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Guide 4 Mould management for beginners

This paper provides practical information and advice on managing and controlling mould risks and hazards. The paper is written by Jeff Charlton a recognised and leading UK mould expert in assessments and remediation.

What is Mould and What Are the Health Issues?

Mould represents Earth's most extensive life form, serving as an organic material decomposer long before humans existed. It thrives in damp conditions but not overly wet environments. Mould faces competition from over 200,000 species, plus bacteria which can grow faster than moulds.

These life forms compete at times and produce chemical secondary metabolites. Bacteria produces Streptomyces which is used to treat fungal infection and Penicillium used to treat bacterial infections. In homes and buildings these chemical toxins may be at extremely high levels affecting occupants' health.

Key Points from the Paper:

Ubiquity of Moulds:

Mould spores are present in every breath humans take, with most people having developed immunity to numerous mould species.

Conditions Favouring Toxic Moulds:

Poorly ventilated and damp homes, cavities and voids create ideal conditions for toxigenic mould species, which are typically below detection levels under normal circumstances in ambient air

Specific Risks from Mould Species:

The genus Aspergillus is common worldwide, but specific species like Aspergillus fumigatus can cause severe, potentially incurable lung diseases. It's the specific species, not just the genus, that poses significant health risks, with less than 30 species recognized as concerns in residential settings.

Health Issues and Recognition:

Despite scepticism from some healthcare professionals, toxicologists and specialist medical practitioners recognise the health impacts of mould, supported by over 120 peer-reviewed studies. The World Health Organization (WHO) acknowledges that even dead mould poses significant health hazards, potentially more so than live mould. Exposure to hyphal fragments is assessed at 40-fold the dose according to WHO.

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Landlord Responsibilities

Landlords are legally required to provide a safe living environment for tenants, which includes proactive measures against mould growth.

The legislation has been structured to simplify the process for tenants to take legal action against landlords who fail to meet these standards.

Proactive Property Checks:

Landlords must not solely rely on tenants to report issues; they are required to regularly inspect properties to ensure that they meet safety standards.

Awareness and Compliance:

It is crucial for landlords to be well-informed about current legislation, as failure to comply can lead to long-tail (historic) claims, which might result in significant legal consequences in both civil and criminal court. The author recently gave evidence against a landlord in civil court which the judge escalated to criminal court.

Mould Prevention through Moisture Control

Cause of Mould:

Mould development is directly linked to moisture levels within a building. Effective moisture management is the key to preventing mould growth.

Moisture Control Strategies:

- Source Control: Identifying and addressing sources of moisture, such as leaks or high humidity areas.
- Dilution and Removal: Utilising ventilation systems to dilute and remove moist air, especially in areas prone to high humidity like kitchens and bathrooms.

Common Failures in Moisture Control:

- Inadequate extract fans and overall poor ventilation are typical problems that lead to excessive indoor moisture.
- Issues like rising damp or penetrating damp also contribute to moisture problems.
- Dewpoint condensation is becoming a more significant issue, exacerbated by fuel poverty, where reduced heating leads to colder surfaces and condensation.

Construction or Design defect

While construction and design defect are often responsible for mould, improvements which are unsympathetic can be major contributors.

These moisture-related issues are often rectifiable with proper building maintenance and upgrades to ventilation systems.

Moisture Control Strategies

The connection between moisture control and mould prevention is crucial and clear. Effective moisture management can significantly reduce the likelihood of mould growth in buildings. Here's a more detailed look at the strategies and challenges mentioned:

Control at the Source:

The most effective way to prevent mould is to eliminate or control moisture sources within the building. This could include fixing leaks, ensuring that water from the exterior (such as rain or groundwater) does not enter the structure, and managing internal sources of moisture like bathrooms and kitchens.

Dilution and Removal of Moist Air can be as simple as increasing ventilation rates and run times. This is one of the most common issues leading to mould from inadequate ventilation, where extract fans are either not powerful enough or completely absent, allowing moisture to accumulate.

Rising and Penetrating Damp:

Structural problems can allow moisture to enter from the ground (rising damp) or through walls (penetrating damp). These issues require structural solutions like damp-proof courses or more extensive waterproofing measures.

Dewpoint Condensation due to Fuel Poverty:

In situations where heating is insufficient due to economic constraints (fuel poverty), cold surfaces become a prime site for condensation. This condensation can then lead to mould growth, particularly in colder months.

Simple and Effective Solutions:

Often, the solutions involve improving heating and insulation, installing, or upgrading ventilation systems, and addressing any structural issues that allow moisture ingress.

Managing moisture effectively not only helps in preventing mould but also contributes to a healthier indoor environment and can prevent potential structural damage over time. If you're dealing with a specific situation or need more detailed advice on mould prevention strategies, I'd be happy to delve deeper into those topics!

Tenants' failures

While landlords are invariably the target of court judgement, the tenant has major duties and courts should be informed of these failures, when evidence exists.

The Medical issues

The WHO have stated mould is the great masquerade of the 21st Century because so many illnesses are misdiagnosed and are likely to be mould related.

The deaths of Awaak Ishak and Luke Brooks said to be from mould, showed at Coroners Court to be caused by inflammatory response not the Aspergillus identified on walls.

Inflammatory response is now seen the major health issue, and this emanates from dead mould and hyphal fragments.

While the health risk of mould is a growing concern, bacteria may actually be the greater risk and responsible for many symptoms, which few recognise.

Medical Evidence

The public have since COVID, become self-treating “Google” medical experts and generally turned from conventional medicine to specialist laboratories and functional medicine and toxicologists.

Triage in Mould management

Landlords may be inundated with complaints from tenants regarding mould. With limited response capability there is a clear requirement for “triage assessments” where response priority is identified.

Mould Treatments and the challenges.

Unfortunately, no mould treatment I have ever tested actually removes the health risk despite glowing testimonials based on junk science

Decontaminating and reducing mould risks

Attempting to treat mould is pointless unless remediation has been undertaken to remove or mitigate causation. The survey of an Indoor Environmental Hygienist is the most significant of all actions in mould management. Normal surveys have serious limitations, but the IEH has trained in this specialist field.

Mould Decontamination Objectives

Possibly one of the least understood issues. Kill or remove mould, decontaminate air, or surfaces from what? There are over 30 significant risks and hazards possibly present which can cause the symptoms many react to. Different risks and hazards may require differing protocols.

- Data Driven objectives and verification.
- Prior to embarking on a mould remediation project, the following should be considered:
- What is the hazard?
- What is the risk?
- Is it airborne or surface?
- Is it viable or non-viable?
- What is the causation?
- What is the most economical solution?
- What is the data evidence for action?
- What is the evidence and data for completion and risk reduction?
- The reality is, most just ask cost of works.

Managing tenant Mould Risks from only £1 per day

While landlords have a duty to inspect their property this can be time consuming and unfortunately only reflects environmental conditions on the day and one moment in time.

New cloud technology can provide affordable remote monitoring with automatic alarm and reporting. Monitoring can identify risks and tenant failures and possibly expensive and preventable repairs.

Comparison of professionals

This section reviews the different approach to mould surveys between a person who takes a two-day course on HHSRS and a professional Indoor Environmental Hygienist who may take years to qualify.

The HHSRS survey

The HHSRS is 29 specific risks and hazards with training in the assessment usually taking 2 days to cover the regulatory compliance. The HHSRS specifically states its use may require support from professional judgement. The HHSRS also states in its operational guidance Not to be used for biological assessments therefore as biological exposure is the main issue of mould hazard it appears to be worthless, other than an aesthetic assessment.

The HHSRS inspection is purely visual and even when mould is identified the landlord is usually given an improvement notice and 21 days or more to remove the visual damage. There is no measurement, sampling, or scientific assessment regarding this biological hazard. The HHSRS cannot provide an assessment of hazard or exposure routes or consider individual risk profiles.

The professional IEH

The IEH will review the health complaints of occupants and identify highest risk areas of exposure. Visual assessment of current and historic water damage. Particle counts and Infra-red scanning, moisture mapping followed, if necessary, with biological sampling. The sampling program will follow a hypothesis developed during the survey but will normally assess:

- Airborne risks
- Surface risks
- Viable and non-viable mould
- Bacteria
- Possible chemical assessment (VOCs)

A full report with causation identified risk factors and recommendations for remediation.

Depending on health implications and levels and types of contamination identified a decontamination program may be proposed.

Is the property safe or contaminated?

This section simply reflects on questions that are asked without real understanding of the relevant issues. The answer will depend on who's asking the question. The sample questions indicate some of the issues of general misconception.

The landlord may ask "Does the property have a mould risk and the answer will depend on who answers the question?

The Environmental Health Officer

- My calculation using HHSRS shows no mould risk

The tenant

- I have got progressively sick since moving into the property, is mould the cause?

The doctor

- Is the mould present in the property the same as my patients' blood or sputum which could have caused the respiratory issues of my patient?

The defence Solicitor

- Is the property compliant to legislative requirements?

The Prosecution Barrister

- Can you verify the property is not contaminated and have you evidence in the form of data?

Functional medicine & healthcare professionals.

- Can you identify the contaminates in the home currently present in the blood and urine of my patient.

The toxicologist

- Can you identify the presence of DNA associated with bacteria and mould possibly responsible for symptoms?

The professional Indoor Environmental Hygienist

- How much do you want to spend on identifying relevant contamination in which areas and to what certainty?

Risk manager!

- Do results reflect contamination in the air, or on surfaces**?**

The Insurance company

- Is the contamination identified from current or historic water damage or is it the result of incompetent remediation?

The property owner

- Were the people that provided these answers qualified and certified competent**?**

The Health and Safety Professional

- Do the levels of exposure exceed national guidance or recognised standards?

The property owner

- Does the manging agent failure put me in court?

The Magistrate -Judge

- What verifiable evidence do you have to prove no health risk exists

Conclusions

After reading this paper there may or may not be confusion but a simple question exists. "Who is responsible for the cost or failure" when the buck stops?

The contractor or the person who should have verified the competence and qualifications prior to undertaking works or survey. This responsibility as the high court has stated, falls on the shoulders or guiding influence of the organisation, usually CEO or Manging director.

This action alone is required in law under section 2 & 3 of the Health and Safety at Work Act.

Without data everything else is a guess but unfortunately a bad guess can result in serious health, financial and legal consequences.

While the cost of manging a property properly may seem high it can result in lower running costs in terms of complaint management, remedial actions, quite apart from increasingly likely fines and penalties.

Building Forensics have spent 40 years in the business and have supported parliament, government agencies, insurers, companies, and individuals. Were here to assist and can provide alternatives and answers others have yet to recognise.

End of Guidance Written by Jeff Charlton