



JOB AID

Confined Space Hazards

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To be a confined space, a space must be large enough and designed/configured so that people may enter, have limited or restricted entries or exits and NOT be designed for continuous occupancy.

A person can physically get inside the space and perform work, even if it is a tight squeeze. Trash compactors, utility accesses, attics and some ventilation ducts are all examples of spaces that are large enough to enter.

Limited or restricted entries or exits are difficult to enter/exit because of the configuration of the space; tripping or slipping hazards; poor lighting; lack of marked exits; or bending, stooping, crawling or climbing. Trips and falls in confined spaces can cause you to collide with the structure around you, creating injuries such as bumps, bruises or even a concussion.

Confined spaces are NOT designed for continuous occupancy; they are not safe for humans to remain in for days at a time. Some examples of confined spaces may include:

- Attics and crawl spaces
- Pipe assemblies
- Pits, including loading docks
- Sewers
- Ship compartments
- Storage tanks, silos, bins, vessels and vaults
- Large air handlers
- Cooling towers
- Trash compactors
- Storm drains

Don't rely on signs and instructions from others to identify confined spaces. If you are unsure if a space meets all three criteria of a confined space, you may ask your supervisor or a safety professional for assistance.

Hazards

Confined spaces are permit-required when they:

- Contain or potentially contain a hazardous atmosphere (example: sewer entry)
- Contain a material (liquid or solid) that may engulf (immerse or enclose) people (example: grain silo)
- Are configured so that an entrant could be trapped or asphyxiated (example: equipment access point)
- Contain ANY other serious safety or health hazards (example: meat and poultry rendering cookers or dryers)

Entering permit-required confined spaces without the proper precautions could result in injury, impairment or death.

Gases that are heavier than air may settle into confined spaces and be present at dangerous or even deadly levels.

The work people do in the space can displace oxygen (such as welding), create ignition sources (such as scraping metal), produce toxic fumes (such as using fuel-powered equipment) and create toxic atmospheres due to corrosive chemicals and gases (such as

cleaners and neutralizers). The sides of the space can absorb and expel gases after the hazardous material is gone.

Use calibrated, direct-reading gas detectors to test and monitor the atmosphere in permit-required confined spaces.

Other hazards in confined spaces that require permits include:

- Moving parts from mechanical or power-driven equipment
- Extreme temperatures
- Excessive noise
- Vibration
- Loose material
- Tripping or slipping hazards
- Accumulated water
- Limited light
- Insects and rodents

Employer Responsibilities

Your employer will identify confined spaces and alert employees to their presence, hazards and associated controls. Place signs AND prevent inadvertent access by using locks, fasteners, seals or other devices. Provide employees with training about how to safely work in the confined spaces they may encounter.

Confined spaces that have ANY hazards, such as dangerous atmospheres or mechanical and physical hazards, require additional precautions and permits before anyone may work in them. If you are required to work in or around hazardous confined spaces, you will receive additional training about how to do so safely.

When multiple employers are at a location, they must inform each other about confined spaces that they identify and discuss hazards and safety measures before anyone may enter. The responsibilities of employers are more involved when the confined space requires a permit.

Team Roles and Responsibilities

Authorized entrants are trained about confined space entry procedures and are authorized to enter a specific confined space. They know about hazards and how to properly use equipment. They communicate with the attendant and exit the confined space quickly and safely when directed to do so.

Attendants are stationed outside confined spaces and monitor and communicate with authorized entrants. They also keep unauthorized people away from the space. They should NOT perform any work that interferes with their duties of being attendants. During emergencies, attendants may order evacuations, perform non-entry rescues and summon emergency services using the employer's permit-required confined space rescue procedure.

Entry supervisors are ultimately responsible for confined space entry operations and will sign/cancel permits. Entry supervisors make sure rescue services are available and able to be summoned.

People may have more than one role if they are trained and qualified to do so. A person may transfer roles to others who are trained and qualified.