5 Myths About What Defines a Confined Space



Identifying a confined space sounds simple, but there is no single, simple definition of what constitutes a confined space.

Confined space safety can be complicated. There are a lot of variables and the stakes are high. That means safety professionals need a sound understanding not only of the standards around confined space safety, but also the details of each confined space they work with to properly assess the risk. They should also be aware of some of the common the myths around confined spaces.

Below are a few myths and misunderstandings that consistently emerge in conversations about confined space.

Myth #1: There Is a Standard Definition

This is a bit counter-intuitive, but we can't seem to agree on what a confined space is.

In the United States, OSHA defines a confined space as a space that:

- Contains or has the potential to contain a hazardous atmosphere

- Contains material that has the potential to engulf someone who enters the space
- Has walls that converge inward or floors that slope downward and taper into and area that could trap and asphyxiate someone who enters
- Contains another safety or health hazard, such as exposed live wires, heat stress or unguarded machinery

If that sounds straightforward, the devil is in the details; OSHA standards for confined spaces span different industries and include details and directive for each one. There are also 28 OSHA-approved State Plans. These standards have to be at least as effective as OSHA's standards. As a result, many are more stringent.

Depending on where you live, the definitions used may also depend on industry. For example, the energy sector in Canada has consolidated different standards into Energy Safety Canada (formerly Enform), which uses the OSSA (Oilsands Safety Association) confined space standards, and further subdivides confined spaces into three classifications. Furthermore, CSA has the Canada-wide Z1006-16 confined space management standard, but it is not among the adopted standards in provincial codes, so is still considered voluntary. We have many sources from which to draw and they all differ in their definitions. Many other jurisdictions are faced with the same scenario.

Back to OSHA, which specifically includes engulfment hazards and tapering walls/floor. Those are useful conditions to note, but arguably pretty granular and not found in other definitions.

Much like labeling confined spaces, this has the potential to produce an "exception that proves the rule" misunderstanding ' if it doesn't have the items on that list, it must not qualify.

Myth #2: 19.5 Percent Oxygen Is Safe

One of the guidelines given for a confined space is that there should be between 19.5% and 23% oxygen as a safe atmosphere. While that might be a breathable ratio ignoring everything else, it does have a few implications.

If normal air contains 20.9% oxygen and the space is giving a reading of 19.5%, it could mean that some air is being displaced by another substance. In fact, if you consider the entire volume, 19.5% oxygen is a reduction of 7.2% from the normal expected level, so there is conceivably about 70,000 ppm of something else in there displacing total air volume. This is why a hazard assessment needs to consider the potential substances in the space and why atmospheric monitoring must be properly set up to detect the presence of anything harmful.

Displacement is only one of the mechanisms by which an area can become oxygen deficient. Chemical reactions can use up atmospheric oxygen and create byproducts, some that may be benign and others that may be harmful ‘ and unexpected.

Myth #3: Only if You Go Inside…

Sometimes, we get in the weeds with definitions, and this is a prime example. At what point exactly have you entered a confined space’

OSHA’s definition states it’s “When any part of the body of an entrant breaks the plane of the opening of a PRCS (permit-required confined space), entry is considered to have occurred.”

Simple. Well, it would be, but the definition goes on to include a bunch of other conditions: the entry has to be large

enough to fit through, and may be exempt by a *de minimis* clause if it poses no hazard by partial entry, and apparently allows someone to reach into a space through a small, secondary opening. It continues with a list of other contingencies and sub-contingencies.

When deciding whether someone has entered a confined space, it's generally best to live by a definition that is stringent enough to capture all of those scenarios without being needlessly strict. Likely, you'll capture a few false positives within that scope, but err on the side of caution. A simple definition is: "if any part of the entrant's body crosses the plane of the opening." At least it can be easily understood.

Myth #4: Confined Spaces Are Labelled

Some industry standards suggest labeling and signage conventions for confined space, permit-required confined space, restricted space, or whatever nomenclature is used.

OSHA has no requirement that spaces be marked with a sign, just that they be identified. Signage might be the most obvious way to do this, but it doesn't absolve the employer of training workers on how to identify a confined space for themselves.

(Learn more in Working in a Confined Space' You Need the Right Training.)

It needs to be understood that the nature of work in the space may be what escalates the scenario to the need for a permit. Also, it should be stressed that the signage doesn't define which are confined spaces and which aren't, lest you run into the assumption that "no sign = not a confined space."

Myth #5: Potential for a Hazardous Atmosphere

Most confined space definitions include “the potential to develop a hazardous atmosphere” as one of the factors. This is a little tricky, because establishing such a thing is not a simple matter of checking a box.

With a liberal interpretation, you could say a hazardous atmosphere is possible in any confined space whatsoever, albeit vanishingly improbable in some cases. The work has to be done to establish what real risks exist in that space for hazardous atmospheres, as well as understanding what is meant by “hazardous.” Substances that pose a nuisance or chronic exposure risk may not qualify. However, some employers again wisely err on the side of caution.

It may be the case that the space itself doesn’t create a confined space hazard, but the work being done does. Hot work or work with chemicals such as solvents may trigger the need for a confined space permit and the associated precautions.

Stay Informed

Confined space safety can be complicated, and there is some confusion surrounding the details. If your job site has confined spaces, make sure to carefully review the standards, assess the risks, and inform workers of everything they need to know to stay safe.

Source: Safeopedia By Daniel Clark