

## Managing Mould in Buildings

With the recent heavy rains and flooding across Australia, buildings are at risk of water inundation and, if not properly managed, the resultant humidity and dampness can give rise to mould contamination within a building. Once established mould can be very difficult to eliminate from a building and its air conditioning system. In order to manage these risks, building owners and managers must be aware of risk factors and the appropriate measures to minimise the risk of contamination.

### Why is Mould a Risk?

The presence of many biological agents in indoor environments is attributable to dampness and inadequate ventilation. Excess moisture on almost all indoor materials leads to growth of microbes, such as mould, fungi and bacteria, which subsequently emit spores, cells, and volatile organic compounds into indoor air. Moreover, dampness initiates chemical or biological degradation of materials, which also pollute indoor air. Dampness has therefore been suggested to be a strong, consistent indicator of risk of asthma and respiratory symptoms (e.g. cough and wheeze).

Exposure to microbial contaminants is clinically associated with respiratory symptoms, allergies, asthma and immunological reactions. In addition, mould has been known to damage stock in retail environments and can cause odours even when the mould is not visually evident. Tenants, whether they be in industrial, commercial or retail properties can incur significant losses due to poorly managed mould contamination.

### Remedial Measures

The goal of remediation is to remove or clean



mould-damaged materials using work practices that protect occupants by controlling the dispersion of mould from the work area and protect remediation workers from exposures to mould. It is neither possible nor warranted to eliminate the presence of all indoor mould, however, visible mould growth indoors can and should be prevented and remediated if present.

The following steps should be taken to minimise the damage caused by mould contamination within a building:

**Rectify the source of water ingress:** Whether it be a broken water pipe, leaking roof or flood, no remedial action can commence until the source of the dampness has been identified and remedied.

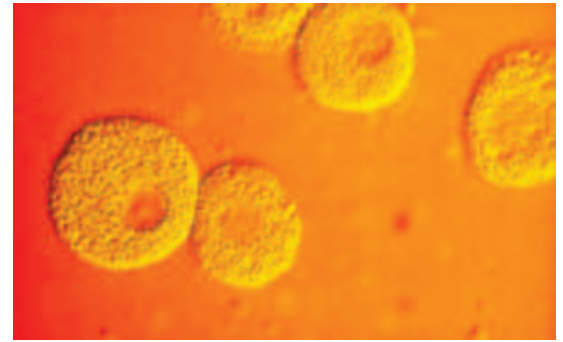
**Isolate air conditioning systems:** Where mould is evident, air conditioning systems should be isolated by sealing vents with plastic to ensure spores do not enter the system and colonise within the duct work. Where mould has released spores, the building's air conditioning system can spread the contamination throughout the building and as a result the air conditioning system may need to be decontaminated.

**Clean Non porous Materials:** Non-porous materials (e.g. metals, glass, and hard plastics) can almost always be cleaned. Semi porous and porous structural materials, such as wood and concrete can be cleaned if they are structurally sound. Porous materials, such as ceiling tiles and insulation, and wallboards (with more than a small area of mould growth) should be removed and discarded.

**Dry the environment:** High humidity levels may persist due to residual dampness within the building once the water affected furnishings have been removed. Additional ventilation and driers can be used to evacuate the indoor air to atmosphere. Most air conditioning systems recirculate indoor air which is largely ineffective in reducing contamination and humidity levels.

**Test air for airborne Microbiological Contamination:** Prior to the introduction of new soft furnishings and fittings air testing should be undertaken to ensure airborne microbial levels are not elevated when compared to an external control location. Air volume extraction of internal contaminated air should continue, together with visual inspection of the remediated surfaces until the area is deemed successfully remediated.

**Ongoing Monitoring:** Once an affected area has been successfully remediated, periodic (monthly) monitoring should be conducted for a period of 3-4 months to ensure there is no evidence of mould regrowth. An elevated microbial level should be immediately investigated to prevent mould regrowth.



### Minimising the Risk

Once mould establishes a presence within a building it reproduces by releasing spores into the atmosphere. These spores spread through the building and depending on the level of dampness, temperature and nutrients, mould can rapidly infiltrate all regions of a building.

Preventing water ingress, cleaning spills and providing effective ventilation are all steps that can be taken to avoid the onset of mould. Once mould is established however, prompt and effective response is crucial in containing the degree of contamination. Do not leave water affected areas for extended periods, particularly in warm climates. This exacerbates the problem which should be dealt with sooner rather than later.

Should your building exhibit evidence of mould contamination you can contact one of Prensa's experienced occupational hygienists. Prensa can give emergency advice over the phone or assist in the management and validation of mould remediation projects. For further information please call Cameron Hunter on 0488 555 460 or Jared Clifford of 0449 542 787.

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