

# Confined Space Reminders

A workplace may contain spaces that are considered to be “confined” because their configurations hinder the activities of employees who must enter into, work in or exit from them. Employees entering confined spaces without proper protection can be seriously or fatally injured. It is critical for employees who regularly work in and around confined spaces to receive training necessary for identification, evaluation and control of confined spaces. Employees who enter these locations must also be trained on the proper procedures for safe entry and exit. This document provides reminders for applicable employees.

## Confined Space

- A confined space has **all three** of the following characteristics:
  - Large enough for an employee to enter **fully** and perform assigned work;
  - Not designed for continuous occupancy; and
  - Has limited or restricted means of entry or exit.
- Confined spaces include underground vaults, tanks, storage bins, manholes, pits, silos, underground utility vaults and pipelines. See [29 CFR 1910.146](#).
- Employees who may encounter confined space while performing work tasks must be trained to recognize the hazards associated with these spaces and be aware of the required procedures for entry.



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## Permit-Required Confined Space

- A permit-required confined space is a confined space meeting the requirements above and has **at least one** of the following characteristics:
  - Contains or has the potential to contain a hazardous atmosphere;
  - Contains a material with the potential to engulf someone who enters the space;
  - Has an internal configuration that might cause an entrant to be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross section; and/or
  - Contains any other recognized serious safety or health hazard.
- Rescue personnel must be onsite and capable of promptly responding to an emergency. Appropriate personal protective and rescue equipment, including respirators, and training are required.
- All employees must be trained to fulfill the required roles and responsibilities involved with permit-required confined space entries. Roles include the authorized entrant, attendant, rescuer and supervisor.

## Alternate Entry Confined Space





- Alternate procedures for worker entry into a permit-required confined space may be applied where the **only** hazard in the confined space is an actual, or potential, hazardous atmosphere that can be controlled with forced air ventilation.
- Testing and monitoring of the internal atmosphere and continuous forced air ventilation is required for alternate entry procedures.
- Self or non-entry rescue planning is required before entry.
- All employees must be trained to fulfill the required roles and responsibilities involved with alternate procedure confined space entries. Roles include the authorized entrant, attendant and supervisor.

## Reclassification

- A permit-required confined space may be temporarily reclassified only if **all** of the following conditions are met:
  - Does not contain or have the potential to contain a hazardous atmosphere;
  - All other hazards associated with the space are eliminated from outside the space for the duration of the entry by means such as lockout/tagout; and
  - Is documented to indicate all hazards and controls.
- All employees must be trained to fulfill the required roles and responsibilities involved with reclassified confined space entries. Roles include the authorized entrant and supervisor.

## Hazardous Atmosphere

- A hazardous atmosphere is an atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue, injury or acute illness. At a minimum, atmospheric testing and monitoring for the following is required:
  - Flammable gas, vapor or mist must be below 10% of its lower flammable limit (LFL);
  - Carbon monoxide must be below 35 ppm; and
  - Atmosphere oxygen concentration must be between 19.5% and 23.5%.
- In addition, monitoring is required for any toxic or hazardous substance for which a dose or a permissible exposure limit could result in an employee exposure to an atmospheric condition that is immediately dangerous to life or health.
- Testing must be performed using a calibrated instrument. Users must understand how to calibrate and use the instrument. A common example is the MSA Altair 4X. A few of the instrument’s on-screen indicators are provided below.

	Bump Check Symbol – Indicates successful bump or cal.
	Cal Gas Cylinder – Indicates cal gas must be applied.
	No Gas Cylinder – Indicates cal gas should not be applied and device must be exposed to fresh air.
	Sensor life Symbol – Indicates the end of sensor life

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## Additional Information

Visit <http://ehs.yale.edu/> to view a [Decision Flowchart](#), [Permit](#), [Alternate Entry Form](#) and [Reclassification Form](#).