

# 5

## minute safety talk



## Is Your Confined Space Safe for Entry?

Confined space work may be one of the most dangerous jobs around. The most common underlying cause of these accidents is insufficient preparation for undetected hazards. Even the most experienced employees who work in confined spaces can run into problems. It is very important to take the correct precautions.

### Stand by for safe entry

The most important safety tool for confined spaces is not something you can hold or see. It is the planning and training that precedes confined space work.

Everyone involved has to understand what they're doing before they enter a confined space. Confined space work involves teamwork and requires constant supervision. Workers must have a trained attendant outside the space to monitor conditions and supply the proper equipment they need to do the job safely. The attendant must not be involved with any tasks or distractions unrelated to the safety of the confined space worker, and must not enter the confined space under any circumstances.

### Equipment needed

**Air monitoring/testing equipment.** Atmospheric hazards pose the greatest single danger to confined space workers. OSHA's confined space standard, 29 CFR 1910.146, requires testing before workers enter a permit-required confined space to reveal any potential atmospheric problems. Air monitoring and testing equipment can pinpoint oxygen deficiency or excess combustible gases and vapors, and toxic gases and vapors. Many experts advise workers to continuously monitor the air while they work.

Never assume that something safe in normal conditions is also safe in a confined space. Some monitors, such as for dust and grain, that are not combustible outside become explosive in a confined space. Make sure your monitoring and testing equipment is certified intrinsically safe by a third party. Intrinsically safe by design means the products may incorporate certain construction methods to prevent the release of heat or electrical energy, which could lead to an explosion in a confined space.

**Purging and ventilation.** With good ventilation, workers may not need respiratory protection. Some equipment brings in fresh air and circulates it continuously while blowing out contaminated air. It may provide spot exhaust, general ventilation or air conditioning for spaces that are too hot and could lead to heat stroke or heat exhaustion.

**Fire protection.** With the combination of electrical and chemical hazards in confined spaces, it's no surprise that fires are a frequent cause of injury and death. Keep (and use) non-sparking tools, fire extinguishers and a combustible gas meter on hand.

**Lighting.** Inadequate lighting contributes to many mishaps in confined spaces. Flashlights, portable lighting and battle lanterns – preferably battery-powered or at least with ground-fault interrupters – can help workers operate quickly and see precisely inside confined spaces. If a potential for explosive vapor exists, use explosion-proof or intrinsically safe lighting.

**Hearing protection.** Confined spaces often amplify noise, such as from drills or pumps. Good hearing protection is essential, whether it be ear plugs, muffs or headsets. Be sure that hearing protection does not get in the way of communication.

**Communications equipment.** If the confined space is relatively quiet, the entrant and attendant can use radio communications equipment to keep in touch. But if the job involves high noise levels, the attendant will need something else – a vibrating pager or state-of-the-art communications device – to warn co-workers of a change in conditions or other problems.

**Electrical equipment.** Many confined spaces have standing water in them. Others have flammable or combustible gases, vapors or dusts. Add electricity to the mix and you have a recipe for disaster. Intrinsically safe lighting and equipment, battery-powered lighting or equipment designed for wet environments will reduce electrical hazards in confined spaces. Follow correct lockout/tagout procedures as well.

**Respiratory protection.** If ventilating the confined space does not make it safe enough for entry, your workers will need proper respiratory protection. Choose protection after you have monitored for atmospheric hazards. Respirators must be properly fit-tested and maintained. Remember, you must be certified to wear any kind of respirator, even a dust mask.

**Rescue equipment.** Even the most able-bodied worker can become incapacitated in a confined space. So rescue equipment – body harnesses and lifelines, ladders, tripods, and retrieval systems – must be on hand, and your attendant and evacuation team must know how to use it.

### Prepare to act quickly

A trained and equipped rescue team should be available to respond to any emergency. This team may consist of company personnel, or it may be a contracted service. They must be able to respond quickly and have knowledge of the potential hazards at the specific location. Practicing rescue simulations using real workers or mannequins provides training for a rescue team, but must be done carefully to avoid injuries.