



Respirable Dust is the invisible killer no-one is talking about

Trolex eBook

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RETROSPECTIVE MEASUREMENT OF RESPIRABLE DUST IS NO LONGER ACCEPTABLE.

According to the HSE around 4,000 people in the UK die from dust inhalation related to exposure in the workplace every year and hazardous industries need to improve the working environment. While regulation is being tightened to improve working conditions, it is the fear of legal claims that is focusing attention for managers, board members and shareholders.

- How confident is the business that employees are safe from exposure to hazardous dusts, including silica?
- Faced with the need to boost efficiency and reduce operational costs, can managers really afford to implement stringent health and safety practices that affect employee performance?
- Can they afford not to, given the increase in law suits?

Without immediate visibility of the quality of the working environment, it is an impossible choice. How can any manager determine appropriate levels of dust suppression or create the right working environment without real-time monitoring of hazardous dust levels?

This eBook outlines the role of real-time monitoring technology in hazardous environments.



LEGISLATIVE LIMITATION IN HAZARDOUS ENVIRONMENTS

Safety regulation across the globe has become ever more stringent as authorities have recognised the dangers associated with working in hazardous dusty environments. From mining to tunneling and manufacturing, hundreds of thousands of individuals are working every day in high dust environments, and therefore at risk of inhaling potential health damaging toxins, most notably silica.

The problem is escalating, with new technologies being introduced in many hazardous industries opening up new opportunities but also creating the risk of significantly more dust.

Such exposure can be insidious – workers are often unaware of any health issues until many years after the fact, as the raft of new legal claims facing companies every year attests.

With increasingly challenging operating environments, how can organisations protect all stakeholders – from employees and managers to the board and investors?



BALANCING SAFETY WITH PERFORMANCE

While regulations become ever tighter, balancing employee wellbeing with performance, productivity and a good working environment is far from straightforward.

- Providing dust masks is an obvious step but these are not necessarily comfortable pieces of equipment – they affect performance and the majority of employees would prefer not to wear a mask if there is no health risk.
- The use of dust suppression techniques is effective but there is an associated cost, and in any highly competitive market experiencing price pressure, organisations are looking to minimise the use of suppression where possible.

Without accurate, immediate and continuous access to critical information about the current levels of dust in the environment, organisations simply cannot make health and safety decisions in real-time.



OPERATIONAL CONSTRAINTS

The lack of immediate information regarding air quality is affecting every aspect of the hazardous environment:

- Organisations are struggling to ascertain risk levels.
- Regulators are constrained in their ability to adequately enforce new regulation.
- Workers are also suffering – not only potentially long term health issues but also immediate concerns regarding the workplace.

The default strategy based on visual assessment of the dust levels in the atmosphere and hope for the best is not good enough.

As awareness rises of the risks associated with dust such as silica, a lack of information can affect worker morale – and raise concerns regarding corporate liability for management and shareholders.



OUT DATED MONITORING MODEL

The traditional process for analysing air quality is slow and expensive.

- Samples are collected through a filter over a period of time – typically eight hourly.
- Samples are sent off for laboratory analysis – a process that takes up to two weeks.
- Data is manually uploaded into the operational system – but can be used only for retrospective analysis.

This drawn out process is clearly no longer acceptable. Employees are at risk of continued potential exposure to hazardous materials during this time. Managers cannot make informed decisions regarding the use of equipment and suppression, leading to employees questioning the trust they place in management and the business.

Organisations operating in hazardous environments need a more robust, reliable and real-time monitoring solution.

REAL-TIME MONITORING

The latest monitoring technology operates in real-time, providing continuous analysis of dust levels which is fed directly into an operational system.

In addition to being considerably less expensive and time consuming than sending samples to the laboratory for analysis, the real-time insight transforms day to day operations.

With immediate visibility of the quality of the environment, an organisation can embark upon proactive strategies to improve air quality and dust suppression as and when required to create a safe working environment.

Real-time data collection and analysis ensures the business has the information to mitigate the risk of future lawsuits.



EMPLOYEE WELLBEING

Providing managers with real-time information can transform the quality of the working environment.

- Organisations can confidently tell employees when it is safe to operate without masks, improving productivity and worker experience.
- Employees also have access to the information, reinforcing their confidence in the environment.
- If the levels rise – or reach a maximum cumulative level permitted by legislation during an eight hour shift – an alarm can be raised to warn the employee to take the appropriate action, from putting on a mask to leaving the affected area.

Furthermore, with complete records of the level of exposure of every employee throughout their working life, a company has the information required to counter any possible court case or claim in the future.

Both company and workforce are protected by real-time monitoring solutions.



CORPORATE SOCIAL RESPONSIBILITY

Balancing employee safety with productivity and efficiency is an incredibly difficult task for any manager – and simply raising the penalty for excessive exposure to dust is no use if the regulation is hard to enforce, especially when the resultant illness may not occur for years, even decades.

In addition to being cheaper and far more convenient, real-time monitoring enables organisations to address their corporate social responsibility requirements for employee safety and meet regulatory demands without compromising operational performance.

Employees are both more confident in the quality of the environment and able to work effectively without unwieldy safety equipment when not required, making the work both more efficient and enjoyable.

Critically, operations managers have certainty for the first time.



CONCLUSION

While environmental monitoring has become a standard activity within hazardous environments over the past decades, the lack of real-time information on dust levels has constrained both regulators and operators.

Without any way of accurately assessing the air quality in real-time, organisations have an impossible choice between ensuring employee safety and compromising operational costs and productivity.

With accurate, immediate information on the quality of the environment:

- Managers can confidently improve operational efficiency without fear of compromising workers' health.
- Organisations can confidently embrace the operational tactics that tend to create more dust – most notably silica – with full visibility of the impact on air quality and employees' health.
- Stakeholder concerns can be allayed.
- Business can deploy dust suppression and containment systems strategically and in a smart way that minimizes cost and maximizes production efficiency.

Using real-time information will go a long way towards minimising employee exposure, reducing time off work and negating the risk of legal action in the future.

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