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Mould

"Odour and health issues are indicators of mould."

Sick building or sick people, you may have a mould issue. Let us check it out ([click here](#)) or call 08700 789 999

If your building has been affected by a flood or a water leak and even condensation, the presence of moisture may result in mould which can affect your health. Symptoms can range from flu like to depression, asthma to respiratory problems, nose bleeds etc. We undertake surveys and audits of property to assess moisture problems and then if necessary sample the air, or surfaces to identify mould presence and possible hazards. Mould samples we take are sent to our lab where detailed analysis is provided which can assist in the support of your doctor or allergy specialist to identify allergen, Ige & IGG etc.

The following lab results show typical findings and in this example we find that several toxic moulds are present in a home where the residents were complaining and suffering from extreme mould exposure symptoms. It should be noted that mould not only affects health but can also destroy property and early investigation is recommended.

NEWS Children twice as likely to develop asthma when exposed to mould! [click here](#)

Mould

Mould spores are naturally found everywhere on planet Earth. Unfortunately it's natural role in life is to decompose dead organic material, and that's exactly what most of our building or decorative finishes are made of.

When a property has been affected by moisture, in circumstances such as a leak or flood, or even sustained high humidity, the spores which are everywhere waiting to germinate grow. Water in buildings can create absolutely ideal conditions for growth. All mould is now considered allergenic with some being toxic and health effects can be quite serious if, exposed persons are hyper allergenic, or their immune system has been affected or not yet developed. This can include the young who's system has yet to develop, the old or people who are on long term prescription drugs etc.

Typically exposure to hidden or visible mould can result in a variety of effects from flu like symptoms to nose bleeds, coughing up blood and many serious chronic and acute conditions. Prevention techniques should be utilised and where unsuccessful, correct remediation and decontamination procedures must be followed. It should be understood that mould is a complete life kingdom and was on planet earth million of years before mankind. It has developed dramatic self preservation capabilities. Mould is the basis of all antibiotics and even small mounts can have significant effect to human health. The chemical contents of the mould spore are known as metabolites and some of these are mycotoxins, which are in effect mVOCs Microbial Volatile Organic Compounds. It is these chemicals which cause the health problems and as chemicals may not be killed or destroyed by the application of biocides such as bleach which when applied may simply alter or change or release the chemical content into something unknown or more toxic.

The application of Biocides to mould affected areas is not recommended. Mould can develop from long term problems such as leaks or condensation or single events such as flooding. Either way the source of moisture must be removed and thorough decontamination undertaken prior to any restoration procedures. Most importantly, any person exposed to mould is likely to suffer health problems unless properly protected.

What is Mould?

 Mould is the planet Earths natural clean up system, eating dead or

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decaying organic or cellulose material. All mould is allergenic and some are toxigenic. While live or viable, mould requires certain levels of moisture and temperature to flourish. Drying out water damaged buildings may cause spore release as the mould recognises the threat to its existence.

- ⚠ Hundreds of thousands of mould types exist and while some are useful and symbiotic often used by humanity for benefits, beer, bread, antibiotics, many cause health effects.
- ⚠ Some moulds are known to be toxic, about 16 types only, have been identified but unfortunately they are often found in post flood or water damage events in homes and buildings.
- ⚠ Typically exposure to any mould can cause allergenic effects such as skin rash, flu like symptoms and even depression. Typical toxic types such as *Aspergillus*, *Stachybotrys*, *Trichoderma* create extremely toxic mycotoxins, these known as T2 toxins are used by the military as chemical weapon agents.
- ⚠ The toxins naturally contained in these moulds can cause severe health problems and typical symptoms can include coughing up blood, nose bleeds and in worse cases, lung, liver brain and kidney cancer is thought to be possible.
- ⚠ Destroying or neutralising mould safely, is extremely difficult. This is because the mould spore can contain various toxic chemicals which may be released when the spore is destroyed or ruptured thereby releasing the most toxic or allergenic chemicals.
- ⚠ The average size of mould spores is between 1 and 20 microns depending on the type. Respirable particles are seen as less than 7.5 micron with smaller size less than 2.5 micron being seen as the most dangerous as they can lodge in deep lung tissue where they can be infused directly into the blood stream.
- ⚠ When mould is killed by chemical application or biocide, the spore will either rupture or decay and the result may be the release of sub micron particles covered in the toxin. These may be inhaled and be the cause of significant health issues.
- ⚠ Mould produces enzyme which are used to digest the food source. this can be seen as a roots which once established in porous materials are difficult to remove and even after cleaning, sanitation or application of fungicidal paints they can re grow when conditions are suitable. Straight application of disinfectant or stabilisers can destroy the mould cell wall, but chemicals held within the cell are released creating toxic dust.

Moulds, both viable and non-viable are easily monitored and health concerns can be identified or refuted by scientific analysis. This means live or dead they can cause bad health and even mould long dead and materials dry their allergenic or toxic effects can still present problems.

Generally, porous materials where mould growth has established should be disposed of and non-permeable surfaces should be cleaned. Dust control is essential in mould remediation and the use of HEPA dust filters on equipment is recommended. The USA typically uses asbestos type abatement techniques to control mould and mycotoxic dust. Measurement techniques to identify toxicity issues are now available.

Mould is seen in the USA as the new asbestos. Mould is a serious threat, it can initially be identified by its musty odour and black or coloured marks on surfaces but where conditions may have been right mould should be considered possibly hidden in cavities or hidden areas. Poorly dried homes or buildings generally can result in substantial health threats from either live or dead mould.

Mould can be a health threat even when dead or inactive. Mould spores cover the planet, they are the planets cleaning system, eating and decomposing dead life forms including cellulose, which in a building includes:

- ⚠ Wood
- ⚠ Wallpaper
- ⚠ Paints
- ⚠ Wallpaper Glue
- ⚠ Plasterboard, especially the rear or back hidden side in cavity walls.
- ⚠ Fabrics
- ⚠ Books, documents, leather goods, chipboard, furniture, etc, etc.

Mould can even be seen to form on glass windows, where an invisible bio film can support them.

Mould usually grows where a building is wet or moist, its internal growth requirements are not "normal conditions" and are basically but not always the following conditions may be conducive to growth.

- ⚠ Where wet or flood affected homes have been dried slowly (over 3 days) or poorly where drying procedures did not achieve satisfactory drying goals, mould health or structural issues may be present.
- ⚠ Ideal conditions are usually but not always where relative humidity is over 65% and temperatures are around 20 Centigrade and 70 Farenheight.
- ⚠ The Government and ABI (Association of British Insurers) support the independent laboratory CIRIA who confirm that where a building has been water damaged and not dried within 3 days toxic mould may grow and that those vulnerable should not live in the property. Most significantly they advise that contractors working in the property should wear a respirator fitted with a toxic gas cartridge. see <http://www.ciria.org/flooding/disinfection.htm>

How Dangerous is Mould

Stachybotrys and Trichoderma are typical of the toxic moulds of which only 16 of the several hundred thousand species are known to be toxic. Mould claims have devastated the American insurance industry in claims where poor or incompetent flood restoration resulted in serious health issues. Although present in the normal the indoor environment, significant growth may be triggered following a water damage or flood event not properly treated.

Environmental conditions can trigger the formation and release of mycotoxins which are known to be amongst the most toxic of all natural chemicals. Stachybotrys and other toxic moulds, are used for biological warfare agents, known as T2 toxin they have successfully killed thousands in Afghanistan and Laos. The moulds which produce these toxins can grow quite easily in buildings affected by water damage.

Mould advice

As mould spores are always present it should be seen as normal, however due to today's building construction "tight buildings" limited ventilation, high temperature and substantial food sources mould can flourish inside our living environment. Mould can also proliferate where condensation forms. Mould is more likely to flourish after water damage incidents and the following guide should be followed:

- ⚠ Remove standing water
- ⚠ Install dehumidification
- ⚠ Regulate and control the temperature
- ⚠ Introduce air movement
- ⚠ Introduce UV light where practical
- ⚠ Control heating, to prevent uncontrolled evaporation.
- ⚠ Mould prefers dark moist areas such as voids, cavities, stud walls, behind wall pictures, etc.
- ⚠ If mould has flourished it should be carefully removed and decontamination follow
- ⚠ Mould remediation is a relatively new process and care is essential to prevent spores and mycotoxins becoming airborne or spreading.
- ⚠ The use of negative and positive pressure systems should be considered.
- ⚠ The use of special filter systems may be required to control spread of contamination.
- ⚠ The use of "Negative Air Pressure may also be a necessary control factor.
- ⚠ Do not use biocides, clean and remove.

Mould Indicators in Water Damage

- ⚠ When windows form condensation, drying is uncontrolled and mould is possible.
- ⚠ Odour or visible staining.
- ⚠ Allergic reactions – sore eyes or throat, runny nose, rash, asthma etc.
- ⚠ Unexplained or continuous illness
- ⚠ Structure or contents left wet for more than 3 days (see) <http://www.ciria.org/flooding/disinfection.htm>

How to prove Mould Clearance

Various testing procedures can be employed to identify if toxic or allergenic mould is present. It should be recognised that previously accepted methods of swab and culture analysis may not be sufficient as the testing for dead mould or mycotoxins would not be identified as they would not grow on culture plates. There is therefore a need to employ environmental hygienists with a knowledge and capability of total assessments.

These would include;

- ⚠ Non viable air and surface sampling
- ⚠ Tape lifts
- ⚠ PCR Polymerised Chain Reaction
- ⚠ Viable, air and surface sampling
- ⚠ Visual assessments
- ⚠ Continuous assessments of work in progress

Sampling should only be undertaken to prove or deny a hypothesis and careful consideration together with planning is necessary to avoid expensive useless data collection. Remember that if mould develops after a flood event it may be the responsibility of the contractor who restored the initial damage! (See claims and liability issues)

Information for Employers

- ⚠ Mould is allergenic and may be a major component of Sick Building Syndrome.
- ⚠ Where suspected buildings are investigated mould is visibly present in over 40% of cases.
- ⚠ Apart from visible mould, hidden reservoirs may exist, some perhaps from previous flood or water damage events.
- ⚠ Liability issues may develop from affected employees.
- ⚠ The New York Guidelines describing mould remediation procedures should be inspected to consider how an American "state" has identified just how important correct remediation is to prevent both health and liability issues. While these guidelines were the first to be developed for mould remediation they have been subject of much debate and development. ([click here](#))for guidelines

Health issues are now well documented and the following are suspected or proven effects:

- ⚠ Depression
- ⚠ Nose bleeds and coughing up blood
- ⚠ Flu like symptoms
- ⚠ Brain Haemorrhage and some forms of Cancer
- ⚠ Asthma
- ⚠ Low Blood Pressure
- ⚠ Spontaneous abortion

Some moulds typically Stachybotrys Atra and Aspergillus produce two of the most toxic natural chemicals known to man and their mycotoxins are used as chemical warfare agents.

Inspection

When mould is suspected several factors should be considered which include:

- ⚠ Cause and remediation i.e. leak
- ⚠ Condensation or heating programme
- ⚠ Rising Damp and Leaks
- ⚠ Water Damage
- ⚠ Historic water damage
- ⚠ Visible mould
- ⚠ Staining to Walls and Floor coverings
- ⚠ Odour
- ⚠ The health or absence of employees

Sampling

- ⚠ Various sampling techniques are available to identify both viable and non viable spores. This is dead and alive moulds which are equal health threats.
- ⚠ Dead mould produces mycotoxin which are the remains of chemical products, which were part of the mould metabolic processes. These particulates can be easily inhaled, ingested and may also be absorbed through the skin.
- ⚠ Sampling techniques can identify all types of contamination including the mycotoxins and even old or past water restoration can be checked several years after the believed sanitation.

Insurance Claim Closure and Litigation

- ⚠ Long tail claims may be possible due to latent damage defects and the Defective Premises Act 1972, which allows up to 15 years to formulate a claim for mould, rot. Latent damage claims can extend even further.
- ⚠ Health claims from exposure, may result in claims of poor remediation causing asthma and other allergies and sensitisation and these may be instigated within 3 years after the first suspicion or cause was identified. This generally allows health claims for almost any period of time.
- ⚠ These claims can be brought 3 years after diagnosis and identification of possible cause.
- ⚠ Bearing in mind civil litigation only requires a balance of probability to obtain a victory for the claimant. Tort law may result in substantial damages unless Insurers or contractors can prove competent water damage restoration.
- ⚠ Employers are advised to ensure full and competent restoration is undertaken to avoid future health claims from employees.
- ⚠ Free legal help is now available to undertake these claims from CFA (conditional Fee arrangement) solicitors.

Claim Closure

Competent evaluation of pre and post incident, which may include air and contact sampling, together with controlled drying and decontamination. Final clearance is necessary to confirm levels and types of mould are within average or acceptable levels. This clearance will require sampling of surfaces and air to compare with other areas, initial results and interpretation by environmental hygienist.
See Water Damage section

Services we provide

We provide protocol for either mould identification, prevention or decontamination. Mould sampling and clearance evaluation. We also provide all contractor support requirements including method statements and continual third party evaluation to ensure thorough and complete decontamination procedures have been followed. As expert witness we provide a balanced view on cause effect and possible responsibility. Please contact us for free estimate.

Contact us [click here](#)

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