Risk Advisory

Explosion or fire from diesel particulate filter (DPF) systems

What is the potential risk?

There is a risk that Diesel Particulate Filter (DPF) systems may trigger fires and explosions by compromising hydraulic lines and igniting combustible fluids. This could put workers in the vicinity at risk of injury.

DPF systems are used to reduce vehicle emissions by capturing the particulate air pollution emitted by diesel engines. A DPF system traps exhaust soot in a filter and then uses heat to convert it to carbon dioxide and ash in a process known as regeneration. This regeneration process can require temperatures of up to 600 degrees Celsius. If there are other components near the DPF system, the high temperature may cause damage to these components, potentially causing them to fail or catch fire. Combustible fluid lines can potentially rupture, resulting in a fire that could damage or destroy the vehicle and nearby structures, and cause injuries to workers in the immediate vicinity.

There have been several vehicle fires in B.C. and other jurisdictions that appear to be the result of excessive heat from DPF systems affecting hydraulic components in close proximity. Employers must follow manufacturers’ instructions on installation and maintenance of this equipment to vehicles and work equipment.

Workers at risk may include drivers and passengers of diesel vehicles that have hydraulic or other mechanical components in close proximity to the DPF system.

What industries may be at risk?

• Transportation and related services

How can I reduce the risk in my workplace?

As an employer, you need to know if there is the potential for the risk identified in this advisory to be present in your workplace. It’s your responsibility to regularly inspect your workplace, and to ensure that your safety procedures and practices control the risk. The following information highlights some of the sections of the Occupational Health and Safety (OHS) Regulation and Guidelines that are most relevant to this risk.

Section 4.3 of the OHS Regulation requires that employers must ensure that each tool, machine, and piece of the equipment in the workplace is:

(a) capable of safely performing the functions for which it is used, and

(b) selected, used and operated in accordance with

(i) the manufacturer’s instructions, if available,

(ii) safe work practices, and

(iii) the requirements of this Regulation.

In addition, Part 17 of the OHS Regulation also places additional duties on employers who use vehicles for worker transport.
Where can I find resources?
You can access the following resources on worksafebc.com:
• WorkSafe Bulletin: Diesel particulate filters and heavy-duty trucks — reducing the risk of fire

For more information on how we identified this risk, visit worksafebc.com/emergingrisks.