

Working Safely with Dispense Gas in Pub Cellars

Information Sheet

This information sheet informs you of the risks associated with the use of dispense gas in a pub cellar or storage room. It guides employers, employees, suppliers and manufacturers on how to prevent gas leaks and exposure.

It also lists other hazards associated with working in the cellars of pubs and licensed premises.

What is a dispense gas?

A dispense gas is usually a mixture of two pressurised gases, carbon dioxide and nitrogen, used for dispensing drinks. A dispense gas installation includes pressurised gas cylinders (or 'bottles') of varying sizes, together with pipework and control and mixing equipment.

When is dispense gas dangerous?

If a leak occurs, dispense gas can displace oxygen or contaminate the atmosphere.

Dangerous concentrations are most likely to arise:

- in confined spaces with poor ventilation – e.g. a poorly ventilated pub cellar or storage room
- when a large gas leak occurs
- when a relatively small leak continues over a long period and remains undispersed

What are the signs of exposure?

Breathing in dispense gas in sufficient quantities can lead to headaches and dizziness. In sufficient concentration, it can result in lack of oxygen. This can cause impaired judgment, unconsciousness and even death. Asphyxiation (suffocation) can occur rapidly, before a person manages to exit the area. Evacuation is more difficult if it entails climbing stairs from a basement cellar.

As an employer, how can I help prevent gas leaks and exposure?

The risk relating to a dispense-gas leak in a pub cellar depends largely on the quantity of gas that can leak, the cellar design/location and the level of ventilation.



To minimise the risk:

- Check if a significant leak of dispense gas can occur. If so, ensure that either:
 - the atmosphere can be ventilated adequately with natural or mechanical ventilation, or
 - a gas monitoring system with warning alarm is installed
- Store the gas cylinders outside the building as this greatly reduces the risk. Where this is not possible, arrange deliveries so that the number of gas cylinders in the cellar is minimised.
- Keep the gas dispense area tidy and all cylinders securely tied.
- Ensure that the dispense-gas pipework and manifold system are inspected visually once a week, so that leaks may be detected.
- Make sure that a competent contractor inspects the dispense-gas system annually.
- Ensure that a competent person inspects and maintains associated safety equipment, such as ventilation fans or a gas-monitoring system, in accordance with the manufacturer's instructions.
- Make sure that supplier warning signs are erected in a suitable location and that these signs are maintained.
- Ensure that personnel who operate the dispense-gas system are trained to follow the gas supplier's instructions (including the emergency procedure).
- Restrict access to confined spaces to designated personnel and ensure they are aware of the specific risks associated with dispense gas.
- Put emergency arrangements in place, including a system of raising the alarm and effecting evacuation. Relevant personnel should be trained in these procedures.

As an employee, how can I help prevent gas leaks and exposure?

- Do not operate any equipment or appliances unless you are fully authorised and trained.
- Follow safe systems of work and take notice of hazard warning labels.
- Report to your employer any situations that might cause dispense gas to build up.
- Be alert to both ventilation problems and gas leaks.
- Make sure that you can recognise the symptoms and signs of overexposure.
- Report promptly complaints of headaches, dizziness, drowsiness.
- If you suspect gas exposure, leave the area immediately.



As a designer, supplier, manufacturer or installer of appliances, equipment or tools, how can I help prevent gas leaks and exposure?

- Ensure that appropriate hazard warning labels are placed on any equipment or appliances.
- Provide adequate information to all users so they can operate equipment and work with cylinders safely and correctly.
- Keep in good working order all rental or leased equipment, tools and appliances.
- Ensure that personnel installing any equipment or appliances are competent and have adequate instruction, information and training.

What legislation applies?

The Safety, Health and Welfare at Work Act, 2005 (S.I. No. 10 of 2005)

Employers, the self-employed, persons in control of places of work and employees must comply with this Act and related regulations, in particular the Safety, Health and Welfare at Work (General Application) Regulations 2007.

Employers and self-employed people must take all reasonable precautions to ensure the safety, not only of their workforce, but also of members of the public and others who might be affected by their activities.

Safety, Health and Welfare at Work (Confined Spaces) Regulations, 2001 (S.I. No. 218 of 2001) and associated Code of Practice

If your employees work in confined spaces where a toxic atmosphere or lack of oxygen may occur, you must ensure that you comply with this legislation and the associated Code of Practice for working in confined spaces.

Note that the above is not an exhaustive list of legislation applicable to dispense gas and is not in any order of precedence. Other relevant legislation may also apply to your work activities.

What other hazards might exist in a pub cellar?

Other possible hazards include:

- Impacts from falling kegs, gas bottles, crates, etc
- Manual handling
- Slips, trips and falls
- Excessive cold (e.g. in a cold room)
- Infection due to the presence of rats (Weil's disease)
- Cleaning agents, broken glass, etc

These other hazards should be addressed systematically, using the risk-assessment technique.



What is a risk assessment?

A risk assessment is a careful examination of what could cause harm to people as a result of a work activity. It allows you to take precautions to prevent harm occurring.

How do I conduct a risk assessment?

Follow these five key steps:

- 1 Look at the hazards
- 2 Decide who might be harmed and how (including employees, contractors, visitors)
- 3 Evaluate the risks and decide if the existing precautions are adequate or if more should be taken
- 4 Record your findings
- 5 Review your assessment regularly at predetermined intervals as part of your safety management system

Where can I get further information?

For further information about safety and health in the workplace, see the Health and Safety Authority website at **www.hsa.ie** or contact our Workplace Contact Unit at **1890 289 389**.

Check out the safety information available on the websites of dispense-gas suppliers.

The British Beer and Pub Association has a selection of useful health and safety publications for purchase in the shop section of its website, **www.beerandpub.com**.

(Note that references to legislation refer to UK legislation.)

