



# Tailgate/Toolbox Safety Training

Safety Services Company-Safety Meeting Division, PO Box 6408 Yuma, AZ 85366-6408 Toll Free (866) 204-4786



Company Name: \_\_\_\_\_ Job Site Location: \_\_\_\_\_

Date: \_\_\_\_\_ Start Time: \_\_\_\_\_ Finish Time: \_\_\_\_\_ Foreman/Supervisor: \_\_\_\_\_

## Topic 12: Confined Spaces

**Introduction:** *Confined Spaces* tend to compound existing hazards that may create dangerous situations, which by their nature would pose no particular problem in an "unconfined" space. The leading cause of fatalities in confined spaces is asphyxiation, however, others are:

- Toxic or flammable gases
- Mechanical hazards
- Fatalities of untrained rescuers
- Electrocution

**Identifying Confined Spaces** – Most hazardous situations occur because no monitoring devices were used, and the *confined space* was not properly ventilated. For the purposes of worker safety, a *confined space* is defined as an area that is large enough and of a shape to permit entry, has limited means of entry or exit, and is not designed or intended for continuous occupancy.



**Some examples of Confined Spaces are:**

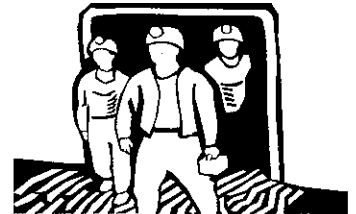
- Manholes
- Boilers
- Trenches
- Storage Tanks
- Cupolas
- Pipelines
- Septic Tanks
- Ship Holds
- Furnaces
- Pits
- Silos
- Utility Vaults



**Entry into a Confined Space** is not only when a person passes through an opening, but also when any part of a worker, such as a hand or head, passes into the confined space. Limited entry or exit means openings are usually small and may make the confined space difficult to get work or rescue equipment into, and may make it very difficult to escape in an emergency situation. Most confined spaces are not designed for routine tasks which require entry such as maintenance, *repair*, or cleaning and so these or similar tasks may be difficult or dangerous because of hazards within. Other hazards may also be introduced into the confined space by workers such as fumes from welding or fuel vapors and exhaust fumes from equipment.

**The greatest hazard of confined spaces** is hazardous atmosphere, which is a common characteristic of a confined space and includes oxygen deficient atmospheres, flammable gases, and toxic atmospheres.

- An oxygen deficient atmosphere** has less than 19.5 percent breathable oxygen and should not be entered without an approved self contained breathing apparatus (SCBA).
- A flammable atmosphere** is comprised of sufficient oxygen and high enough proportions of flammable gas, dust, or vapor that if an ignition source such as heat, flame, or spark is provided, an explosion may occur.
- Toxic atmospheres** are the presence within the confined space of any substance which may be hazardous to health when ingested, breathed, or absorbed through the skin. Toxins may be solid, liquid, dust, or vapors.



**Since some gases or vapors** are either lighter or heavier than air, it is necessary to test all levels of a confined space including the top, middle, and bottom air levels for hazardous atmospheres with calibrated testing equipment used by a trained competent person. If test equipment reveals the presence of either oxygen deficient or flammable atmosphere, the confined space must be ventilated and re-tested before workers may enter. There are several methods of ventilation which may be used for confined spaces. Use of fans or blowers and the methods of their use would depend on the size of the confined space to be ventilated and the openings available, the gases to be exhausted, and the source of air used to ventilate. For example, flammable vapors must not come into contact with an electrically operated device. Ventilation must continue throughout worker occupancy.

- Toxic atmospheres** – may be dealt with by the use of respiratory equipment and personal protective equipment. The equipment used must provide protection adequate to the level of the hazard present and personnel must be fully trained in the use of all necessary equipment.
- Mechanical Hazards** – which are present in confined spaces, may be made safe by using proper **Lockout/Blockout/Tagout** procedures. Mechanical hazards introduced by workers may be handled with the proper training of personnel in the hazards of the specific tools, equipment, and material that will be used. Proper spacing of personnel in the work area is necessary to provide safe clearance for work. When an employee works in a confined space that contains exposed, energized parts, the employer must provide and ensure the use of protective shields, protective barriers, or insulating materials as necessary to avoid inadvertent contact with these parts. Door hinged panels must be secured to prevent swinging into an employee and causing the employee to contact exposed energized parts.

**Conclusion:** NIOSH statistics show that 60 percent of all fatalities in confined spaces happen to the would-be rescuers and 65 percent of all confined space fatalities occur because of hazardous atmospheres in which workers failed to use monitoring devices and proper ventilation. The detection of many gases, toxins, or oxygen deficiency cannot be made with only the use of human senses; therefore, always use test equipment before entering confined spaces. It should also be noted that confined space work frequently requires specific confined space training/certification and any person exposed to such hazards should receive proper training/certification. Follow these requirements for safe confined space operations.

### Work Site Review

Work-Site Hazards and Safety Suggestions: \_\_\_\_\_

Personnel Safety Violations: \_\_\_\_\_

Material Safety Data Sheets Reviewed: \_\_\_\_\_ (Name of Chemical)

**Employee Signatures:** \_\_\_\_\_  
(My signature attests and verifies my understanding of and agreement to comply with, all company safety policies and regulations, and that I have not suffered, experienced, or sustained any recent job-related injury or illness.)

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**Foreman/Supervisor's Signature:** \_\_\_\_\_

These guidelines do not supercede local, state, or federal regulations and must not be construed as a substitute for, or legal interpretation of, any OSHA regulations.