



Occupational Hygiene and Environmental Dust Laboratory

Originally created to support collieries to monitor working conditions, SOCOTEC's occupational hygiene and environmental dust monitoring laboratory has been operational for over 30 years.

SOCOTEC provides the equipment and UKAS accredited* analysis for sampling both occupational workplace dust and ambient (fugitive) dust, along with sampling and training as required. Reported results are directly comparable against the limits listed in the Health and Safety Executive Document EH40 Workplace Exposure Limits or in compliance with Environmental Agency guidelines.

Our nationwide teams of British Occupational Hygiene Society trained and qualified hygienists can offer a comprehensive consultancy and monitoring capability.

Total Inhalable and Respirable Dust

Inhalable dust is the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition anywhere in the respiratory tract. Respirable dust is the inhaled airborne material that penetrates to the lower gas exchange region of the lung.

As part of our dust monitoring capability, SOCOTEC uses sampling media to detect all forms of respirable dust, determining the composition of the dust using scanning electron microscope analysis. We offer sampling pumps, sample heads and media to allow clients to undertake their own monitoring.

SOCOTEC provides UKAS accredited* gravimetric analysis of filters in order to determine airborne dust concentrations during the sampling period, enabling an assessment of exposure to be made against current workplace exposure limits.

Respirable Crystalline Silica (Quartz) Analysis

Respirable crystalline silica (RCS) is found in stone, rocks, sands and clays. Exposure to RCS over a long period can cause fibrosis (hardening or scarring) of the lung tissue with a consequent loss of lung function. Silica may also be linked to lung cancer, as well as chronic obstructive pulmonary disease.

SOCOTEC offers UKAS accredited* quartz analysis to determine the concentration of quartz within the respirable dust deposit.

Scanning Electron Microscope (SEM)

The compositional analysis of dust or other materials can be completed by analysing the sample. SOCOTEC's SEM scans several points within the sample to determine the composition of the materials, which can assist in the identification of the source. A report is then generated detailing the materials found.

* A listing of SOCOTEC's UKAS accredited activities can be found in our schedule of accreditation - Testing Laboratory 1015 – at socotec.co.uk

DEPOSITED FUGITIVE DUST SAMPLING

Constructing buildings, roads and other infrastructure can have a substantial, temporary impact on local air quality. The most common impacts are increased particulate matter (PM) concentrations and dust soiling. Depending on the risk of dust effects occurring, monitoring may need to be carried out during both demolition and construction activities.

One of the most commonly used sampling methods for dust monitoring is that of directional deposited fugitive dust gauges, more commonly known as 'Frisbees'. Frisbees are useful for determining the migration of dust around the site. SOCOTEC can place the Frisbees in locations outlined by the customer, either on hard standing or a rural location. When setting up Frisbees they are orientated in a northern direction and positions are recorded using a GPS tool and site map.

Frisbees may also be deployed around existing industrial facilities, including landfills, quarries and factories, to determine compliance with environmental permits.

SOCOTEC also offers continuous particulate monitoring using Topas and Osiris real-time analysers.

Instruments Available for Dust Analysis

SOCOTEC has a variety of instruments available for dust sampling and analysis, whether these are pumps for personal monitoring or long term, real time internet based data logging systems.



ENVIRONMENTAL GASES AND VAPOURS

Harmful substances are not limited to dust. SOCOTEC provides analysis of gases, vapours and mists, reporting any contaminants found through passive or active sampling techniques.

Passive Sampling

We can passively sample for gases and vapours on sites for any period of time. The advantages of passive sampling include:

- Unobtrusive and discrete methods
- Larger sample size of data to be collected
- Spatial and long term data acquisition

Pumped Sampling

SOCOTEC offers sampling for particulates, vapours or gases for periods of up to 24 hours. This provides accurate air quality data for assessing compliance with environmental permits, or for determining the effects of short term activities.

To discuss your requirements, please call us on 0845 603 2112
or email salesuk@socotec.com