



# Tailgate Safety Talk

## Information You Can Use to Prevent Accidents & Injuries

Danger is usually something we can see with our eyes, or hear with our ears. The serious dangers associated with confined spaces, however, are *invisible* and *silent*. Entering a tank, vault, boiler or manhole, for example, can be a hazardous journey for anyone who does not respect the unknown, potential killers that may lurk inside.

A variety of conditions make working in a confined space uncomfortable, such as minimum room to work or abnormal temperatures. The life-threatening condition, however, is simply the *quality of air* that exists in the space.

Safety and Health laws are strict about what must be done before entering a confined space, and well trained workers know and follow prescribed steps. Yet, tragedies have taken place when individuals disregarded these steps and assumed, "What you can't see can't hurt you!"

Just how dangerous are confined spaces? Aren't all the warnings and procedural checks simply overkill? Hardly. Think about this: According to a study performed by Safety Sciences, the following types of confined space incidents resulted in injuries and/or fatalities:

Type of Event	Number of Events	Number of Injuries Only	Number of Fatalities
Atmospheric Conditions (lack of oxygen)	80	72	78
Explosion or Fire	15	49	15
Explosion or Fire at Point of Entry	23	20	32
Electric Shock	11	2	9
Trapped in Unstable Material (cave in)	16	0	16
Struck by Falling Objects	15	1	14

These numbers should tell you something:

- 54% of the people exposed to oxygen deficient conditions died.
- For every fire within a confined space, one person died.
- Fire at the point of entry caused multiple fatalities in a single event.
- Cave-ins left 100 % of the victims dead.

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**What is a confined space?** OSHA defines a confined space as " any space which by design has limited openings for entry and exit; unfavorable natural ventilation which could contain or produce dangerous air contaminants, and one which is not intended for continuous occupancy." Examples: tanks, vaults or manholes.

**What are the hazards of a confined space?** There are three major hazards associated with confined spaces: oxygen deficiency, toxic vapors or gases, and flammable vapors or gases.

- **Oxygen deficient atmospheres** are atmospheres which contain less than 19.5% oxygen.
- **Toxic vapors and gases** which exceed their **PEL** (Permissible Exposure Limit) should be considered **Immediately Dangerous to Life or Health**.
- **Flammable or Combustible Atmospheres** are those in which flammable or combustible vapors/gases are equal to or greater than 10% **LEL** (Lower Explosive Limit). Remember to always check both the LEL & PEL of a substance!

Still think the safety rules pertaining to confined spaces are overkill? It is important to know what you are getting into. Has the space been recently inspected by a certified industrial hygienist? Have instruments been used to determine the presence or absence of combustible or flammable vapors? Do these instruments show the oxygen level to be between 19.5 and 22%? Is a "safe for hot work/safe for workers" permit required? Are the conditions of the permit or certificate being followed to the letter?

Are the contents of the space stable? Construction workers beware. Confined spaces are not limited to tanks and the like. Trenches, utility vaults, and large diameter pipe lines all present similar dangers. In fact, trench cave-ins are a leading cause of construction fatalities. Confined space work is dangerous. However, it can be done safely if appropriate precautions are taken. The hazards in most cases are invisible, so *take* those precautions before entering.

**How can you be sure a confined space is safe for workers?** A *trained person* must always test a confined space's atmosphere before anyone enters. If fault is found with its oxygen, toxicity, or flammability, it is not safe for entry! And remember, a confined space cannot be safely inspected by merely looking at or sniffing its atmosphere. Anyone who enters a confined space must follow a number of strict safety procedures. Many people have died because they did not do this, or were not prepared for the serious hazards involved. Always remind yourself of the possible dangers involved in entering any confined space and take the necessary precautions.

## ***WHEN IN DOUBT, STAY OUT!***

*Users of this tailgate talk are advised to determine the suitability of the information as it applies to local situations and work practices and its conformance with applicable laws and regulations.*