

Diesel engines provide power to a wide variety of vehicles, heavy equipment, and machinery in a large number of industries such as construction, transportation, mining, agriculture and types of manufacturing operations.

Who can be exposed to Diesel Exhaust (DE) and Diesel Particulate Matter (DPM)?

- Construction workers
- Heavy equipment operators
- Bridge and tunnel workers
- Truck drivers
- Oil & gas workers, farmworkers, miners, and maintenance garage workers

Short term symptoms of DE/DPM exposure

- Headaches
- Dizziness
- Irritation of the eyes, nose and throats

Prolonged exposure of DE/DPM

- Increased risk of cardiovascular, cardiopulmonary, respiratory disease and lung cancer
- Some studies have suggested that workers exposed to diesel exhaust are more likely to have chronic respiratory symptoms (such as persistent cough and mucous), bronchitis, and reduced lung capacity

How to minimize DE/DPM exposure

- Always perform routine maintenance on engines and make necessary upgrades
- Update systems to cleaner burning engines
- Provide cabs on equipment with filtered air
- Install internal ventilation systems to remove harmful diesel fumes. Add other engineering controls, installing engine exhaust filters, installing diesel oxidation catalysts, using special fuels such as biodiesel.
- Add administrative controls; limiting speeds to minimize congestion traffic, prohibit unnecessary traffic or engine idling, limiting amount and time of vehicles operating in one area so that the area does not exceed ventilation limits.
- The Occupational Safety and Health Administration does not have a permissible exposure limit (PEL) but there are PEL's for some components of Diesel Exhaust including, but not limited to Carbon Monoxide, Nitric Oxide and Nitrogen Dioxide. Limits found in Air Contaminants Code WAC 296-841.

Questions for Discussion

- Has anyone been exposed to high levels of DE/DPM? What things does your company do to ensure the safety of it workers when working around diesel engines?

Presenter tips

- Pre-read the Toolbox Talk. Your comfort level and confidence will be higher if you know your topic.
- Discuss related tasks, work areas or events that make the Toolbox Talk relevant to your job site.
- Involve the workers by asking questions and input that drives discussion.