

MBAA Safety Tool Box Talk



Confined Spaces

Working in a **confined space** is a unique and serious hazard

OVERVIEW

The OSHA standard for *The Confined Spaces, Title 29 Code of Federal Regulations* (CFR) Part 1910.146, requires that employers control access to Permit-required confined spaces. A confined space does not necessarily mean a small, enclosed space. It could be rather large, such as a vat, a tank or a pit. One of the first defining features of a confined space is its large enough to allow an employee to enter and perform work. The second defining feature is it has limited means of entry or exit. Entry may be obtained through small or large openings and usually there is only one way in and out. The third defining feature is that confined spaces are not used for continuous or routine work.

In Breweries, you may find Brewhouse tanks (kettle, mash tun, whirlpool, caustic tanks, yeast brinks, fermentation tanks, etc.), Boilers, and Grain Silos.

APPLICABILITY

All confined spaces are categorized into two main groups: non-permit and permit-required. Permit-required confined spaces must have signs posted outside stating that entry requires a permit. In general, these spaces contain serious health and safety threats including:

1. Oxygen-deficient atmospheres
2. Flammable atmospheres
3. Toxic atmospheres
4. Mechanical or physical hazards
5. Loose materials that can engulf

Although the danger in a confined space is obvious, the type of danger often is not. For example, a confined space with sufficient oxygen might become an oxygen-deficient space once a worker begins welding or performing other tasks.

These are some of the reasons confined spaces are hazardous:

- Lack of adequate ventilation can cause the atmosphere to become life threatening because of harmful gases.
- The oxygen content of the air can drop below the level required for human life.
- Sometimes a confined space is deliberately filled with nitrogen as a fire prevention technique. Nitrogen cannot sustain human life, so you must use respiratory protection.
- Many gases are explosive and can be set off by a spark.
- Even dust is an explosion hazard in a confined space. Finely-ground materials such as grain, fibers and plastics can explode upon ignition.
- Confined spaces often have physical hazards, such as moving equipment and machinery.
- Tanks and other enclosed confined spaces can be filled with materials unless the flow process for filling it is controlled.

STRATIFICATION – Layering of Gases in Confined Spaces GASES AT THE TOP

- Natural Gas
- Methane
- Also remember that HEAT can take contaminants to the top as well.

GASES IN THE MIDDLE

- Carbon monoxide / CO₂
- Mixtures of gases in the top and bottom of the space

GASES AT THE BOTTOM

- Propane
- Gasoline
- Hydrogen Sulfide

- Remember that cold air can cause toxic contaminants to stay at floor level.

TRAINING

Employees must be trained to ensure that they know, understand, and follow confined space entry/ working procedures. The training must identify the roles and responsibilities of the Entrant and Attendant as defined by OSHA for various personnel during confined space operations. Understand the use and need for a confined space permit. Understand basic emergency activities during a confined space emergency, including the hierarchy of rescue. Identify the employee's duties; and the various requirements of the OSHA standards related to confined space.

PROGRAM REQUIREMENTS

Before entering any confined space you must test the atmosphere to determine if any harmful gases are present. There must also be radio contact with an attendant outside the confined space and a rescue team at the ready in case of an emergency.

What confined spaces do we have around our workplace?

LINKS

- [OSHA Compliance Quick Start](#)
- [OSHA Fact Sheet on Permit Required Confined Spaces](#)
- [MBAA's Brewery Safety Committee Confined Space Program Template](#)
- [Brewers Association - Safety](#)

FOR MORE INFORMATION ON BREWERY SAFETY PROGRAMS, PLEASE VISIT THE MBAA SAFETY WEBSITE AT <http://www.mbaa.com/brewresources/brewsafety>