

Carbon monoxide poisoning and LPG powered floor cleaning equipment

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This alert highlights for employers the risk of employees being over-exposed to carbon monoxide when operating LPG powered floor cleaning equipment such as a floor burnisher or buffer.

Background

LPG powered floor burnishers or buffers are commonly used to polish floors in workplaces and can generate high levels of carbon monoxide from the engine exhaust.

In a recent incident in Victoria, a cleaner operating an LPG powered burnisher was found unconscious due to suspected excessive exposure to carbon monoxide.

Carbon monoxide (CO) is a colourless, odourless and tasteless gas which interferes with the ability of red blood cells to carry oxygen. It can accumulate quickly in small poorly ventilated areas and may result in unconsciousness, and ultimately death, if prolonged exposure to high concentrations occurs. Early symptoms of carbon monoxide over-exposure include headache, nausea, dizziness and lethargy.

The U.S. National Institute of Occupational Safety and Health (NIOSH) has determined that the immediately dangerous to life and health concentration for CO is 1200 parts per million (ppm). The workplace exposure standard determined by Safe Work Australia is 30 ppm (as an 8-hour average). A concentration of 400 ppm should never be exceeded.

Recommended control measures

In some instances it may be possible to substitute LPG powered equipment with electric powered equipment. However, if it is not reasonably practical to use electric powered equipment, an employer should ensure that:

- the LPG powered equipment is fitted with a closed loop engine emission system to ensure that CO emissions are minimised and maintained at safe levels regardless of the load on the machine. This system should shut down the engine when the pre-set CO level is exceeded
- the LPG powered equipment is maintained by a qualified LPG gas fitter in accordance with the manufacturer's instructions. Such maintenance is necessary to minimise CO emission levels
- all LPG equipment operators are trained in the hazards associated with CO over-exposure, the importance of not adjusting the fuel system and of ensuring regular equipment maintenance occurs to minimise CO emissions.

Further information

Contact the WorkSafe Victoria Advisory Service on 1800 136 089 or go to worksafe.vic.gov.au.

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