

Safety and health alert

15/99 Carbon monoxide poisoning from LPG forklift exhaust fumes

Incident

A cellarhand in a Swan Valley winery was shifting and re-stacking oak wine barrels using an LPG forklift inside a temperature controlled cool-room in February 1999. The work was carried out with the doors closed. He worked alone in the cool room in the morning for 2 hours and was joined by another worker in the afternoon. By late afternoon, he complained of a severe throbbing headache and soon became very unwell. He was dizzy, tired and nauseated. He felt as if he was about to faint and his heart was pounding. The carbon monoxide level in the cool-room was tested and found to be in excess of 500 ppm. His co-worker also suffered mild headache, nausea and dizziness. Both were taken to the local hospital where they were treated for carbon monoxide poisoning. Neither man suffered any residual effects.

CARBON MONOXIDE POISONING

Carbon monoxide is a colourless, odourless gas that is easily absorbed through the lungs. It is removed from the body, mainly unchanged, through the lungs. Poisoning arises from depriving the tissues of oxygen and from the direct toxic effect of the gas. Carbon monoxide binds to haemoglobin in blood which would otherwise carry oxygen. It also impairs the release of oxygen from blood to tissues. Symptoms include headache, dizziness, weakness, nausea, difficulty in concentrating, and shortness of breath. Permanent brain and nerve damage or even death may result from severe poisoning.

The Western Australian exposure standard for carbon monoxide in the workplace is 30 ppm over an 8 hour day.

Factors

1. Converting the cool room to an enclosed work area by closing the doors.
2. Operating an internal combustion engine forklift in an enclosed space.
3. Lack of awareness among employees of the dangers of carbon monoxide poisoning.

Recommendations

1. Ensure forklifts (industrial lift trucks) are operated in accordance with Australian Standards AS 2359.2.
2. Use electric forklifts in enclosed or poorly ventilated work areas to avoid build-up of hazardous exhaust fumes.
3. Inform and educate employees on the dangers of carbon monoxide poisoning and to adhere to safe systems of work. Information on carbon monoxide is available on Safetyline Solutions on <http://www.safetyline.wa.gov.au>



4. Ensure prompt first aid treatment. Remove the patient to fresh air and give oxygen if available, and transport to the nearest hospital.

Further Information

Further information can be obtained from the WorkSafe internet site www.worksafe.wa.gov.au, or by contacting customer service on 1300 307 877 or email: safety@docep.wa.gov.au.

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