A Health and Safety Solution

Cellar and cool rooms – Beverage gas safety

What is the problem?

Gas cylinder systems stored in enclosed non-ventilated areas, such as underground cellars and cool rooms, can result in the build-up of gases if the cylinders leak. Inhalation of these gases may result in the asphyxiation of people entering these areas.

What are the risks?

Carbon dioxide and nitrogen, used to carbonate and deliver beer and soft drinks, are odourless, colourless asphyxiant gases.

If the oxygen in the air is displaced by leaking gases, a person entering the cellar can be overcome without warning and suffocate in only a few minutes.

Hotel staff have been killed in cellars in Victoria after breathing in leaking carbon dioxide and/or nitrogen.

What is a solution to the problem?

If gas cylinders cannot be located in the open air or in an adequately naturally ventilated area (see AS5034 for guidance) the following actions must be taken to minimise the risk of death or injury from asphyxiant gases.

- Install a gas monitoring and alarm system to warn people of a hazardous build-up of gas before entering the cellar or cool room. The type of monitors required depends on the gases used.

  The system must include visible and audible alarms both within the cellar or cool room and at the entry points outside these areas.

Gas supply	Monitor type
Carbon dioxide (CO_2)	CO_2
Nitrogen (N_2)	Oxygen (O_2)
Premixed CO_2 & N_2	CO_2
CO_2 & N_2 mixing system	CO_2 & O_2

- Install warning/emergency response signs at the cellar or cool room entry points.
- Restrict routine access to cellars and cool rooms to appropriately trained persons.
- Implement a system of weekly leak tests of gas cylinders and lines with a bubble solution. Six and 12 month maintenance inspections of the monitoring and alarm system and the gas dispensing equipment must also be conducted (see AS 5034, 2005).
- With every cylinder change, fit new O-rings or sealing washers and leak-test the cylinder connections.
- Keep cellar and cool room gas stocks to a minimum – only store what is needed.
- Ensure gas cylinders are stored upright and are secured with a chain or similar.
- Ensure cellars, cool rooms and any access steps are provided with adequate lighting.
- Develop and train all staff in the emergency procedures to be implemented when the alarm is sounding. This must include ensuring no entry into the cellar or cool room other than by appropriately trained and protected emergency personnel.
- Maintain housekeeping to remove any potential slip, trip or fall hazards.

Further Information

WorkSafe Advisory Service
Toll-free: 1800 136 089
Email: info@worksafe.vic.gov.au
worksafe.vic.gov.au

Related WorkSafe publications
Hospitality – Preventing falls through cellar trapdoors

Australian Standard
AS5034-2005, *Installation and use of inert gases for beverage dispensing*

HSS0056/04/08.10