

# Your health and safety guide to Confined spaces



If this Hazard Guide does not contain an up-to-date *More information* sheet, please go to [www.worksafe.vic.gov.au](http://www.worksafe.vic.gov.au) to download the PDF or contact us on 1800 136 089 to request a printed copy.

There's plenty more information  
about health and safety...  
[www.worksafe.vic.gov.au](http://www.worksafe.vic.gov.au)  
1800 136 089

**Working in a confined space can be fatal.**

Confined spaces are common in many industries and involve significant risks for employees who need to work inside them.

Limited means of entry and exit, poor ventilation, and the presence of toxic gases and vapours in confined spaces pose serious risks to workers.

People have also been killed as a result of being suffocated or crushed by materials stored in the space.

This guide will help you understand the risks, and will explain what you need to do to make your workplace safe.



# In this guide

## About the problem

- What are confined spaces?
- What are the risks?

## Your legal duties

- The law
- Information for employers
- Information for self-employed persons
- Information for employees
- Information for designers, manufacturers and suppliers of plant
- Compliance and enforcement

---

## How to comply

- Consult
- Find
- Fix
- Review

---

## Glossary

# About the problem

## What are confined spaces?

Confined spaces are spaces that have limited or restricted means of entry and exit, and may contain harmful atmospheres or stored substances that pose a risk to employees working in them.

Examples of potential confined spaces can include:

- vats, tanks and silos
- pipes and ducts
- ovens, chimneys and flues
- reaction vessels
- underground sewers and wells
- shafts, trenches, tunnels and pits.

## What are the risks?

Working in confined spaces can be extremely dangerous.

Some of the risks include:

- loss of consciousness, injury or death due to contaminants in the air
- fire or explosion from the ignition of flammable contaminants
- suffocation caused by a lack of oxygen
- enhanced combustibility and spontaneous combustion
- suffocation or crushing after being engulfed by loose materials stored in the space, such as sand, grain, fertiliser, coal and woodchips.

It's not uncommon for incidents involving confined spaces to result in multiple fatalities. Other workers, unaware of the risks, often enter a space to rescue a victim, but are then also overcome by toxic fumes or gases.

# Your legal duties

## The law

### ***Occupational Health and Safety Act 2004 (OHS Act)***

The OHS Act came into effect on 1 July 2005. It sets out the key principles, duties and rights in relation to occupational health and safety. The duties imposed by the Act cover a wide variety of circumstances, recognising the need for a duty-holder to have flexibility in determining what needs to be done to comply.

The OHS Act is based upon the following key health and safety principles:

- All people – employees and the general public – should have the highest level of protection against risks to health and safety.
- Those who manage or control things that create health and safety risks in the workplace are responsible for eliminating or reducing the risks, so far as is reasonably practicable.
- Employers should be proactive in promoting health and safety in the workplace.
- Information and ideas about risks and how to control them should be shared between employers and employees.
- Employees are entitled – and should be encouraged – to be represented in relation to health and safety issues.

### ***Occupational Health and Safety Regulations 2007 (OHS Regulations 2007)***

New Regulations for occupational health and safety came into effect on 1 July 2007.

The confined spaces part of the OHS Regulations is intended to prevent injuries and death resulting from working in confined spaces.

To do this, the Regulations impose specific legal responsibilities on employers, self-employed persons, employees, and designers, manufacturers and suppliers of plant, for the safe design of, and work in, confined spaces.



## Employers

As an employer, you have a general duty to make your workplace safe, as well as the following duties in relation to confined spaces.

You must identify hazards associated with work in any confined spaces at your workplace and eliminate any risk involved.

If it's not reasonably practicable to eliminate the risk, you must reduce the risk, as far as reasonably practicable, taking into account:

- the nature of the confined space
- the oxygen level or contaminants within the space
- the work required to be done in the space
- any work done outside of the space that could increase the risk
- the entries and exits
- emergency procedures required.

You have specific obligations to:

- isolate plant and services during work in a confined space
- ensure a safe atmosphere in the confined space and provide personal protective equipment
- prevent fires or explosions and control the presence of flammable gases or vapours
- have signage and procedures for entry and exit
- put in place emergency procedures
- have entry permits
- ensure continuous communication (e.g. standby person).

Information, training and instruction must be given to employees and any standby person(s) in relation to work in confined spaces.

You must review (and, where necessary, revise) your risk controls if things change and your controls are no longer adequate, or at the request of a health and safety representative.

You must also consult employees and health and safety representatives when identifying hazards and deciding on control measures.

# Your legal duties continued

## Self-employed persons

If you are a self-employed person, you have the same legal duties as an employer.

You must ensure, as far as reasonably practicable, that people are not exposed to health and safety risks arising from your work.

## Employees

Your employer is required to protect you from risks associated with confined spaces in the workplace.

At the same time, you have a general duty to take reasonable care for your own health and safety, and that of others who may be affected by your work, and to cooperate with your employer's efforts to make the workplace safe.

This may include following workplace policies and procedures, attending health and safety training, as well as helping to identify hazards and risks.

## Designers, manufacturers and suppliers of plant

The safe design and manufacture of plant includes eliminating the need for a person to enter any confined space.

If this is not reasonably practicable, the need to enter the space, and any risks associated with entry and exit, must be reduced as far as reasonably practicable.

Suppliers have a duty to ensure that the above steps have been taken before supplying the plant.





## Compliance and enforcement

WorkSafe applies a strategy of ‘constructive compliance’ – a combination of incentives and deterrents – to improve workplace health and safety.

This strategy recognises that real and sustainable improvement in workplace health and safety requires active involvement from employers and employees in identifying hazards and controlling risks.

WorkSafe inspectors have the primary role of targeting unsafe workplace activity, enforcing compliance with health and safety laws, and providing guidance and advice on how to comply with those laws.

Further information on workplace inspections and WorkSafe’s enforcement policy is available through the WorkSafe Advisory Service (1800 136 089) or at [www.worksafe.vic.gov.au](http://www.worksafe.vic.gov.au)

# How to comply

WorkSafe has a range of guidance materials to advise on the required processes and actions that duty-holders must take in order to meet their legal obligations. *Compliance Codes*, *Health and Safety Solutions* and *Guidance Notes* each provide detailed and specific advice for duty-holders seeking to comply with the OHS Regulations. See also the enclosed *More information* sheet for a listing of guidance materials related to Confined spaces.

## Consult

Employees' expertise can make a significant contribution to improving workplace health and safety.

Regular, proactive consultation can help identify issues in the workplace and build a strong commitment to health and safety by including all views in the decision-making process.

Under the OHS Act, employers must consult with employees when identifying and assessing hazards or risks associated with work in confined spaces, and making decisions about risk control. 'Employees' includes independent contractors (and any employees of the independent contractor(s)) who perform work which the employer has, or should have, control over.

If employees are represented by health and safety representatives, the consultation must involve those representatives – see *Your health and safety guide to Consultation* for further information.



## Find

### **Do you have confined spaces at your workplace?**

Typically, potential confined spaces include vats, tanks, pits, pipes, ducts, flues, ovens, chimneys, silos, reaction vessels, underground sewers or wells, shafts, trenches and tunnels.

You have a confined space if it is any such space that is:

- likely or intended to be entered, and
- has limited/restricted means of entry/exit, and
- at atmospheric pressure, has a lack of oxygen, or contains atmospheric contaminants (including gases, vapours, fumes and dust or flammable contaminants) or stored substances (except liquid) that could cause engulfment.

### **Do the confined spaces at your workplace also have these hazards?**

- mechanical hazards from plant
- ignition hazards (e.g. open flames, welding, hot riveting, electronic equipment and grinding)
- electrical hazards (e.g. electrocution, shocks or burns from a range of electrical sources including electrically powered plant)
- noise (e.g. from the use of plant and the work method or process such as grinding, hammering and riveting)
- manual handling
- radiation hazards (e.g. from lasers, welding flash, radio frequency and microwaves)
- environmental hazards (e.g. heat, cold, wet, damp or slippery conditions)
- biological hazards (e.g. fungi, mites, viruses and bacteria, insects, snakes and vermin)
- traffic hazards (e.g. exiting the space onto walkways and roads)
- falls into the space.

# How to comply continued

## Fix

The first thing you should do is to determine whether the work can be done without anyone having to enter a confined space.


### *Example:*

- *Clean a tank using high-pressure hoses inserted through a top access hole or a side hatch.*
- *Inspect the inside of a confined space by using a video camera or mirror attached to a probe.*
- *Relocate a reading device from inside the space to outside.*
- *Keep material in a hopper or silo flowing using turbulence valves or vibration to prevent packing, crusting and bridging.*

If it's not possible to do the work from outside the space, consider ways of reducing the risk.

### *Example:*

- *Scrape the surface of a tank instead of using chemicals.*
- *Use a non-flammable solvent in place of a flammable solvent.*
- *Apply paint with a brush or roller rather than with an aerosol.*
- *Use pastes instead of powders.*
- *Use purging or ventilation to prevent the build-up of atmospheric contaminants.*
- *Reduce the number of people working in the space at any one time.*
- *Carry out any maintenance or repairs of plant in a workshop rather than in the space.*
- *Use respiratory protective equipment.*



If there is any risk that the air in a confined space may be unsafe, you should carry out atmospheric testing, as many toxic gases and vapours (such as carbon monoxide) can't be seen or smelt.

In certain circumstances, plant or services may need to be isolated to prevent:

- the introduction of contaminants through piping, ducts, vents and drains
- hot or cold conditions that may increase the risk to people working in the space
- the activation or energising of machinery in the space
- the use of electrical equipment.

## Review

It's important to review your risk controls regularly to ensure they are implemented correctly and to monitor their effectiveness.

You need to review (and, if necessary, revise) your risk controls whenever any changes are made to the workplace that could increase risks, such as changes to the way work is done or to the equipment or substances used.

A review is also necessary if a health and safety representative requests one.

## GLOSSARY

**Atmospheric testing/monitoring** – The collection and analysis of air samples to determine if a person is exposed to airborne contaminants. Air quality is tested against the *Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment*.

**Confined spaces** – Spaces that have limited or restricted means of entry and exit and may contain harmful atmospheres or stored substances that pose a risk to employees working in them.

**Employee** – A person employed under a contract of employment or contract of training.

**Employer** – A person who employs one or more people under contracts of employment or contracts of training.

**Hazard** – A potential source of harm or injury. The potential to cause injury, illness or disease.

**Health and safety representative (HSR)** – A member of a designated work group elected to represent employees on matters relating to occupational health and safety.

**Plant** – Any machinery, equipment, appliance, implement or tool; any component of any of these things; and anything fitted, connected or related to any of these things.

**Reasonably practicable** – See section 20(2) of the OHS Act and the WorkSafe Position on *How WorkSafe applies the law in relation to reasonably practicable*.

# In this series

## Hazards

- Your health and safety guide to asbestos
- Your health and safety guide to confined spaces
- Your health and safety guide to dangerous goods
- Your health and safety guide to falls prevention
- Your health and safety guide to hazardous substances
- Your health and safety guide to lead
- Your health and safety guide to manual handling
- Your health and safety guide to noise
- Your health and safety guide to plant

## Industries

- Your health and safety guide to construction
- Your health and safety guide to forestry
- Your health and safety guide to foundries
- Your health and safety guide to major hazard facilities
- Your health and safety guide to mines

## Subjects

- Your health and safety guide to communicating across languages
- Your health and safety guide to consultation
- Your health and safety guide to controlling OHS hazards and risks
- Your health and safety guide to licensing and registrations
- Your health and safety guide to workplace amenities and first aid

**Visit [www.worksafe.vic.gov.au](http://www.worksafe.vic.gov.au) for online guidance on all of these topics and more...**

The information presented in *Your health and safety guide to confined spaces* is intended for general use only. It should not be viewed as a definitive guide to the law, and should be read in conjunction with the *Occupational Health and Safety Act 2004*.

This publication is protected by copyright. The Victorian WorkCover Authority encourages the free transfer, copying and printing of this publication if such activities support the purposes and intent for which the publication was developed.

WorkSafe Victoria is a division of the Victorian WorkCover Authority.



## WorkSafe Victoria

### WorkSafe Advisory Service

222 Exhibition Street  
Melbourne VIC 3000

Phone 03 9641 1444

Toll-free 1800 136 089

Email [info@worksafe.vic.gov.au](mailto:info@worksafe.vic.gov.au)

### Head Office

222 Exhibition Street  
Melbourne VIC 3000

Phone 03 9641 1555

Toll-free 1800 136 089

Website [www.worksafe.vic.gov.au](http://www.worksafe.vic.gov.au)

### Local Offices

Ballarat 03 5338 4444

Bendigo 03 5443 8866

Dandenong 03 8792 9000

Geelong 03 5226 1200

Melbourne  
(628 Bourke Street) 03 9941 0558

Mildura 03 5021 4001

Mulgrave 03 9565 9444

Preston 03 9485 4555

Shepparton 03 5831 8260

Traralgon 03 5174 8900

Wangaratta 03 5721 8588

Warrnambool 03 5564 3200