

Emergency exit routes: Your way out

When a fire or other emergency happens at your facility, it is important to know how to get outside and away from danger quickly. Although these events are unpredictable, being prepared and remaining calm may save your life.

You should be able to locate the exits nearest to where you work—a direct route will allow you to quickly evacuate the building. However, you should also know the locations of other exit doors in other areas of the building in case your primary evacuation route is inaccessible for any reason, including the presence of smoke, flames, or a chemical spill. After exiting the building, move away from doors, and go to your facility's designated assembly area. Be aware of your surroundings, and do not get in the way of emergency responders.

Be vigilant to ensure that emergency exit doors remain unlocked (from the inside). If you see a locked exit door at your facility, notify your supervisor immediately. It is also important that these doors and the paths leading to them (i.e., exit access) are free of obstructions and clutter. Never store anything that blocks an emergency exit door in any way. Good housekeeping practices can save precious time during an emergency and also save your facility from potential OSHA fines.



SAFETY EDUCATE, ENGAGE & EVOLVE

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Trenching hazards

According to the Bureau of Labor Statistics, there were 104 construction industry fatalities between 2011 and 2016 due to trenching and excavation work. One of the most dangerous hazards at these sites is unexpected cave-ins. You may be surprised to learn that a cubic yard of soil can weigh as much as a car—so when a cave-in occurs, workers can be badly injured or killed. However, these tragedies can be prevented when workers are properly trained and the required safety measures are established.

When is it safe to enter a trench?

A worker should enter a trench only if it has been inspected by a competent person who is capable of identifying hazards or conditions that are hazardous, unsanitary, or dangerous; it does not contain standing water; a worker can safely enter and exit using means such as ladders, steps, or ramps; and all equipment and material are positioned away from the edge. There must also be cave-in protection measures installed for trenches 5 feet in depth or greater, unless the trench is cut from stable rock.

Protective systems for trenches

Some protective systems for trenches are simple, but others may have to be designed by a registered professional engineer. A trench protective system may include these elements:

- The walls of the trench should be sloped away from the excavation. The maximum allowable slope will vary depending on the type of soil and how long the trench will be open. The walls may also be benched with one or more benches.
- The trench should be “shored,” meaning, the walls should be braced to prevent the movement of the soil.
- Trench boxes or shields, usually made of steel or aluminum, should be installed in the trench between the side of the excavation and the work area. This type of equipment is intended to protect workers from cave-ins.

Other hazards

Other hazards workers may be exposed to during trench or excavation activities include falling loads or objects from lifting or digging equipment. To prevent vehicles from falling into the trench, barricades or stop logs may be installed, hand or mechanical signals must be used, and soil should be graded away from the excavation.

In addition, the atmosphere in the trench may be different from that at ground surface level. The atmosphere is considered hazardous if it may be explosive, flammable, poisonous, corrosive, oxidizing, irritating, oxygen-deficient, toxic, or otherwise harmful. If there is the potential for a hazardous atmosphere, respirators must be available, and workers should be trained on how to use them.



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Work zone driving safety

No one likes to see road signs and orange cones indicating upcoming road construction, especially if you're running late. However, drivers who are not paying attention or speeding in these areas put construction or maintenance workers in great danger on roadways. Many areas have implemented "Give Us a Brake" campaigns to educate drivers on best practices to prevent accidents or fatalities in roadwork areas. By following these tips, you can do your part in making sure our roadways are safe workplaces.

- Pay attention—there may be sudden changes in traffic flow, like speed reductions and shifted lanes. Never talk or text on a cell phone; and avoid other distractions, like eating or loud music.
- If a flagger is directing traffic, follow all of his or her instructions.
- Turn on your headlights—rain or shine, day or night.
- Keep a safe distance between your vehicle and construction workers, barriers, equipment, or trucks.

If you see an arrow directing you to merge lanes, do so as soon as it is safe. Do not wait until the last minute to "cut" the line of traffic.

Trench safety: Quiz

1. Trench walls should be excavated at a 90 degree angle. TRUE or FALSE
2. _____ is used to support the trench face to prevent the movement of soil.
 - A. Shielding
 - B. Sloping
 - C. Shoring
3. A competent person must inspect the trench before the start of every shift. TRUE or FALSE

Chemical Hygiene Plan

Nonproduction laboratories—or labs where workers are routinely exposed to small quantities of hazardous chemicals but that do not produce commercial quantities of materials—are subject to the OSHA "Laboratory Standard." According to OSHA, over 500,000 workers are employed in these labs, which include research and development labs that may or may not be used to support manufacturing. Generally, quality control labs are not covered by the standard.

For these labs, the employer is required to have a Chemical Hygiene Plan (CHP), a written policy describing standard operating procedures and responsibilities to protect lab personnel from health hazards. A chemical hygiene officer is designated by the employer to implement the CHP.

If you work with hazardous substances in a nonproduction lab, you should review your employer's CHP that is specific to your workplace and the chemicals you will encounter. The following important information will be in the CHP:

- Permissible exposure limits (PELs) for regulated substances or the recommended exposure limits for any hazardous chemicals for which there is no OSHA standard;
- The signs and symptoms associated with exposure to hazardous chemicals in use; *and*
- The location and availability of reference materials (including safety data sheets) describing the hazards, safe handling, storage, and disposal of hazardous chemicals.

In addition, workers should be trained on how to protect themselves against hazards from exposure to hazardous chemicals, including the personal protective equipment that should be used and emergency procedures.



Answers: 1. FALSE. Unless the trench is cut from stable rock, i.e., solid mineral matter that can be excavated with vertical sides and remain intact while exposed, trench walls should be sloped away from the excavation. 2. C. A popular shoring system is hydraulic shoring, a light prefabricated system of aluminum or steel that can prevent the movement of soil. Systems can also be made of wood. 3. TRUE. A competent person must be able to detect hazardous conditions and failures in protective systems. This person should inspect the trench at the start of every shift and has the authority to take corrective measures and to stop work when required.