



ENVIRONMENTAL HEALTH AND SAFETY

SAFETY GUIDELINE Indoor Air Quality (IAQ)

Indoor air quality (IAQ) problems can result from many causes. This safety guideline discusses common causes of IAQ complaints, the steps taken in response, and tips for avoiding IAQ problems.

Non-Biological Causes

Building and non-building-related problems can sometimes result in IAQ complaints and/or occupant symptoms, such as:

- Renovation projects often generate dust and unpleasant odors, such as those from paint and tar.
- Odors from scented candles and other devices or perfumes/colognes
- Off-gassing from new furnishings, carpets, etc.
- Dry sink or floor drain traps that allow sewer gasses to escape
- Re-entrainment of vehicle exhaust or other odors through building openings
- Migration of odors or fumes from other work locations within the building
- Inadequate temperature control
- Inadequate humidity control
- Inadequate air distribution leading to drafty/stuffy rooms
- Inadequate lighting or glare
- Crowded rooms can lead to elevated levels of CO₂.
- Noise and vibration
- High concentration of office equipment (i.e., copiers, fax machines, printers, etc.) in small or poorly ventilated work areas
- Ergonomic stressors (i.e., improper workstation design leading to headaches, muscle aches, etc.)
- Personal factors, including stress at work or home, allergies, etc.

Biological Causes

Some biological agents can sometimes cause IAQ complaints. There are no OSHA standards for minimum concentration, and they can affect individuals differently.

- Bacteria, viruses, animal dander, house dust, mites, cockroaches, and pollen
- Animal or bird droppings
- Pest (rodents and insects) Infestations (See the [Pest Management Safety Guideline](#))
- Fungi/Molds spores

Fungi/mold spores are ubiquitous - they are found in all indoor and outdoor environments. They tend to thrive only when there is an available food source and when placed in a warm and moist environment. Water intrusion events (e.g., broken pipe, infiltration of rain or melting snow, sewer backup, etc.) can lead to mold growth on porous building surfaces (e.g., carpeting, drywall, ceiling tiles, etc.) and other non-structural material (i.e., paper, books, cardboard, etc.) as they provide a food source in the form of cellulose. Fungi/mold in buildings may cause or exacerbate symptoms of allergies, especially in persons with a history of allergic diseases (such as asthma and rhinitis), immunocompromised individuals, infants, and the elderly. However, the presence of fungi/mold indoors does not necessarily mean that people will be exposed or exhibit health effects. For humans to be exposed

indoors, fungal spores, fragments, or metabolites must be released into the air and inhaled, physically contacted (dermal exposure), or ingested. Whether symptoms develop in people exposed to fungi depends on the nature of the fungal material (e.g., allergenic, toxic, or infectious), the amount of exposure, and the susceptibility of exposed persons. Susceptibility varies with genetic predisposition (e.g., allergic reactions do not always occur in all individuals), age, state of health, and concurrent exposures. For these reasons, and because exposure measurements are not standardized and biological markers of exposure to fungi/mold are largely unknown, it is impossible to determine "safe" or "unsafe" levels of exposure for people in general.

Tips to Avoiding IAQ Issues

You can help to avoid IAQ problems in your work area by observing the following tips:

- Do not block or shut vents or building returns.
- Do not smoke or vape inside university-own vehicles and buildings or outside near windows or doors and air intakes.
- Store food in closed plastic containers.
- Dispose of food waste and wrappers in receptacles that are emptied daily.
- Do not overwater plants. Remove dead leaves. Break up dirt around the plant to avoid mold overgrowth in the dirt.
- Clean up water spills immediately.
- Report water intrusion, water leaks, and sewage problems IMMEDIATELY to the Facilities Management and Planning (FMP) Service Desk (402) 559-4050.
- Contact FMP to replace stained ceiling tiles and check for water leaks.
- Minimize accumulations of paper and cardboard.
- Clean your work area routinely. Remember, Environmental Services (EVS) does not clean horizontal surfaces.
- Avoid concentrating electronic office equipment within offices or other small or unventilated locations.
- Do not burn candles or have other scent-producing materials in the work area.
- Avoid portable humidifiers.
- Allow new furnishings to off-gas before placing them in your work area. High VOC (volatile organic compound) glues and particleboard furnishings tend to off-gas.

Reporting Problems

- **Water Intrusions/Water leaks**
Report all water intrusion or leak events IMMEDIATELY to the FMP Service Desk at 402-559-4050. Include all known information on the source and approximate quantity, affected areas, water-damaged materials, and whether the source has been controlled. Wet material left for more than 24-48 hours can lead to potential mold growth. Sewage backflows are serious and must be reported IMMEDIATELY to FMP so they can address the leak. FMP will work with EVS to clean the area and remove the affected materials. FMP will manage the response. Caution: Electrical shock hazards may exist during water/sewage releases.

The investigation and remediation are a joint effort between FMP, EVS, Environmental Health & Safety (EHS), and the person(s) reporting the problem. If the problem is strictly intrusion of clean water with no other complaints, the remediation will usually be limited to quick and thorough drying of the impacted area. If sewage or contaminated water was involved, some removal activities (i.e., removal of wet carpets, drywall, etc.) may also be implemented to prevent later problems with biological growth.

- **Indoor Air Quality Concerns**

Contact EHS at 402-559-6356 to report Indoor Air Quality Air concerns. Individuals should also complete a [Near Miss/Potential Hazard Form](#). EHS and/or FMP will investigate when a health-related complaint is received.

A typical IAQ investigation involves occupants completing an Indoor Air Quality Questionnaire, occupant interviews, on-site physical inspection, and some air quality testing. These steps assist in determining whether the problem is biological or non-biological, building or non-building related, transient or chronic, etc., and establish an appropriate remediation strategy.

Most IAQ problems or complaints can be remedied quickly. However, it may take more time to resolve in complex situations (e.g., large areas of suspect mold growth or multiple causative agents). In any case, EHS and FMP will make it a point to keep building occupants informed of progress in addressing the situation.