

How monitoring air quality increases business productivity?



Workplace air quality should be a major concern to businesses right across the UK, as it can impact the health, comfort, wellbeing, and seriously impact productivity of staff and business customers. **Especially since the pandemic.** Moreover, on average, office workers spend 37- 40 hours a week in office buildings. These workers may also study, eat, drink, and, in certain work settings, sleep in enclosed environments.

What can indoor air quality affect?

Symptoms related to poor workplace air quality vary depending on the type of contaminant. They can easily be mistaken for symptoms of other illnesses such as allergies, stress, colds and influenza.

The usual clue is that people feel ill or find it hard to concentrate while inside the building, and the symptoms go away shortly after leaving the building, or when away from the building for a period – over the weekend or a holiday. This is often known as *Sick Building Syndrome*.

The danger workforce feels constantly sick and unwell, it then it can have a detrimental effect on the business environment and its productivity and ultimately profits. If staff numbers drop it causes unwelcome disruption to the business and services.

Common pollutant categories:

Although there are numerous indoor air pollutants that can be spread through a building, they typically fall into three basic categories: biological, chemical, and particle.

Biological

Excessive concentrations of bacteria, viruses, fungi, dust mites, animal dander, and pollen may result from inadequate maintenance and housekeeping, water spills, inadequate humidity control, condensation, or water intrusion through leaks in the building envelope or flooding.

Chemical

Sources of chemical pollutants (gases and vapours) include emissions from products used in the building (e.g., office equipment; furniture, wall and floor coverings, pesticides and cleaning and consumer products), accidental spills of chemicals, products used during construction activities such as adhesives and paints, and gases such as carbon monoxide, carbon dioxide, volatile organic compounds, formaldehyde, and nitrogen dioxide.

Particle (Non-biological)

Particles are solid or liquid, non-biological, substances that are light enough to be suspended in the air. Dust, dirt, or other substances may be drawn into the building from outside. Particles can also be produced by activities that occur in buildings such as construction, sanding wood or drywall, printing, copying, and operating equipment.

What potential pollutants need to be monitored:

For indoor air quality checks to be comprehensive, there are a few potential elements and factors to bear in mind. Some of them are listed below:

Temperature

Air conditioning units are commonly found in offices across the UK. Some are used for purely cooling an office environment, whereas some are used to heat also.

Humidity

Optimum humidity levels in an office are between 40% and 60% - but in any case, they should be kept between 30% and 70%. Humidity levels below 40% will begin to cause problems for workers with conditions such as sinusitis.

Carbon Dioxide

Most heating, ventilation and air conditioning systems (HVAC) re-circulate a significant portion of the indoor air to maintain comfort and reduce energy costs associated with heating or cooling outside air. When occupants and building operators sense air coming out of an air supply duct, it's virtually impossible to judge how much of this air is simply re-circulated air and how much is outside air. Carbon dioxide is generated as a by-product of the respiration process and therefore high occupancy environments are prone to elevated levels of this gas.

Ensure adequate ventilation is available throughout communal areas and offices.

Formaldehyde

Formaldehyde is a commonly used chemical compound that exists in various forms and at room temperature, is a colourless, distinctive, strong and even pungent smelling, flammable and gaseous substance.

Formaldehyde has been used in several industries for various purposes e.g., for the manufacturing of building materials.

Volatile Organic Compounds (VOC's)

VOCs are gases that are given off by many indoor sources. Concentrations of most volatile organic compounds are higher in indoor air than outdoor air. VOCs include a variety of chemicals that can cause eye, nose and throat irritation, shortness of breath, headaches, fatigue, nausea, dizziness and skin problems.

Identification and assessment

Methods used in an indoor air quality investigation may include the following:

- identifying pollutant sources.
- evaluating the HVAC system performance.
- Observing work practices.
- Measuring contamination levels and employee exposures.
- Conducting employee interviews.

Failure to act as an employer

Failure of business owners and operators to respond quickly and effectively to indoor air quality problems can lead to numerous adverse health consequences. Health effects from indoor air pollutants may be experienced soon after exposure or, possibly, years later.

Symptoms may include irritation of the eyes, nose, and throat, headaches, dizziness, rashes, muscle pain and fatigue.

Diseases linked to poor workplace air quality include *occupational asthma* and hypersensitivity pneumonitis.

The specific pollutant at fault, the concentration of the exposure, the frequency and duration of exposure are all important factors in the type and severity of health effects resulting from poor air quality.

The age of employees and if they have a pre-existing medical condition such as Asthma or allergies may also majorly influence the severity of the effects. Long-term effects due to indoor air pollutants may include respiratory diseases, heart disease and Cancer, all of which can be severe

The solution PPE Safe-suite smart software solutions with remote analysis. A combination of monitoring co2 levels and pollutants without the fear of business disruption and staff sickness and loss of productivity.

Should you have any questions please call PPE Consultants Ltd on 0044 208 8708707. # environmental care # work and health# air pollution.