

## Carbon Monoxide (CO)

Parts of Carbon Monoxide Per Million Parts of Air	Percentage of Carbon Monoxide in Air	Exposure Time to Reach 10% of COHb Level (Minutes)	Exposure Time to Reach 30% of COHb Level (Minutes)	Exposure Time to Reach 40% of COHb Level (Minutes)
35	0.0035%	-	-	-
100	0.01%	89	-	-
200	0.02%	35	227	-
400	0.04%	16	58	90
800	0.08%	8	25	35
1200	0.12%	5	16	22
2000	0.2%	3	9	12

\* The Physiological effects associated with an average male are as follows:

- 10% COHb - mild headache
- 30% COHb - headache, nausea, drowsiness; and
- 40% COHb - headache, nausea, drowsiness, vomiting, collapse

Ventilation is required at .0035% of CO in the air.

### Signs of Products of Combustion in Buildings

- Stuffy, stale or smelly air;
- Pilot light of furnace or other natural gas fired equipment keeps going out;
- A yellow burner flame, instead of a normal clear blue flame (except fireplaces);
- Carbon Monoxide detector alarms;
- Excessive moisture on windows and walls; and
- Chalky white powder forming on the chimney or venting.

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If investigating a possible carbon monoxide leak be careful.  
When carbon monoxide is present in the air at a concentration between 12% and 74%, it is highly flammable.

Carbon Monoxide has no smell, invisible and has no taste.  
CO's vapor density is .96, compared to air density which is 1.  
This means CO will rise slightly but because the vapor density is so close to air density, CO may remain buoyant in the air.

**Source:** Natural Gas Awareness Manual for Firefighters

By: - Ontario Natural Gas Association  
- Fire Marshalls Public Fire Safety Council