



Carbon Monoxide Concentration Levels

Typical Environment

Health Effects

Outside in a rural area	0.1 ppm	-
Typical indoor level, often encountered outside in cities	0.5 - 5 ppm	-
Within feet of a gas stove or furnace in an unvented kitchen	5 - 15 ppm	-
Typical concentration in flue gases (chimney) of furnace or water heater	15-20 ppm	Minor long-term cardiovascular and mental effects in vulnerable persons
Maximum allowable outdoor level according to EPA	35 ppm	Increase in cardiac and/or respiratory complaints with constant exposure
Maximum safe level for long-term exposure (up to 8 hours)	50 ppm	Headache and dizziness after 8 hours of exposure. May aggravate existing conditions
Level equivalent to that of a heavy smoker	75 ppm	Fatigue, difficulty concentrating
Polluted city centers, maximum short-term (30 minutes) exposure at work	150 ppm	Nausea, dizziness, headaches, impaired mental function after 2 to 6 hours
Closed garage after car has been allowed to warm up for 2 minutes	400 ppm	Hallucinations, dementia and serious headaches within 1-2 hours; risk of death after 3
Maximum air-free concentration from gas kitchen ranges (ANSI)	800 ppm	Seizures, severe headaches and vomiting in under an hour, unconsciousness in two
Near a smoldering wood fire or malfunctioning furnace indoors	1,500 ppm	Headache, dizziness and nausea in under 20 minutes; death within one hour
Undiluted warm car exhaust without a catalytic converter	6,400 ppm	Unconsciousness after two or three breaths; death within 15 minutes.