

Safety Talk

Carbon Monoxide in Winter

Carbon monoxide gas is an ever-present fact of life these days. It's produced by all internal combustion engines, including those powered by gasoline, diesel and propane. Other known sources include burning wood, paper or plastics. Carbon monoxide is colorless and odorless, which makes its detection very difficult without the help of a carbon monoxide detector. Although you find yourself around carbon monoxide year round, it's more of a threat in the winter months. The cold temperatures bring activities indoors with the doors and windows closed. This prevents fresh air coming in to mix with the carbon monoxide produced inside. Also the cold temperatures increase the use of furnaces, fireplaces, wood stoves and kerosene heaters. These factors combine to allow carbon monoxide to quickly build up in enclosed spaces and buildings to dangerous, even deadly levels.

It's important to remember that even small amounts of this gas can have dangerous effects on a healthy adult body, even more so on a child's. The amount of carbon monoxide in the air is measured in parts per million or ppm. The health effects of the gas increase with the amount of carbon monoxide present.

- At less than 35 ppm
 - No effect in healthy adults
 - This is OSHA's 8 hour Permissible Limit

- 200 ppm
 - Headache
 - Fatigue
 - Nausea
 - Dizziness
 - Is Short Term Exposure Limit (STEL)

- 400 ppm
 - Severe headache, fatigue
 - Nausea, dizziness, confusion
 - Can be life-threatening after 3 hours of exposure

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- 800 ppm
 - Headache, confusion
 - Collapse, death if exposure is prolonged

- 1500 ppm
 - Headache, dizziness, nausea,
 - Convulsions, collapse, death within 1 hour
 - Considered “immediately dangerous to life or health” (IDLH)

Concentrations as high as 1500 ppm may not be common, but it’s important to give carbon monoxide the respect it deserves. Many people that are exposed to carbon monoxide at lower concentration levels mistake the symptoms for the flu or don’t realize that a severe headache and nausea are signs of carbon monoxide exposure.

Obviously the most direct way to limit your exposure to carbon monoxide is to not operate internal combustion engines inside. Equally obvious, this may not be an option during winter months. The amount of carbon monoxide in some machinery and equipment can be minimized through frequent maintenance and engine tune-ups. Another option is to switch to electrical equipment or machinery. This removes the issue of a combustion engine. In settings where a combustion engine is a must-have, remember to at least crack a window or put a fan on to move the air and mix in some fresh air.

In your home installing a carbon monoxide detector can be a good safety investment. There are many kinds with prices varying from as little as \$17 to as much as \$250. Be aware that 25 US states have mandated having a detector in residential properties, so you may need one in your home legally as well as for your safety. This can be a life-saving investment for your family for a very small amount of money.

Discussion Questions

What are common sources of carbon monoxide?

What are ways to minimize your exposure to carbon monoxide?

MEETING / TRAINING ATTENDANCE ROSTER

COMPANY: _____

_____ SAFETY MEETING

JOB/DEPT: _____

_____ SAFETY TRAINING

DATE: ___/___/___

TIME: _____

TOPICS ADDRESSED: _____

EMPLOYEE'S SIGNATURES

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

EMPLOYEE SUGGESTIONS AND RECOMMENDATIONS: _____

ACTION TAKEN: _____

Supervisor's Signature

____/____/____
Date

Safety Coordinator's Signature

____/____/____
Date