

June 2024

## Health control plan resources

### Diesel particulate matter/exhaust

What is diesel particulate matter (exhaust particles)?	Why is it a health hazard?	What are the exposure monitoring requirements for the health hazard	What are the health monitoring requirements for the health hazard
<p>Diesel fuel produces harmful emissions made up of aerosols, vapours, gases and particulates when not fully combusted. Exhaust from diesel engines is more than likely to produce these harmful health effects over regular fuels, because of its higher ignition point.</p>	<p>Diesel particulate matter (DPM) along with gases, aerosols and other vapours produced is of such small size that it can be readily breathed into the lower regions of the lungs.</p> <p>Short term exposure to high concentrations of diesel exhaust can irritate the eyes, nose, throat and lungs and cause light-headedness, coughing, phlegm and nausea. Very high levels of diesel exhaust exposure can lead to asphyxiation from carbon monoxide poisoning.</p> <p>Long term exposure (chronic) can worsen asthma and allergies and increase the risk of heart and lung disease.</p> <p>Diesel engine exhaust emissions contain many known carcinogenic substances and because of this and its size, there is epidemiological evidence that indicates ongoing exposure may result in an increase in the risk of lung cancer.</p>	<p>Section 41(1)(b) of the WHS (MPS) Regulation (2022) prescribes the limit for mine workers at risk of diesel particulate matter (DPM) exposure as 0.1 mg/m<sup>3</sup>, as elemental carbon.</p> <p>Sampling and analysis of diesel particulate should be undertaken with personal monitoring devices fitted in the workers breathing zone.</p>	<p>Where results indicate that worker exposure is above 0.1 mg/m<sup>3</sup> EC:</p> <ul style="list-style-type: none"> <li>an investigation should be conducted and a resample taken after any corrective actions</li> <li>workers should be advised of the incident and recommendations to prevent a reoccurrence.</li> </ul> <p>Respiratory health monitoring should be considered for workers who are regularly exposed to diesel exhaust.</p> <p>Discussions with an experienced medical practitioner regarding the workers exposure monitoring results will determine if a health surveillance program is appropriate.</p>

### Controls - Diesel particulate matter/exhaust particles

- Good ventilation is an essential control measure in enclosed work environments, underground and workshop areas (a minimum 0.06 m<sup>3</sup> of ventilation current for each kW of engine power, or 3.5 m<sup>3</sup>/s, whichever is greater).
- Control the amount of diesel vehicles or plant operating in an area.
- Maintain well-tuned engines.
- Use low sulphur fuels.
- Use alternate power engines such as electric or propane.
- Improve road conditions such reducing potholes will help reduce the over-revving of the engine.
- Educate workers on how driver behaviour affects emissions.
- Catalytic converters on diesel equipment can assist in reducing harmful emissions by more fully oxidising organic substances.
- Fully enclose and seal driver cabins.

### What are the legislative obligations with regards to health records?

- Records relating to exposures and health monitoring results are to be held by the mine for 30 years. See clause 50 Work Health and Safety Regulation 2017.

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