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WHAT IS CARBON MONOXIDE?

Carbon monoxide (CO) is a gas produced when any carbon-based fuel is burned. The amount of CO produced depends mainly on the quality or efficiency of combustion. A properly functioning natural gas or liquified petroleum gas (LPG) burner produces little CO, while an out-of-adjustment burner can produce life-threatening amounts without any visible indications.

What really matters, though, is how this deadly gas is disposed of. If CO collects in an enclosed space, or if other conditions result in exposure to it, it can cause illness or death.

A big problem is that the gas itself is odorless and colorless, so it can collect in spaces without our being aware of it. Some types of fuel (wood, oil) produce other combustion products (with odors) along with CO, so there can be some warning. These other pollutants can be dangerous as well and may be produced even when CO levels are not harmful.

Proper maintenance of combustion appliances (furnaces, space heaters, ranges, ovens, gas water heaters, etc.) and their chimneys and flues is essential to preventing CO buildup indoors. It is important that service technicians test and adjust appliances using instruments that can measure CO productions. CO alarms can also aid in warning occupants of elevated CO levels. *Continued page 2*

Know the Symptoms of CO Poisoning...

Physical symptoms of CO poisoning vary, depending on the amount of CO in the bloodstream. The higher the concentration, the greater the danger.

MILD EXPOSURE

- Slight Headache
- Fatigue
- Nausea
- Flu-Like Symptoms
- Vomiting

MEDIUM EXPOSURE

- Severe Headache
- Confusion
- Drowsiness
- Rapid Heart Rate

SEVERE EXPOSURE

- Unconsciousness
- Cardiac/Respiratory Failure
- Convulsions
- Death

TIP OF THE MONTH

10 Weatherization Tips

10. caulk around windows and doors and cracks in siding or stucco.
9. weatherstrip windows and doors and repair thresholds and door bottoms.
8. seal large gaps and plumbing and electrical penetrations with foam in a can.
7. install foam gaskets at electrical switches and plugs.
6. blanket the water heater.
5. insulate hot and cold water lines.
4. place heavy duty aluminum foil behind your steam radiator to reflect heat into the room.
3. install lined drapes or other dense window coverings.
2. close the fireplace damper when not in use.
- And...
1. install a setback [thermostat](#).

SEPTEMBER RAFFLE

For the month of September, all of our clients will be entered to win a \$100 Home Depot Gift Card

AUGUST'S WINNER

Nancy Light of Litchfield

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ASK
DAVE



Dave Muirhead—President
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Q: Can ceiling fans be used in the winter for any beneficial purpose?

A: A ceiling fan can help lower energy consumption in the winter by up to 10%. The temperature of the air in a heated room varies in layers: The air near the ceiling is warmer than the air near the floor because warm air rises.

A ceiling fan can help push the warmer air that is trapped near the ceiling back down into the room, thus destratifying the layers of warm air. As a result, the warm air is circulated where it is needed, and the heating system does not overwork to warm the room. To properly destratify a warmed room, the ceiling fan should be run in a clockwise direction. This pushes the air up against the ceilings and down the walls, to gently recirculate the warm air without creating a cooling windchill effect.



CARBON MONOXIDE . . . continued

CARBON MONOXIDE IMPACT

According to the National Safety Council and the Centers for Disease Control and Prevention, about 500-1,000 people are killed in their homes each year by CO. It is likely that many more are harmed to some degree by this gas, but the extent is not known.

A recent research study revealed that heart patients' emergency room admissions had a small but significant correlation with changes in the outdoor levels of carbon monoxide. It was concluded that episodes of elevated outdoor CO can trigger emergencies in some heart patients exposed to this gas. It is possible that elevated indoor CO levels may likewise trigger problems in some heart patients.

CO SOURCE - FUEL BURNING

Where does carbon monoxide come from? How does it get into the house?

There are many possibilities for carbon monoxide entry and accumulation in homes. Burning fuel for heating or cooking is the main source. Problems arise when combustion gases accumulate in buildings.

COMMON SOURCES OF CO IN HOMES

Accumulation of combustion gases usually happens when a blocked chimney, rusted heat exchanger, or broken chimney connector pipe (flue) prevents combustion gases from being exhausted from the home. CO can also enter the home from an idling car or other engine (generator or lawnmower) in the garage.

Another scenario involves backdrafting; sometimes when ventilation equipment (such as a range-top vent fan) is used in a tightly sealed home, reverse air flow can occur in chimneys and flues. An operating fireplace can also have significant interactions with the flue dynamics of other heating appliances and backdrafting may result.

Other common sources of CO include unvented, fuel-burning space heaters (especially if malfunctioning) and the indoor use of a BBQ (charcoal). CO is produced by gas stoves and ranges and can become a problem with prolonged, improper operation (for example, if these appliances are used to heat the home). A change in the gas flame's color can indicate a CO problem; if a blue flame becomes yellow, CO will be increased. However, some blue flames produce elevated CO levels as well, while some new appliances normally have a yellow flame.

HEALTH EFFECTS - SYMPTOMS

What sorts of problems are caused by carbon monoxide?

What symptoms are seen?

Can these symptoms warn victims that a problem exists?

CO bonds tightly to the hemoglobin in red blood cells, preventing them from carrying oxygen throughout the body. Levels of CO that can result from common household sources may cause nausea, dizziness, muscle aches, vomiting, and a general weakness throughout the body. These symptoms resemble the flu or food poisoning, and CO exposure is often mistaken for these illnesses. Larger CO doses can impair judgment, or the weakness becomes paralysis, which can be followed by coma or death.

CO victims must be removed from exposure as quickly as possible and require prompt medical attention. Because of the tight bond of CO to hemoglobin, recovery is not immediate when the victim is removed from exposure.

Carbon monoxide will usually affect all occupants of a household at the same time. This may be a good way of distinguishing it from the flu, but it is important to realize that CO poisoning also impairs judgment and such a realization may become difficult to attain.

EXPERIENCE IS WHAT YOU GET WHEN YOU DON'T GET WHAT YOU WANT . . .

FROM TAMARIA'S KITCHEN

SUDOKU

Crabmeat AuGratin

Ingredients

- 1 pound lump crabmeat
- 1 tablespoon butter
- 1 tablespoon flour
- 3/4 cup milk
- 1-1/2 cups grated processed cheese
- 2 green onions with tops
- 1/4 teaspoon salt
- 1/4 teaspoon pepper
- 5 drops hot sauce

Directions

Place crabmeat in bottom of shallow baking dish. Melt butter in saucepan. Remove from heat; add flour and blend well. Over low heat, add milk; stir until thick. Add cheese, green onions, salt, pepper and hot sauce. Cook until cheese melts. Pour over crabmeat and bake at 450 degrees until cheese is lightly browned.



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