



## **Building Air Quality**

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### **Building Occupants and IAQ**

This information is intended to help people who work in office buildings learn about the factors that contribute to indoor air quality and comfort problems, and the roles of occupants in maintaining a good indoor environment.

### **Why is Indoor Air Quality Important?**

Indoor air quality is a major concern because it can impact the health, comfort, well-being, and productivity of building occupants. In addition, most Americans spend up to 90% of their time indoors and many spend most of their working hours in an office environment.

While most buildings do not have severe indoor air quality problems, even well-run buildings can sometimes experience episodes of poor indoor air quality.

### **Factors that Contribute to Indoor Air Quality**

Indoor air quality is a constantly changing interaction of many factors that affect the types, levels, and importance of pollutants in indoor environments. These factors include: sources of pollutants or odors; design, maintenance and operation of building ventilation systems; moisture and humidity; and occupant perceptions and susceptibilities. In addition, there are many other factors that affect comfort or perception of indoor air quality.

Controlling indoor air quality involves integrating three main strategies.

- Manage the sources of pollutants either by removing them from the building or isolating them from people through physical barriers, air pressure relationships, or by controlling the timing of their use.
- Dilute pollutants and remove them from the building through ventilation.

Use filtration to clean the air of pollutants.

### **Factors that Affect Occupant Comfort and Productivity**

A number of environmental and personal factors can affect how people perceive air quality. They include:

- Odors
- Temperature -- too hot or cold
- Air velocity and movement -- too drafty or stuffy
- Heat or glare from sunlight
- Glare from ceiling lights, especially on monitor screens
- Furniture crowding
- Stress in the workplace or home

- Feelings about physical aspects of the workplace: location, work environment, availability of natural light, and the aesthetics of office design, such as color and style
- Work space ergonomics, including height and location of computer, and adjustability of keyboards and desk chairs
- Noise and vibration levels

Selection, location, and use of office equipment

### **Indoor Air Quality is a Shared Responsibility**

Some of the factors that contribute to poor indoor air quality may originate from inadequate heating, ventilating, and air-conditioning (HVAC) design. Some may be solely in the control of the building management, such as maintenance of the HVAC system, the amount of outside air being mechanically brought into the building, or the building's custodial activities. Others are largely in the control of building tenants and occupants, such as materials used in renovations, products and furnishings brought into or used in the building by occupants, or the type of work being done in the occupant's space (paper shredding, blueprint processing, computer repairs, printing activities, etc.). For these reasons, indoor air quality is a shared responsibility.

### **What Can Occupants Do to Improve the Air in Their Office**

- Do not block air vents or grilles.
- Comply with the office and building smoking policy.
- Water and maintain office plants properly.
- Dispose of garbage promptly and properly.
- Store food properly.
- Avoid bringing products into the building that could release harmful or bothersome odors or contaminants.

Notify your building or facility manager immediately if you suspect an indoor air quality problem.

### **What the Office Manager (Tenant) Can Do**

In leased space, the office manager or other person responsible for office policies and/or relations with the property owner is often in a position to directly impact indoor air quality in the space. The office manager should follow the business's internal procedures in dealing with the building management. Some of the things this person can do to improve indoor air quality include:

- Maintain a good working relationship with building management on indoor environmental issues.
- Arrange office furniture and equipment allowing for considerations of the HVAC system's air circulation, temperature control, and pollutant removal functions.
- Coordinate with building management in instances when the responsibility for design, operation, and maintenance of the ventilation system is shared.
- Establish a smoking policy that protects nonsmokers from involuntary exposure to secondhand smoke.
- Avoid procedures and products that can cause indoor air quality problems.
- Integrate indoor air quality concerns into your purchasing decisions.

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For more information on this or other subjects, please visit us at [www.baq1.com](http://www.baq1.com).

- Work with the building manager to ensure use of only necessary and appropriate pest control practices, and non-chemical methods where possible.
- Work with building management and the contractor before you remodel or renovate to identify ways of keeping building occupant exposure to pollutants to a minimum and to ensure that the air distribution system is not disrupted.

Encourage building management to develop a preventive IAQ program following guidance offered by EPA and the National Institute for Occupational Safety and Health (NIOSH).

### **What Building Owners and Facility Managers Can Do**

Understanding the role of the building management in maintaining a healthy and comfortable indoor environment is an important step in understanding how they fit into the picture.

There is an excellent guidance document written by the US EPA, and NIOSH which details indoor air quality from a property manager's perspective. Titled [\*Building Air Quality; A Guide for Building Owners and Facility Managers\*](#), it provides how-to guidance on managing indoor air quality in an occupied building.

Property management should ensure that someone on their staff has a copy of this document available, is knowledgeable of the lessons it offers, and understands how to use it should the need arise.