



June 2009, Vol. 1

## Lab Results can be Misleading

A summary from a recent EMSL article explains that relying on laboratory results can be misleading. It is found that sample results from fungi and fungal spores are highly variable even under the most controlled sampling conditions. As such, laboratory results alone should not be used as the lone determining factor as to fungal contamination. Site visual inspection, location, nearby land use, site history, identifying indoor micro-climates, and interviews with occupants should play a major role in your result interpretation.

It should be noted that many factors contribute to fungal counts. In fact, variability can be observed in samples that are taken just a few minutes apart. This can lead to incorrect conclusions.

It has also been observed that different sampling devices have different collection efficiencies dependent on spore size. This variation can be significant. These collection efficiency differences are not typically taken into account by labs, so a lab that offers you statistical data interpretation, a score, or tells you whether your samples have elevated mold levels may not be providing the type of information you need for defensible recommendations.

## Particles Down but not Out

An interesting study reported on the concept of secondary aerosolization and indicated the biggest cause of resuspension of particles is cleaning activities. The report states that different activities produce different resuspension rates. Resuspension can be caused by HVAC air handling and occupant activities including floor/duct vibration, walking, electrostatics and other turbulences. Generally, the higher the intensity perturbation, the higher the resuspension rates. Resuspension rates are also higher for super-micron size particles. Also, different allergens with different particle sizes resuspend at different rates. For example, it was found that dust mite residue may resuspend and stay airborne for 30 minutes while dog/cat residue may stay airborne for 24 – 48 hours. In addition, it was noted that lower relative humidity levels produced higher resuspension rates.

## Ventilation

One way to combat indoor air pollution is through ventilation that provides a source of fresh air as well as sufficient air movement. Unfortunately, ventilation in both new and old buildings is frequently inadequate. Most older buildings do not have a mechanical ventilation system. While some fresh air may enter through doors, windows and cracks, it is often not enough. New buildings with sealed windows present their own air quality problems relying solely on mechanical ventilation. However, they often fail because of contamination, blockage or other problems.

## Featured Product



### The **VECTORFlo** PCO2450 Photocatalytic Ultraviolet Air Purifier

The The VectorFlo® PCO2450 (Photocatalytic Oxidation) Air Purifier features the patented VectorFlo® semi conductor, designed to deliver a high performance kill rate unmatched by other ultraviolet air treatment brands. The VectorFlo® venturi design creates a low pressure zone around a high output UVC germicidal lamp. Airborne germs, bacteria, and gaseous contaminants are slowed in the air stream increasing the exposure time interval where it is introduced to a highly effective photocatalytic air purifying process.

## IAQ & Respiratory Ailments

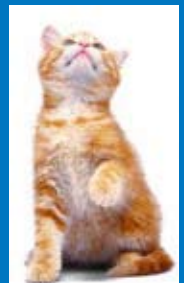
Approximately 26 – 30 million Americans have been diagnosed with asthma in their lifetimes. Of those, 30% are under 18 years of age. Interesting statistics tell us that 8% of residents living in homes built before 1971 have asthma. While 17% have asthma living in homes built between 1985 – 1996.

### Factoids

There is a possibility of 53 different chemical substances released from recently dry cleaned clothes. 66% of which are controlled and regulated by OSHA. A single carpet can off-gas 100 different chemicals.

### Definition

Allergens are foreign substances, often plant and animal proteins, such as pollens, excretions from cockroaches and dust mites, and dander from household pets. In susceptible individuals, allergens induce a specific type immune response that produces allergic, or IgE, antibodies. This production of allergic antibodies can result in the symptoms of allergies.



### Specifications

- QuartzCoat® Durability
- 5 Year Ballast Warranty
- Effective Lamp Life 18,000 hours (2 year lamp replacement)
- For additional information about this product & more, please click the links below:  
[http://www.generalaire.com/catalog/categories/564-UV\\_Air\\_Purifiers](http://www.generalaire.com/catalog/categories/564-UV_Air_Purifiers)  
<http://www.generalaire.com/literature>