

Covid-19 - Hidden in the Dust

Now, more than ever, it is important to protect workers against the threat of respiratory related illnesses. As it is, without the covid-19 threat, respiratory illnesses are rife in areas with high density air pollutants, causing an estimated seven million premature deaths every year (World Health Organization). Mining operators and maintenance personnel are especially at risk due to constant exposure to fine, respirable particles that settle in the lower parts of the lungs.

A group of Italian researchers, in a paper recently published without peer review, suggest that sars-cov-2, the virus behind the covid-19 pandemic, might be getting a helping hand from atmospheric pollution.

Dr Leonardo Setti of the University of Bologna and his colleagues posed the hypothesis that the catalyst for the rate of spread of sars-cov-2, was pollution - specifically, small airborne particles that might carry the virus on their surfaces. The basis of the study was the Po valley (also referred to as the Industrialized Padan Plain) of Italy's north where the daily rates of new infections correlated closely with the level of particulate pollution.

In the paper, the researchers refer to previous work from other institutes which suggests that influenza viruses, respiratory viruses and measles viruses can all spread by hitching lifts on such particles.

An alternative explanation for this correlation might be that, rather than carrying the virus themselves, airborne particles increase susceptibility to infection in those who encounter the pathogen by some other means. Either way, a reduction in airborne-particle levels may be a secondary way of reducing the spread of the virus.

In another study, reported by CNBC as recently as March this year, researchers from the National Institutes of Health, Centers for Disease Control and Prevention, UCLA and Princeton University found that covid-19 was detectable in fog, dust and gas for up to three hours.

Personal protective equipment is not a substitute for dust control and should only be used as a supplementary measure. Workers themselves, through education, must understand the need to avoid dust.

However, while PPE and operating practices can reduce the risk, we cannot rely on workers to always use it to avoid inhalation of airborne contaminants. Therefore, automated controls are the only way to ensure their safety.

Mitigating dust emissions will not only improve conditions for workers and reduce the added risk of covid infections and future pandemics but will also extend the life of equipment and amenities while reducing housekeeping cost.

Benmarc Environmental has developed proven technologies to effectively reduce emissions during material handling operations while being sensitive to natural resource and energy consumption. The unique processes have been constantly researched and improved internationally over a period of 40 years and widely accepted as best practice in South Africa since 1997.

Benmarc can design, fabricate, install and maintain custom solutions to suite every need in the industry.

Chris Otto – Benmarc Technical Manager

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References:

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