Toxicology

This is the most straightforward but technical of all our investigative services. We simply sample the required or suspect surfaces and air. We use state of art equipment with support from leading laboratories.

Toxicity of Mould

Toxin sampling We provide mould spore and fragment sampling as a standard service but sometimes the presence of mould related toxins is suspected. Here we undertake state of art sampling and analysis to identify residual toxins so often left after usual cleaning or mould removal.

Mould uses various toxic chemicals to protect its domain from other moulds and bacteria. These chemicals are amongst the most toxic natural chemicals on the planet. Many mould mycotoxins are used by drug companies in Chemotherapy, anti transplant rejection drugs. When mould toxins can turn off immune systems and kill tumours they can also have very unpleasant side effects for people living or working in mould contaminated properties. Most would recognise the side effects of chemotherapy, but few would identify the similar effects suffered from mould exposure.The effects can be most similar with tremors, sickness, fatigue etc. The potency of mould should not be underestimated and Penicillium is just one everyday example of mycotoxin use.

The following table shows some of the toxins we sample for but it should be noted we usually specify qualitative testing rather than the more expensive quantitative tests. The reason apart from cost is that there is no safe level of exposure so whatever the level it should not be there and should be removed.

These toxins known as Cytotoxin and Neurotoxin were combined by Institute of Medicine to create the term toxic mould which was thought to be less scary.

The toxins can affect the endocrine system and penetrate the blood brain barrier sometimes causing Chronic Inflammatory Response Syndrome , known as CIRS. See (medical support section)

Mycotoxin test 1

- Trichothecene
- Roridin A-E-H and L-2
- Saratoxin G-H
- Verrucarrin A-J
- Verrucarol
- Isosatratoxin F

Mycotoxin test 2

- Aflatoxin Total
- Deoxynivalenol (0.2ppm)
- Zearaleone (50ppb)
- T2 (50ppb)
- Ochratoxin A (5ppb)
- Level of detection ppb

A full air scan This is undertaken with a small pump and multi-matrix sorption tube that is designed to trap a wide range of compounds from the air. These include both polar and non-polar compounds. After sampling, the sorption tube is sent to our lab for the qualitative and quantitative identification of over 350 compounds.

What kinds of compounds are determined by the air scan? The 350 plus compounds determined include aldehydes, esters, halogenated, alcohols, hydrocarbons, nitro-nitriles, ketones, aromatics, and sulfides. A specific list of compounds can be found below.

Door pressure unit to create pressure differentials

Blowing dust to assess debris and particulate contamination

Sub-Slab Sampling

Sub-slab sampling is undertaken to look for and identify chemicals that are diffusing into the occupied space from under a concrete floor. The chemicals were spilled before the floor was poured, were spilled after the floor was poured and seeped down through cracks, or migrated under the slab through the groundwater. The air scan is ideal for sub-slab sampling because there is no need to destroy the floor to take a sample of the soil/sand/gravel underneath. All that is needed is a 3/8 inch diameter hole through the concrete at the desired location and air is sucked into sorption tubes

Mould Sampling

Where mould and mycotoxins sampling is required we use either Total Spore Counts and or PCR -DNA for the most accurate overview.