

## An introduction to indoor air quality in the workplace



**The quality of indoor air can have a significant impact on occupant perception of the workplace and their health. Ingress of pollutants from the external air to the building and impacts from materials and activities in the workplace can all have a negative impact on air quality if not understood and managed correctly.**

### WHY IT MATTERS

In the most extreme cases, poor air quality can lead to high numbers of building occupants suffering from workplace related illnesses, referred to as 'Sick Building Syndrome'. More commonly encountered though are building related illnesses where a few individuals become sensitised to microbial or chemical contaminants or broader occupant discomfort.

This introduction considers the air quality to workplaces such as offices and similar. Specific workplace exposures from work activities such as welding, stone cutting, etc can also cause illness and harm. These require further specific consideration and are covered by our Occupational Hygiene specialist team.

Common occupant complaints such as tiredness, dry eyes, itching, headaches amongst others can more often than not be attributed to poor indoor air quality and the scientific understanding on the health effects of fine particles (as PM<sub>2.5</sub>) and gases such as nitrogen dioxide is increasing all the time.

### INCREASING IMPORTANCE

Concern over deteriorating indoor air quality is increasing due to buildings becoming more airtight, which allows pollutants to accumulate, and a greater awareness of air quality by occupants through media reporting and information campaigns.

The drive for improvements in energy efficiency can also have a detrimental effect on the indoor environment for example through changes in lighting and reduced fresh air exchange rates.

### POLLUTANTS AND SOURCES

Building materials and furnishings, products such as air fresheners, cleaning products, solvents, paints and wood preservers, office equipment such as printers, people themselves, animals and plants all can contribute to affecting the levels of indoor pollutants such as

- Particulate matter
- Carbon monoxide
- Fungi and mould
- Nitrogen dioxide
- Sulphur dioxide
- Volatile organocarbon compounds
- Formaldehyde
- Ozone
- Radon
- and more

The external air can introduce engine exhaust emissions, particulates and gases into the building's air supply. This is all in addition to the usual comfort culprits of temperature, humidity and draughts.

## WHAT CAN FIRST ENVIRONMENT DO?

First Environment Limited provides a range of services designed to identify the most appropriate strategy for managing indoor air quality at your location. We can offer bespoke services to meet your needs. Our services include:

- Indoor air quality monitoring
- Investigation of odour, health and comfort complaints
- Inspection of mechanical ventilation systems
- Local exhaust ventilation system assessment
- Independent on-going inspection and audit
- Fungi and mould surveys
- Occupational hygiene consultancy

### A GOOD PLACE TO START IS WITH A BENCHMARK SURVEY

We can undertake benchmark surveys as an initial evaluation or as part of a routine programme of workplace monitoring. This survey considers a wide set of indoor air quality parameters including those assessing for:

- Comfort
- Dust and particles
- Indicator gases
- Organics
- Microbial indicators

Measurements are made at representative points across the occupied space by one of our experienced environmental scientists to provide an assessment of conditions and variation. Results are compared against guideline and best practice standards and a report is provided. It provides the information to put you in control of the indoor environment by providing an understanding of the current conditions and areas for improvement.



TO SEE HOW WE CAN HELP CONTACT US ON  01543 728 202



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