HAZARD ALERT

CPWR
THE CENTER FOR CONSTRUCTION RESEARCH AND TRAINING

CARBON MONOXIDE POISONING

Gas-Powered Generators, Tools and Other Equipment

Am I in danger?

The answer is **YES** if you are using…

- A gas-powered generator indoors, in a semi-enclosed area, in a sheltered outdoor location, or outside near an air intake.
- Any gas-powered tool–such as walk-behind or hand-held concrete cutting saws, power trowels, water pumps, or pressure washers–indoors or in a sheltered outdoor location.

You could die from carbon monoxide (CO) poisoning.

Carbon monoxide (CO) is a silent killer.

Burning fossil fuels like diesel, gas, or propane creates and releases carbon monoxide (CO) into the air. In high concentrations, CO can make workers who breathe it sick or even kill them. What makes it especially dangerous is that it is odorless and colorless: **it can only be detected with a carbon monoxide monitor.**

Know the warning signs for CO poisoning:

- **Confusion**
- **Dizziness**
- **Headache**
- **Loss of consciousness**
- **Nausea**

If you or a co-worker experience ANY of these warning signs, turn off engines immediately, seek fresh air, and call 911.

CO can reach deadly concentrations **in less than 1 minute,** depending on the type of engine, and CO can linger for hours.

If you think you are in danger:
Contact your supervisor.
Contact your union.
Call OSHA
1-800-321-OSHA

Find out more about construction hazards.
To receive copies of this Hazard Alert and cards on other topics:
call 301-578-8500 or visit cpwr.com/hazardalerts

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Know the basics…

1 Use gas-powered tools and generators outside

Avoid using gas-powered generators, compressors, or tools like concrete saws or pressure washers inside a building or semi-enclosed space. Locate generators as far as practical from any occupied building and always operate gas-powered tools outside.*

Photo Courtesy eLCOSH.org/ CPWR N LIPPY

**Generators should be outdoors, preferably 25 feet downwind from an occupied building as recommended by the National Institute of Standards and Technology.*

2 Know other CO hazards

Fuel-powered forklifts can cause CO_2 poisoning when used indoors. Avoid letting engines idle. Fuel-fired heaters (like salamander or torpedo heaters) can also produce CO_2. Make sure the unit is designed for indoor use.

Always keep a CO monitor nearby.
If you are MIG welding using carbon dioxide (CO_2) shielding gas, make sure you have local exhaust ventilation with the hood positioned correctly CO_2 can be changed into CO in the hot arc of welding.

3 Talk to your employer

Your employer should ensure that recommendations in #1 and 2 are followed and that CO is being monitored whenever fuel-powered equipment is used.

Consider asking for CO badges (individual monitors) that sound an alarm when levels get too high.

Photo Courtesy Honeywell Analytics

Know the emergency response plan. Your employer should have a plan in place that identifies who to call in the event of a medical emergency, where the closest hospital or urgent care is, and other important information that might be needed in the event of a CO poisoning or other emergency.

If you find a co-worker down and suspect CO is the cause…

- Shut off the engine, if you can
- Move the affected individual immediately to fresh air in an open area
- Call 911
- Administer first aid if possible, such as providing oxygen and CPR

Workers have died from CO exposure while trying to save others.

Any indoor use of gas-powered generators or tools should be approved by a competent person who must evaluate factors such as size of the space and whether ventilation can effectively reduce CO levels. The competent person should conduct air monitoring during the work to be sure the ventilation is doing the job. This type of use should be rare and occur only on large projects, like indoor stadium construction. **NEVER USE THEM IN RESIDENTIAL CONSTRUCTION.**

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