



Confined Space

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Introduction

Confined space means a space configured so that an employee can bodily enter and perform assigned work; however, the space

1. has limited or restricted means for entry or exit (for example, tanks, silos, vessels, storage bins, vaults and pits may have limited means of entry); and
2. is not designed for continuous employee occupancy.

The danger of engulfment involves the surrounding and effective capture of a person by a liquid or finely divided (flowable) solid. Such a material can cause death by suffocation or strangulation. Many other factors such as air contamination, existing ventilation, and oxygen deficiency (which is common in grain silos) need to be taken into consideration for safe operation in a confined space. An oxygen-deficient atmosphere is one with an oxygen content of less than 19.5 percent, where an oxygen enriched atmosphere is one that exceeds 23.5 percent oxygen by volume. Oxygen enriched atmospheres are particularly hazardous due to their higher risk of flammability.

All confined spaces require the presence of an attendant who is stationed outside one or more confined spaces to monitor the authorized entrants. An authorized entrant means a person designated by the employer to enter a confined space. A "hot work permit" is necessary when the permitted employee is performing duties that require welding, cutting, burning or heating; equipment used for these tasks

is capable of being an ignition source.

Both engulfment and asphyxiation have been critical hazards particularly in the case of agricultural operations. It is important to note that there are different standards that pertain to different types of industry regarding confined spaces.

Laws and regulations

CCR Title 8. 1910.146 - Permit-required confined spaces (general).

Standard number: 1910.146

Subpart number: J

Subpart title: General environmental controls
CCR Title 8. Article 109, California Labor Code 5178 (grain handling facilities).

CCR Title 8. Article 109, California Labor Code 5166 (cleaning, repairing, or altering containers).

Model programs/training

Cal/OSHA Consultation Service: **Permit Required Confined Spaces, Employee Safety Manual.**

National Safety Council (NSC): **Confined Space Entry Program.** Basic testing information about testing and entering confined spaces. Product #14543-2222.

Entrant/Attendant Workbook (NSC). Guides the entrant/attendant through class exercises and on-site activities. Product #15968-0000.

Confined Spaces Manual (NSC). Testing for potential hazards in confined spaces, protective clothing and equipment. Product #15226-0000.

Related articles and information

Chase, Ellen. "The dangers associated with confined workspaces." *Occupational Safety and Health*. May 1996.