

Indoor Air Quality & Industrial Hygiene Monitoring Plan – Appendix B: Types & Sources of IAQ Contaminants

Contaminants that can negatively contribute to indoor air quality can be divided into one of several categories:

- Chemical – These can be in the form of gases and vapors. Examples include: paints, adhesives, combustion by-products, off-gassing furniture, chemical spills, and radon gas.
- Biological – This includes bacteria, viruses, fungi, animal dander, dust mites, pollen and gases/odors from biological decomposition.
- Particulate Matter – These can be either solid or liquid substances that remain suspended in air. Examples include: common dust, silica dust, dirt, aerosols, fibers, mists, and smoke
- Other Factors - Temperature, humidity, water intrusion, air flow, air volume, air exchange rate.

Contaminants can be introduced into the workplace by means of the following:

- Outdoor Migration - Contaminants are introduced into the indoor environment through building ventilation systems, open doors and windows, foot traffic, products introduced from outdoors, and building leaks.
- Indoor Migration – Contaminants can migrate from one part of a building to another via building ventilation systems open doors, shared plenums, leaks in walls, ceilings, floors, and the breakdown and failure of hazard controls in areas where the contaminants are normally found.
- In Situ Generation – Contaminants may be localized to specific areas when hazards are not properly assessed, chemical handling or restrictions are not recognized, trash is not regularly removed, or surfaces are not regularly cleaned.
- Combinations – Some indoor air quality concerns result from a combination of the above factors. For example, mold spores that enter via the building ventilation system or via foot traffic may germinate in the presence of moisture and materials containing cellulose (e.g., drywall, fabric, etc.) resulting in active mold growth.

In general, symptoms related to poor indoor air quality vary depending on the type of contaminant, some common health indicators of indoor air contaminants include:

- Irritation of the eyes, nose, and throat
- Headaches, dizziness, and fatigue
- Respiratory diseases, heart disease and cancer

Many of the symptoms listed above resemble symptoms associated with allergies, stress, colds, and influenza. A difference between these conditions and a potential indoor air quality condition is that individuals may feel ill while inside the workspace in question and symptoms disappear shortly after leaving the workspace, e.g., weekends, vacations, etc.).

Individuals concerned about the signs or symptoms of health conditions that they may be experiencing or exhibiting that they believe are due to indoor air quality conditions should keep notes over time of the dates, times, and location that they experience such conditions. They should also document the conditions under which they are relieved of such signs and symptoms. Detailed observations of these factors as well as workplace conditions, i.e., activities, odors, observations, etc.) help responding departments to reach a meaningful resolution to reported IAQ concerns.