

# Mould Busters Ltd

## Mould Analysis Report



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# Mould Busters Ltd

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### Qualifications:

Bachelor of Science (Honours) in Ecology & Environmental Science, Leicester University Diploma (including ecology & parasitology), Diploma in Environmental Development, BICsc 1 & 2.

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Mould Busters Ltd was tasked by the Community Action Network of 24 Gardiner Place, Dublin 1, to undertake mould sampling in 4 locations in Dolphin House, Dublin 8.

The addresses to be tested were:

16 Dolphin House	Living Room
240 Dolphin House	Bathroom
360 Dolphin House	Bedroom
374 Dolphin House	Master Bedroom

The method of this testing involved exposing opened Sabouraud Dextrose Agar plates (Petri dishes) to the indoor air for a period of 24 hours. The Sabouraud Dextrose Agar is specified for the detection of fungal contamination. The plates were sealed after 24 hours and Mould Busters incubated them to see what fungi were present in the rooms that were examined.

Testing occurred between 19<sup>th</sup> and 20<sup>th</sup> March 2011; 11am to 11am.

The results are detailed below.



Photograph of cultured sample plates.

NOTE: Sample 2 is void due to occupants children tampering with the sample plate.

**Results:**

- Sample 1 41 Colony Forming Units (CFUs)
- Sample 3 Over 100 Colony Forming Units (CFUs)
- Sample 4 11 Colony Forming Units (CFUs)

Microscope analysis of the mould colonies indicated the presence of *Aspergillus fumigatus*, *Penicillium spp* and *Rhizopus spp* on all test plates.

## Health Implications

Exposure to mould and mould spores in indoor air in some settings may present a significant threat to health.

Aspergillus can be allergenic, causing irritations of eye, nose, throat, and lungs. Penicillium, the basis for most antibiotics, is an allergen for a large number of individuals. All moulds may be potentially toxic if large enough quantities are ingested, or the human becomes exposed to extreme quantities of mould. Mycotoxins (mainly from Stachybotrys) can be found on the mould spore and mould fragments, and therefore they can also be found on the substrate upon which the mould grows. Routes of entry for these insults can include ingestion, dermal exposure and inhalation.

Health problems associated with high levels of airborne mould spores include allergic reactions, asthma episodes, irritations of the eye, nose and throat, infections, sinus congestion, and other respiratory problems. When inhaled by an immunocompromised individual, some mould spores may begin to grow on living tissue, attaching to cells along the respiratory tract and causing further problems.

Susceptibility of individuals to mould-related symptoms can vary, depending on the amount and type of mould and the length of exposure. People with weaker immune systems, such as infants, the elderly and the chronically ill, are most at-risk when exposed to mould.

A variety of physical symptoms have been associated with mould exposures through inhalation or skin contact:

- Nasal or sinus congestion Asthma aggravation
- Dizziness Headaches
- Sneezing Eye irritation
- Sore throat Fatigue
- Cough Nausea
- Skin irritation (rash or itching)
- Diarrhoea

## Conclusions

- All viable plates showed very high numbers of Colony Forming Units (CFUs).
- Extrapolation from the CFU numbers indicates much higher than normal concentrations of mould spores in the indoor air.
- Visible mould growth in the properties, as seen during testing, is consistent with Medium to High mould infestation as defined by the US EPA.
- The presence of *Aspergillus fumigatus* raises concern due to its association with a range of pulmonary ailments.
- The nature and extent of the mould present in these dwellings poses a potential health risk to the occupants.
- In order to restore the dwellings to a safe and healthy standard, each affected property in Dolphin House should be given a rigorous mould remediation by a professional remediation company.