

Carbon Monoxide Exposure

TOOLBOX TALK #27

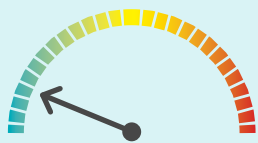


Supervisor/Department: _____ Date: _____

Do you know that according to the Canadian Institute for Health Information (CIHI), carbon monoxide poisoning causes approximately **3,500 emergency department visits** and **300 hospitalizations** in Canada each year.

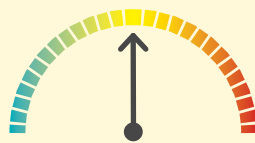
Carbon Monoxide (CO) is a colorless, odorless, and tasteless gas produced by the incomplete combustion of carbon-containing fuels. It can be dangerous, even at low concentrations, because it can build up in the bloodstream and prevent oxygen from reaching vital organs.

CO enters your body through your lungs where it gets absorbed into the blood stream. CO sticks to your red blood cells easier than oxygen does. So when you breathe it in, it takes the place of oxygen in your blood stream, this means that your heart, brain and other organs don't get the oxygen they need to function.



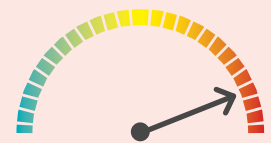
Early signs of exposure

- Headache
- Dizziness
- Nausea
- Fatigue



Increased exposure

- Confusion
- Vomiting
- Chest pain
- Loss of coordination



Severe exposure

- Unconsciousness
- Seizures
- Death

Common sources on set or on site

- Portable generators or gas-powered tools
- Running vehicles or equipment in enclosed or semi-enclosed spaces
- Heaters or furnaces that burn fuel (propane, gasoline, natural gas)
- Special effects combustion equipment



Portable generator



Propane heater



Gas-powered forklift



Personal risk factors for CO exposure

- Pregnancy: CO can harm a developing baby, reduce exposure if pregnant or trying.
- Youth & Infants: They breathe faster which means they absorb CO quicker.
- Elderly: They are at a higher risk of brain damage.
- Hearing: (Ototoxic) Increases risk of hearing loss.

How to stay safe

- NEVER use fuel-burning equipment indoors or in poorly ventilated areas without proper ventilation and CO monitoring.
- Ensure exhaust from vehicles and generators is directed away from buildings, intake vents, or occupied areas.
- Ensure proper use and ventilation of propane heater when heating tents (refer to the bulletins linked).
- Use carbon monoxide detectors whenever possible in indoor or enclosed workspaces .
- Know and watch for signs of poisoning.
- Shut down and report malfunctioning fuel-burning equipment.

Attendees (attach sign-in sheet if needed)

Name	Initials	Name	Initials
_____	_____	_____	_____
_____	_____	_____	_____
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Occupational Exposure Limits

Time Weighted Average (TWA): 25 ppm

Short Term Exposure Limit (STEL): 100 ppm

Immediately Dangerous to Life & Health (IDLH): 1200 ppm

What to do in an emergency

- Move the person to fresh air immediately.
- Call first aid, 911 or your emergency response team.
- Do NOT re-enter the area.
- Shut off the suspected source if it's safe to do so.

Related Resources

- [Propane Guidelines](#) (Actsafes Fact Sheet #11)
- [Use and Set-Up of Small Tents](#) (Actsafes Safety Bulletin #49)
- [Use and Set-Up of Large Tents](#) (Actsafes Safety Bulletin #50)

Disclaimer: Actsafes's Toolbox Talks are intended as an informational resource for employers and supervisors to use to deliver a safety talk on a specific subject. A toolbox talk can be an effective way of refreshing workers' knowledge of safe work procedures and sharing information from more experienced workers. It's important to document your assessments on paper, and review them on a regular basis. If the requirements of a scene change, you may need to do a re-assessment. The information contained in Actsafes's products (including, but not limited to, our training materials and courses) is for educational purposes only and is not intended to provide legal or other advice to you.