

July 10, 2003

Applications Note: OSHA Glossary of Confined Space Terms and Definitions

Acute

Acute effects appear shortly after exposure, usually one to three days, while chronic effects take longer to appear, sometimes months or years.

Air changes per hour

Air changes per hour means the number of times that the volume of a space (ft³) is moved through the space by a fan or mechanical air mover.

Attendant

The attendant is the individual stationed outside a permit space to perform attendant duties. The attendant's major function is to monitor and protect the authorized entrants.

Authorized entrant

The authorized entrant is the employee who is authorized by the employer to enter a space.

Blanking

Blanking, or blinding, is a method of closing off a pipe by installing a solid cap or plate so that the pipe's bore is completely covered. The plate's diameter is smaller than that of the flange so that the flange bolts can be reinserted and tightened to hold the blank in position.

Blinding

Blinding, or blanking, is a method of closing off a pipe by installing a solid cap or plate so that the pipe's bore is completely covered. The plate's diameter is smaller than that of the flange so that the flange bolts can be reinserted and tightened to hold the blank in position.

Broad range sensors

Broad range sensors are sensors that only indicate that a hazardous threshold of a class of chemicals has been reached.

Ceiling limit

Ceiling limit is an airborne concentration of a toxic substance in the work environment, which should not be exceeded. If instantaneous monitoring is not feasible, then the ceiling is a 15-minute time-weighted average exposure not to be exceeded at any time during the working day.

Chemical asphyxiants

Chemical asphyxiants are a special category of toxin. They render the body incapable of using an adequate supply of oxygen.

Combustible Dusts

Examples listed in the Note under Class II, Division 1 definition in 1910.399: This classification may include areas of grain handling and processing plants, starch plants, sugar-pulverizing plants, malting plants, hay-grinding plants, coal pulverizing plants, areas where metal dusts and powders are produced or processed, and other similar locations which contain dust producing machinery and equipment (except where the equipment is dust-tight or vented to the outside). These areas would have combustible dust in the air, under normal

operating conditions, in quantities sufficient to produce explosive or ignitable mixtures. Combustible dusts which are electrically nonconductive include dusts produced in the handling and processing of grain and grain products, pulverized sugar and cocoa, dried egg and milk powders, pulverized spices, starch and pastes, potato and woodflour, oil meal from beans and seed, dried hay, and other organic materials which may produce combustible dusts when processed or handled. Dusts containing magnesium or aluminum are particularly hazardous and the use of extreme caution is necessary to avoid ignition and explosion.

Confined Space

Confined space means a space that:

- (1) Is large enough and so configured that an employee can bodily enter and perform assigned work; and
- (2) Has limited or restricted means for entry or exit (for example, tanks, vaults, and pits are spaces that may have limited means of entry.); and
- (3) Is not designed for continuous employee occupancy.

Confined Space Entry

[Confined space] entry means the action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

Complete Bodily Entry

Complete Bodily Entry means that an employee can bodily enter [a space] and perform assigned work.

Consensus Standard

The term "national consensus standard" means any occupational safety and health standard or modification thereof which,

- (1) has been adopted and promulgated by a nationally recognized standards-producing organization under procedures whereby it can be determined by the Secretary that persons interested and affected by the scope or provisions of the standard have reached substantial agreement on its adoption,
- (2) was formulated in a manner which afforded an opportunity for diverse views to be considered, and
- (3) has been designated as such a standard by the Secretary, after consultation with other appropriate Federal agencies. Section 3(9) - OSHAct

Controlling employer

In a multi-employer setting, the controlling employer is the employer who has responsibility for making sure a hazard was corrected

Correcting employer

In a multi-employer setting, the correcting employer is the employer who has the responsibility for actually correcting a hazard

Creating Employer

In a multi-employer setting, the creating employer is the employer who actually created the hazards.

dBA

A dBA is a unit of measurement of sound level in the A-weighted scale (i.e., the A-weighted scale references the way the human ear hears).

De minimus violation

A de minimus violation is one in which a standard is violated, but the violation has no direct or immediate relationship to employee safety or health; these violations are documented, but no citations are issued.

Dilution Ventilation

Diluting the concentration of the contaminant before it reaches the worker's breathing zone by mixing with uncontaminated air. This method is known as "general ventilation" or "dilution ventilation."

Capturing and removing the contaminant at or near its' source or point of generation, thus preventing the release of the contaminant into the workspace, is known as "local exhaust ventilation."

Double block and bleed

"Double block and bleed" means the closure of a line, duct, or pipe by closing and locking or tagging two in line valves and by opening and locking or tagging a drain or vent valve in the line between the two closed valves.

Easily ignitable fibers and flyings

Examples listed in the Note under Class III, Division 1 in 1910.399: Such locations usually include some parts of rayon, cotton, and other textile mills; combustible fiber manufacturing and processing plants; cotton gins and cotton-seed mills; flax-processing plants; clothing manufacturing plants; woodworking plants, and establishments; and industries involving similar hazardous processes or conditions.

Easily ignitable fibers and flyings include rayon, cotton (including cotton linters and cotton waste), sisal or henequen, istle, jute, hemp, tow, cocoa fiber, oakum, baled waste kapok, Spanish moss, excelsior, and other materials of similar nature.

Eight-hour time-weighted average

The eight-hour time-weighted average (TWA) refers to concentrations of airborne toxic materials that have been averaged over an eight-hour working day.

Engulfment

Engulfment means the surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.

Entry (Confined Space)

[Confined space] entry means the action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

Entry rescue

In an entry rescue, a rescuer must enter the confined space.

Entry supervisor

The entry supervisor is the person responsible for determining whether acceptable entry conditions exist, for authorizing entry, overseeing entry operations, and for terminating entry.

Exposing employer

In a multi-employer setting, the exposing employer is the employer whose employees were exposed.

Field calibration

Field calibration means verifying whether an instrument is functioning properly and giving the correct readout within the limits specified by the manufacturer of the span (calibration or cal) gas.

Field check

A field check, or function check, means using simple tests (such as exposing sensors to calibration gas or exhaling into the oxygen sensor) to show that the instrument will respond to the chemical(s) of concern and that all alarms operate as they were designed.

Fixed industrial stairs

The characteristics of fixed industrial stairs are: stair strength (min. of 1,000 lbs); stair width (min of 22"); angle of stairway rise (angles to the horizontal between 30 and 50 degrees - Table D-1 gives Rise/Tread dimensions that meet this requirement); tread (reasonably slip-resistant) railings and handrails (at least one side - refer to §1910.23); vertical clearance (at least 7 ft.)" from 1910.24

Flowable

A flowable solid substance is a solid that is so finely divided that it can "flow."

Function check

A function check, or bump test, means using simple tests (such as exposing sensors to calibration gas or exhaling into the oxygen sensor) to show that the instrument will respond to the chemical(s) of concern and that all alarms operate as they were designed.

General Ventilation

Diluting the concentration of the contaminant before it reaches the worker's breathing zone by mixing with uncontaminated air. This method is known as "general ventilation" or "dilution ventilation."

Hazardous atmosphere

Hazardous atmosphere means an atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (that is, escape unaided from a permit space), injury, or acute illness from one or more of the following causes:

- (1) Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL);
- (2) Airborne combustible dust at a concentration that meets or exceeds its LFL;

NOTE: This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet (1.52 m) or less.

- (3) Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;

- (4) Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in Subpart G, Occupational Health and Environmental Control, or in Subpart Z, Toxic and Hazardous Substances, of this part and which could result in employee exposure in excess of its dose or permissible exposure limit;

NOTE: An atmospheric concentration of any substance that is not capable of causing death, incapacitation, impairment of ability to self-rescue, injury, or acute illness due to its health effects is not covered by this provision.

- (5) Any other atmospheric condition that is immediately dangerous to life or health.

NOTE: For air contaminants for which OSHA has not determined a dose or permissible exposure limit, other sources of information, such as Material Safety Data Sheets that comply with the Hazard Communication Standard, §1910.1200 of this part, published information, and internal documents can provide guidance in establishing acceptable atmospheric conditions.

Horizontal standard

Horizontal standards are standards that apply across industries.

IDLH

Immediately dangerous to life or health (IDLH) means any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a permit space.

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Inerting

Inerting means the displacement of the atmosphere in a permit space by a noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible.

NOTE: produces an IDLH oxygen-deficient atmosphere.

Inwardly converging walls

Inwardly converging walls are walls that slope down and taper to a smaller cross-section (come together).

Isolation

Isolation is the process by which a permit space is removed from service and completely protected from the release of energy and material into the space by such means as: blanking or blinding; misaligning or removing sections of lines, pipes, or ducts; a double block and bleed system; lockout or tagout of all sources of energy; or blocking or disconnecting all mechanical linkages.

LEL

The lower explosive limit, LEL, is the minimum concentration of vapor or gas in air below which propagation of flame does not occur on contact with a source of ignition. Below the LEL there is too little combustible fuel to sustain a flammable mixture.

LFL

The lower flammable limit, LFL, is the minimum concentration of vapor or gas in air below which propagation of flame does not occur on contact with a source of ignition. Below the LFL there is too little combustible fuel to sustain a flammable mixture.

Limited or restricted means of entry and exit

Limited or restricted means of entry and exit means "when an employee would be forced to enter or exit in a posture that might slow self-rescue or make rescue more difficult," (FR 11/4/94, p. 55208) or physical impediment of the body, e.g., use of the hands or a contortion of the body to enter into or exit from the confined space. (ANSI Z117.1-1995. Notice that ANSI is cited here. Even though ANSI is cited, this definition expresses OSHA's intent.)

Local Exhaust Ventilation

Capturing and removing the contaminant at or near its' source or point of generation, thus preventing the release of the contaminant into the workspace. This method is known as "local exhaust ventilation."

Lockout

Lockout is the process of installing a lock on an energy-isolating device such as a circuit breaker, disconnect switch, or shut-off valve that prevents the device from being operated until the lock is removed by the person who applied it.

Lower explosive limit

The lower explosive limit, LEL, is the minimum concentration of vapor or gas in air below which propagation of flame does not occur on contact with a source of ignition. Below the LEL there is too little combustible fuel to sustain a flammable mixture.

Lower flammable limit

The lower flammable limit, LFL, is the minimum concentration of vapor or gas in air below which propagation of flame does not occur on contact with a source of ignition. Below the LFL there is too little combustible fuel to sustain a flammable mixture.

National Consensus Standard

The term "national consensus standard" means any occupational safety and health standard or modification thereof which,

- (1) has been adopted and promulgated by a nationally recognized standards-producing organization under procedures whereby it can be determined by the Secretary that persons interested and affected by the scope or provisions of the standard have reached substantial agreement on its adoption,
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Non-entry rescue

In a non-entry rescue, the entrant needs assistance in getting out of the permit space, but that assistance is provided without anyone else entering the space.

Non-permit confined space

Non-permit confined space means a confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

Normal air

Water vapor content varies, but is usually the third largest constituent by volume in air.

PELs

Permissible exposure limits (PELs) are regulatory limits on the amount or concentration of a substance in the air. They may also contain a skin designation. PELs are enforceable.

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Permit space

Permit-required confined space (permit space) means a confined space that has one or more of the following characteristics:

- (1) Contains or has a potential to contain a hazardous atmosphere;
- (2) Contains a material that has the potential for engulfing an entrant;
- (3) Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or
- (4) Contains any other recognized serious safety or health hazard.

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- (4) Contains any other recognized serious safety or health hazard.

Primary calibration

Primary calibration means testing an instrument for accuracy and sensitivity throughout the complete range specified by the manufacturer. Federal compliance officers send gas detection instruments to the OSHA Cincinnati Technical Center for calibration at a minimum every two years.

Potential exposure

Potential exposure is when the possibility exists that an employee could be exposed to a hazard because of work patterns, past circumstances, or anticipated work requirements, and it is reasonably predictable that employee exposure could occur at some time during the entry.

Restricted or limited means of entry and exit

Limited or restricted means of entry and exit means "when an employee would be forced to enter or exit in a posture that might slow self-rescue or make rescue more difficult," (FR 11/4/94, p. 55208) or physical impediment of the body, e.g., use of the hands or a contortion of the body to enter into or exit from the confined space. (ANSI Z117.1-1995. Notice that ANSI is cited here. Even though ANSI is cited, this definition expresses OSHA's intent.)

Self-rescue

Self-rescue is a rescue performed by the entrant who must exit the space.

Serious hazard

A serious hazard is one that can cause death or serious physical harm.

Tagout

Tagout is the process of attaching a sign, label, or tag to an isolating device. The tag identifies specific equipment that is being used to achieve isolation and warns others not to operate it.

TWA

The eight-hour time-weighted average (TWA) refers to concentrations of airborne toxic materials that have been averaged over an eight-hour working day.

Upper explosive limit

Upper explosive limit (UEL) is the maximum concentration of vapor or gas in air above which propagation of flame does not occur on contact with a source of ignition. Above the UEL there is too little oxygen to sustain a flammable mixture.

Upper flammable limit

Upper flammable limit (UFL) is the maximum concentration of vapor or gas in air above which propagation of flame does not occur on contact with a source of ignition. Above the UFL there is too little oxygen to sustain a flammable mixture.

Ventilation

Ventilation is a method of controlling the environment with airflow.

Vertical standard

Vertical standards are standards that apply only to specific industry operations.