

Carbon Monoxide Awareness in Construction

IDENTIFY

Construction activities often involve the use of various fuel-powered equipment, which can produce carbon monoxide. It is crucial that we understand what carbon monoxide is, how it can harm us, recognize its signs and symptoms, and know what to do if we suspect exposure to it. Equally significant are the proactive measures to mitigate the likelihood of exposure.

What is Carbon Monoxide?

Carbon monoxide is a hazardous gas produced by the incomplete combustion of carbon-based fuels such as gasoline, diesel, propane, and natural gas. On construction sites, this gas can be generated by vehicles, generators, compressors, welding equipment, and other fuel-powered machinery. Since it is colourless, odourless, and tasteless, carbon monoxide can be extremely challenging to detect without proper monitoring equipment.

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When workers inhale carbon monoxide, it enters their bloodstream, forming a strong bond with hemoglobin, reducing the blood's ability to transport oxygen effectively. This lack of oxygen can lead to serious health issues and can impair a worker's ability to think clearly and react appropriately, increasing the risk of incidents.

Signs and Symptoms of Carbon Monoxide Poisoning

Recognizing the early signs of carbon monoxide poisoning is crucial for preventing serious incidents. Symptoms can vary depending on the level and duration of exposure. Some common signs to watch out for include:

1. Headache
2. Dizziness or light-headedness
3. Nausea or vomiting
4. Shortness of breath or difficulty breathing
5. Fatigue or weakness
6. Confusion or impaired judgment
7. Blurred vision
8. Loss of consciousness

If anyone on the construction site experiences these symptoms, especially multiple individuals at the same time and the

symptoms improve when they leave the affected area, carbon monoxide poisoning *should* be suspected.

What to Do if You Suspect Carbon Monoxide

If you suspect carbon monoxide exposure on the construction site, take the following immediate actions:

1. Alert Others: Notify your co-workers and supervisor about the potential carbon monoxide presence to ensure their safety.
2. Evacuate the Area: If possible, quickly leave the area where you suspect carbon monoxide might be present. Move to an open, well-ventilated space.
3. Call for Help: Dial emergency services (911 or the relevant emergency number) immediately if anyone is experiencing severe symptoms or is unconscious.
4. Ventilate the Area: If it is safe to do so, open doors and windows to increase airflow and help dissipate the carbon monoxide gas.
5. Turn Off Equipment: If you can safely identify the source of carbon monoxide, shut down the equipment producing it to prevent further emission.
6. Avoid Re-entering: Do not return to the affected area until it has been declared safe by a qualified professional. They will assess the situation and take necessary actions to eliminate the risk.

Preventive Measures

To reduce the risk of carbon monoxide exposure on construction sites, we must adhere to these preventive measures:

1. **Perform CO Hazard Assessment:** Identify all work equipment and operations that emit CO and determine level of emissions and worker exposure.
2. **Regular Equipment Maintenance:** Conduct regular maintenance and inspections of fuel-burning machinery

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3. **Use Engine Outdoors:** Always use generators, compressors, and other fuel-powered equipment outdoors or in well-ventilated areas away from confined spaces.

4. **Proper Ventilation:** Ensure that enclosed spaces, especially those housing fuel-powered equipment, are well-ventilated. Exhaust fans and hoses are typically used to remove CO from the work area.

5. **CO Detectors:** Install carbon monoxide detectors in enclosed spaces and areas where fuel-powered equipment is used.

6. **Education and Training:** Provide proper training to all workers about the risks of carbon monoxide exposure, its signs, and the appropriate actions to take in case of suspected exposure.

7. **First Aid Arrangements:** Ensure there is a first aid attendant trained in CPR and use of an AED readily available. There should also be a reliable means of contacting emergency services and transferring victims to the nearest hospital for treatment.

In the construction industry, where we often work with fuel-powered equipment, carbon monoxide awareness is crucial for ensuring the safety and well-being of all workers. Remember, carbon monoxide is an invisible danger that demands our attention and proactive measures. Let's stay informed, vigilant, and committed to creating a safe work environment. By being aware and taking appropriate actions, we can prevent accidents and protect ourselves and our colleagues from the risks associated with carbon monoxide exposure. Thank you for your attention, and let's prioritize safety on every construction site.

THE QUIZ

1. What are some of the challenges to identify CO? (select all that apply)

- a) Colourless
- b) Odorless
- c) Tasteless
- d) Loss of appetite

2. What are some of the symptoms of exposure to CO? (select all that apply)

- a) Headache
- b) Dizziness
- c) Nausea
- d) Profuse sweating

3. What produces CO?

- a) WD 40
- b) Smoking
- c) Combustion of carbon-based fuels
- d) Electrical Equipment

4. If CO is suspected, what should a preventative measure be?

- a) Go for coffee
- b) Don N95 dust mask
- c) Alert others
- d) Ventilate the area

5. Which of these are measures to reduce the risk of CO exposure?

- a) Regular maintenance of CO emitting vehicles and equipment
- b) Ventilation fans and hoses
- c) CO detectors
- d) All of the above

6. Which of these are common sources of CO emission?

- a) Gasoline powered vehicles
- b) Diesel powered generators
- c) Electric powered compressors
- d) Welding equipment

1. a,b,c 2. a,b,c 3. c 4. c 5. d 6. a,b,d

ANSWERS: