

Gas in Confined Spaces: A Silent, Deadly Killer

Breathing in gases is much more dangerous than not breathing at all - you could die in seconds, completely unaware of imminent danger. There are striking common themes:

- Rescuers often became victims.
- Victims lose consciousness fast.
- Most victims do not survive.

WHAT WE ALL NEED TO KNOW

BREATHING GAS WITH LITTLE OR NO OXYGEN - DOES NOT CAUSE YOU TO STOP BREATHING GRADUALLY.

IT IS NOT THE SAME AS SUFFOCATING - THIS IS A FAST, FATAL AND SILENT THREAT

FAILURE TO APPRECIATE THIS DIFFERENCE IN RISK HAS CAUSED FATAL INCIDENTS

- Any gas or liquid in a confined space, or any area with inadequate ventilation, can be dangerous.
- There are no warning signs - you will not usually see, smell or taste these gases.
- Learn to recognise confined spaces for yourself even if they have not been pointed out to you.
- The lack of a warning sign does not mean that the area is not dangerous.
- Be vigilant: low oxygen environments may be encountered in unexpected places.
- Any space with a single point of entry and exit is a confined space, even if it appears wide, such as a hole, re-raise or pitched roof.
- Do not enter an area without taking precautions - ensure there is enough oxygen, no toxic gases and that you have a means of rescue.
- Toxic gases can replace oxygen by layering at the bottom or top of any poorly ventilated area.
- These confined spaces cause other dangers too – you could be killed by a fall after fainting at height if you climb into layered gas.

WHAT MANAGERS NEED TO DO

- Ensure your teams are aware of the dangers of breathing no/low-oxygen gases.
- Confined spaces, and the potential for gas inhalation, are not always obvious so be vigilant.
- Be aware of any changes to normal operating conditions; ask "is there anything different, or could change, to increase the risks?"
- Consider carefully the potential for gas to accumulate or the consumption of oxygen to identify risks at operational sites.
- All gases, including non-toxic gases, must be clearly marked, safely stored and out of reach of unauthorised personnel.
- Ensure your staff are competent in safe operating procedures for confined spaces and equipped to implement these procedures during operation-specific circumstances and change conditions.
- Read the Fact Sheet with this Bulletin to find out more and the Examples Sheet to learn from real past incidents.

Any confined space is a hazard

- Know where they are, or could be, in your workplace.
- Ensure these areas, whether temporary or permanent, are clearly marked
- Enter only after a risk assessment, having tested the air and in compliance with safe operating procedures.