Indoor Air Quality Test Types

Indoor air quality testing pricing depends on the types and number of samples collected (i.e., number of areas). A minimum of three samples per type of test is recommended (complaint area, non-complaint area, and outdoors background). While sampling is expensive, Clients should keep in mind that the greater the amount of data collected, the more representative the results. Sampling should be performed on a representative day; Clients should consider whether they wish to conduct more than one day of sampling to improve the reliability of the results.

The most frequently requested types of tests are listed. Although these tests do not eliminate every potential cause of poor indoor air quality, they do attempt to identify the most frequently occurring problems.

Total Airborne Mold Spores

Indicates whether or not the air has become secondarily contaminated by mold spores that can be generated by reservoirs of mold growth. Mold growth is caused by moisture intrusion (flooding or wetting) issues and occasionally by high humidity conditions and is one of the most common indoor air quality problems.

Other Biological Particles (Mold Sample Supplement)

Must be collected along with total airborne mold spores. Indicates whether certain allergens (such as pollens, dust, fibers, insect parts, dust mites) are airborne. Airborne skin cell counts help to indicate overall cleanliness of the environment.

Mold Surface Samples (i.e., not an air test)

Indicates whether or not mold growth or abnormal spore deposition due to secondary airborne contamination is present on a surface. Useful when proving growth is present on a particular surface (for legal or insurance reasons), or to determine if high airborne concentrations subsequently require environmental surfaces to be decontaminated due to settled spores.

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Carbon Dioxide, Carbon Monoxide, Temperature and Humidity

Basic tests of indoor air quality. Carbon dioxide is a normal part of human respiration and is only toxic at extremely high levels. Rapid rise in carbon dioxide levels indicate inadequate fresh air being brought into the building, and often is accompanied by a feeling of "stuffiness" and some mild symptoms, such as tiredness. Temperature and humidity are for comfort. Humidity can impact mold growth, especially within the air conditioning system, and the presence of dust mites. Carbon monoxide is a product of combustion and is toxic. Poor ventilation, temperature, and humidity control is one of the most frequently occurring indoor air quality problems.

Volatile Organics via TO-15 w/Tentatively Identified Compounds

A very sensitive test that determines the total amount of volatile organic compounds as well as identifying a large number of volatile organic compounds that may be present. Volatile organics are frequently responsible for odors, and are associated with many industrial chemicals and cleaning products. Many are irritating or toxic. Especially useful when industrial processes or chemical usages nearby may be effecting the indoor air quality.

Particulate Testing: Ultrafine Particles or PM-10

Particulate matter can be irritating to the respiratory tract. This testing indicates whether or not dust levels are within acceptable levels.

- The real-time Ultrafine Particles meter indicates whether particles in the ultrafine range are elevated. Ultrafines can emanate from a variety of equipment and processes, such as dry toner copiers and printers, water heaters, furnaces and boilers. Ultrafine testing must be separate from VOC testing.

- PM-10 testing includes ultrafines and larger particles and is easier to compare against EPA and ASHRAE standards than ultrafine data alone; however, health studies seem to indicate that particulates in the ultrafine range are more problematic for human health than the larger particles that would be included in PM-10 testing.

Formaldehyde/Aldehyde Scan

- Formaldehyde may off-gas from furniture, especially those made from plywood or particle board. It is more commonly found when furnishings are new (less than a few years old) and manufactured in Asia or Mexico. Formaldehyde is a primary respiratory tract irritant.

- An aldehyde scan includes formaldehyde and is more comprehensive than searching for formaldehydes alone. Just as formaldehyde can be off-gassing from manufactured wood products, so may other aldehydes, such as hexaldehyde and acetaldehyde. In GSC's experience, in recent years many other aldehydes may be present in manufactured wood products that can significantly impact indoor air.

Ozone

Ozone can emanate from poorly functioning high energy electronic equipment, such as laser copiers and printers. Ozone is a primary irritant.

Asbestos

If suspect or known asbestos containing materials are present, they can be analyzed for asbestos content, or air samples can be collected to determine if airborne exposure is present.

Other Items

GSC has the capability to test for nearly any chemical or biological agent, including sewage contamination, bacteria levels, LEED certification, Chinese drywall off-gassing, legionella bacteria, Cryptococcus (from pigeon droppings), and Valley Fever. Please contact us with specifics for further discussion and pricing.

Chamber testing of suspect off-gassing building materials is also available for analysis by TO-15 or Aldehyde scan. This technique is very useful in identifying which building materials are actually off gassing chemicals that are impacting indoor air quality so that they can be identified for treatment or removal.