

FACT SHEET

Real-time dust monitoring devices and exceedance notifications

November 2021

Real-time dust monitors

Many of the mines and quarry sites are now using real-time handheld dust monitors to measure airborne dust concentrations. Some sites have purchased their own real-time devices and conduct monitoring in-house, while others rely on contractors to perform monitoring.

Real-time monitoring devices provide real-time measurement of the concentration of dust levels in the workplace. Dust concentrations can be measured over short time intervals (seconds, minutes) or longer durations (i.e. a full work shift). One of the main benefits of real-time devices is the ability to undertake multiple measurements of dust concentrations quickly with instantaneous results.

Real-time dust monitors can be used to indicate airborne concentrations of inhalable dust (particle size <100µm); respirable dust (particle size <10µm); and diesel particulate matter (particle size <1µm).

Note: Real time monitors do *not* distinguish between different types of dust, as measurements are based on particle size or mass, not dust composition.

Real-time monitors are often used:

- To identify / investigate the source of airborne dust contaminants
- To observe changes in dust concentration over time during a task or process
- To determine the effectiveness of control measures
- To identify safe standing zones
- As an *indication* of personal dust exposure (if sampled in workers' breathing zone).



Commonly used Optical Light Scattering Sensors:
Hundt, AM520i, TSI DustTrak, Trollex Air XD & XD One

Exposure exceedance & regulatory compliance

Important: An exceedance recorded on a real-time dust monitor is not a reportable incident to the NSW Resources Regulator under the WHS (M&P) Regulations.

Exceedances of personal exposure monitoring are only reportable to the Regulator if:

- The monitoring was carried out in the breathing zone of the person as per cl 39(2) of the WHS (MPS) Regulation 2014.
- Monitoring and analysis is carried out in accordance with the methodology specified in *Guidance on the Interpretation of Workplace Exposure Standards for Airborne Contaminants* (Safe Work Australia, 2013).



Tapered Element Oscillating
Microbalances (TEOMs)

Real-time dust monitors do not meet Australian Standard requirements for measurement of inhalable dust or respirable dust; and they do not meet the analysis requirements for crystalline silica or diesel particulate matter.

Results of real-time monitoring should be used as an *indicative tool* for risk management and control.

© State of New South Wales through Regional NSW 2021. You may copy, distribute, display, download and otherwise freely deal with this publication for any purpose, provided that you attribute Regional NSW as the owner. However, you must obtain permission if you wish to charge others for access to the publication (other than at cost); include the publication in advertising or a product for sale; modify the publication; or republish the publication on a website. You may freely link to the publication on a departmental website. Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (November 2021) and may not be accurate, current or complete. The State of New South Wales (including Regional NSW), the author and the publisher take no responsibility, and will accept no liability, for the accuracy, currency, reliability or correctness of any information included in the document (including material provided by third parties). Readers should make their own inquiries and rely on their own advice when making decisions related to material contained in this publication.