section 23K of the Act to investigate the employee’s concerns and advise the employee of actions to be taken to address the matter.

Regulation 3.1 of the *Occupational Safety and Health Regulations 1996* requires employers to (as far as practicable) identify the hazard, assess the risk of harm to health and consider suitable controls.

Duties of the person in control of the building

Section 22 of the Act requires persons with control of workplaces (such as landlords of buildings used as workplaces) to take practicable measures to ensure people at the workplace are not exposed to hazards.

In relation to prevention and control of mould, the person with control of the workplace needs to ensure that the building and its fixtures are properly maintained to ensure unwanted water cannot enter the building (eg maintain roofing, gutters and water pipes). Air conditioning and ventilation systems may also be managed by the person with control of the workplace.

When a tenant of a workplace reports a hazard to the person with control of the building (eg health effects which may be related to mould, water leaks or significant mould growth), the person in control of the building has an obligation under Regulation 3.1 of the *Occupational Safety and Health Regulations 1996* to (as far as practicable) identify the hazard, assess the risk of harm to health and consider suitable controls.

Overlap of duties

Where the duties of the employer and the duties of the person in control of the building overlap, they should reach an agreement about who is to undertake the duties. If no-one undertakes the duties, both parties may be in breach of the requirements.

Sources and further information

- World Health Organisation, “WHO Guidelines for Indoor Air Quality: Dampness and Mould”, 2009 http://www.euro.who.int/_data/assets/pdf_file/0017/43325/E92645.pdf
- United States Environmental Protection Agency, <http://www.epa.gov/mold/index.html>
- Health Department of Western Australia “Mould and Condensation in Your Home”, available from <http://www.public.health.wa.gov.au> (search “mould”)
- Health Department of Victoria “Mould growth and your health”, available from www.health.vic.gov.au (search “mould”)

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