Learn to Recognize a Confined Space Hazard

Safety Talk

What’s at Stake

Is there a manhole to a sewage system near your workplace, or an underground vault for an electrical system? Any boiler, tunnel, well, silo, shaft or poorly ventilated crawl space can be a potentially dangerous confined space.

Even if your job doesn’t involve entering a confined space, if there is one nearby it is important to be aware of the dangers.

What’s at Danger

One atmospheric hazard in such spaces is an oxygen level below what is needed to sustain life. Toxic gas is another atmospheric hazard. It might be created by a substance stored in the space or seeping in, gasoline vapors from an underground fuel spill or naturally-occurring methane from rotting organic material. Other hazards could be fire or explosion, flammable gases, vapors or dusts, electric shock, temperature extremes, shifting materials such as sand, equipment in motion, slippery surfaces or chemicals.

Confined space entry is not something to be undertaken lightly. It requires training, protective equipment, correct procedures and authorization. Even in an emergency, you have to follow all precautions. About half of the confined space fatality victims are rescuers.

Example

Somebody gets into trouble in a confined space and someone else rushes in without using a proper respirator. Then two people are down. There have been cases of one rescuer after another dying in

a confined space.

How to Protect Yourself

It is very important to use the right respirator, and for much of confined space work an actual air supply is required. The chemical cartridge respirator that you might use for chemical exposure won’t save your life if the problem is lack of oxygen.

There are common procedures for confined space entry, including:

- Getting a written entry permit.
- Assembling tools such as personal protective equipment (PPE), lifeline, retrieval harness, testing devices, lighting and communications equipment.
- Preventing pedestrians or vehicles from entering the work area.
- Testing the air for dangerous gases and lack of oxygen.
- Isolating electrical hazards and closing off lines of flowing liquids or solids.
- Ventilating the area or purging it with inert gas that can’t explode. Inert gas can cause oxygen deficiency. Don’t use pure oxygen because of the danger of explosion.
- Wearing proper PPE.
- Posting an attendant outside the confined space.
- Removing possible sources of ignition and using non-sparking tools and lighting.

Final Word

As you can see, preparing to work safely in confined space is an involved process that takes special authorization, training and equipment. What you need to remember is this: Do not enter a confined space unprepared—even to rescue someone.