# Indoor Air Quality

**Media attention and employee concerns about the quality of air in the workplace are continuing to rise,** particularly with the recent attention that mold has received. Various government agencies are evaluating the issue and formulating positions.

Indoor air quality complaints can range from headaches or vague symptoms of malaise to sneezing and wheezing from mold allergies, to the sometimes-fatal Legionnaires' Disease. More and more attention is being given to "sick buildings." Building owners and employers confronted by complaints of discomfort or ill health must respond with understanding and sound procedures to investigate the issues and correct any deficiencies.

Apex uses a practical approach designed to solve the problem and minimize the cost. We specialize in promptly identifying indoor air quality problems to prevent rumor and speculation from running rampant. Apex has the field experience to avoid expensive long-term studies. Our focus is to fix the problem to protect employee health and reduce liabilities.

To reduce the need for crisis response, Apex recommends that proactive measures be taken to reduce the potential for air quality problems. This demonstrates to employees and tenants that a safe workplace is in the interest of the employer and building manager.

## Investigation Procedures

Apex provides high-quality expertise with Certified Industrial Hygienists supplemented by building engineers, ventilation specialists, architects, and toxicologists. During a site investigation, Apex works closely with the client to identify practical solutions.

**A typical assessment includes the following:**

- Interviews with building occupants
- Facility inspection and site history
- Ventilation system evaluation
- Air quality monitoring, if warranted
- Mitigation planning
- Training
- Follow-up assessment

## Qualifications

Indoor air quality assessments are complicated and require an understanding of ventilation systems; microbiological, chemical, and physical contaminants; toxicology; building materials; building maintenance; building design and engineering; illumination; vibration; and ergonomics.

Apex's indoor air quality team of certified and staff industrial hygienists, mechanical engineers, toxicologists, chemists, and microbiologists provides a strong core group. They stay current on evolving indoor air quality issues and mitigation techniques to support our clients' needs.

We also maintain relationships with leading microbiology laboratories to ensure the highest quality and defensible data when air, wipe, bulk, or water samples are collected.

## Mold

Airborne fungi and bacteria are a natural phenomenon, typically present in both the outdoor and indoor air. Indoors, building related conditions, such as roof leaks, high humidity and floods/water damage or leaks, provide an opportunistic environment for fungal and bacterial growth and amplification. Health complaints (e.g., hypersensitivity pneumonitis, asthma, allergic rhinitis) have been associated with elevated indoor levels of fungi or bacteria, due in part to building-related amplification and dissemination of these organisms. There are currently no widely-accepted regulations or standards for acceptable or "safe" exposure levels to bioaerosols indoors. There is sufficient evidence, however, that exposures to elevated concentrations of bioaerosols can cause allergic reactions and indoor air quality complaints by certain individuals. Regardless of whether mold spores contain mycotoxins or proven pathogens, exposures to all mold spores (viable and non-viable) should be minimized indoors to the maximum extent feasible.

Representing insurance companies, property owners, developers, and legal teams, our team has collected thousands of air, wipe, and bulk samples for microbial analysis. We also provide for design of remedial strategies for mold, and training of workers for mold hazard awareness.

## Serving Clients Nationwide

Apex has conducted indoor air quality studies in diverse environments such as office buildings, schools, manufacturing plants, utilities, hospitals, museums, restaurants, retail stores, apartment buildings and military facilities. This diversity has given us experience with both common and elusive problems.

**Private Hospitals** Apex provided mold contamination consulting services to a hospital facility that had significant mold contamination from a ruptured water supply line. A large portion of an entire floor devoted to patient critical care was impacted. Apex identified the extent of mold contamination, and directed a remediation contractor to abate the mold hazards. We collected air, wipe, and bulk samples for mold identification and speciation during the project. Drywall, insulation, and ceiling tiles were mold contaminated, resulting from the water leaks. The project was unique as it took place in a functional hospital. Therefore, it was critical that proper engineering controls and industrial hygiene practices be followed to protect the building occupants from mold exposures during the remedial work. Apex conducted visual inspections and collected air samples following the remedial work for site clearance.

**Developers** Apex provides ongoing mold consulting services to major developers. We provide site inspections of buildings under construction for mold contamination. Certain projects have been found to have wood truss systems and other building materials delivered to the construction site that exhibit mold growth. In other cases, development projects suffer mold contamination due to water incursion during the construction phases. Apex works closely with the developers to assess mold risks at their projects, and develops site-specific remedial strategies.

**Insurance Companies** Apex staff has worked for major insurance carriers evaluating mold contamination resulting from hurricanes and floods. Buildings that were assessed included shopping centers, commercial buildings, government buildings, and hotel complexes. Apex staff conducted comprehensive sampling of fungi and bacteria to determine the extent of mold growth on building materials. The data from the air, wipe, and bulk samples were used to develop a remedial work plan to mitigate mold contamination and reduce liabilities for mold exposure claims.

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