

# Effects of Carbon Monoxide Exposure

All values are approximate. The effects can vary depending on the individual's health and the type of physical activity being performed.

CO Level in ppm*	Resulting Condition / Effect on Humans
0–20 ppm	Grade “D” breathing air (legal for compressed or airline breathing air)
25 ppm	ACGIH** Threshold Limit Value (TLV)
50 ppm	OSHA Permissible Exposure Limit (PEL)
100 ppm	Headache and discomfort after 3 hrs.
200 ppm	Ceiling level: 5 minutes allowable exposure in 4 hrs. Headache in 2–3 hrs.
400 ppm	Headache and nausea in 1–2 hrs. Occipital headache in 2.5–3.5 hrs.
800 ppm	Headache, dizziness, nausea in 45 minutes Collapse and possible death in 2 hrs.
1,200 ppm	IDLH level
1,600 ppm	Headache, dizziness, nausea in 20 min. Collapse and possible death in 1.5–2 hrs.
3,200 ppm	Headache and dizziness in 5–10 min. Unconsciousness and death in 30 min.
6,400 ppm	Headache and dizziness in 1–2 min. Unconsciousness and death in 10–15 min.
12,800 ppm	Immediate unconsciousness Death in 1–3 min.
12,800 ppm	Immediate unconsciousness
125,000 ppm	Lower Explosive Limit
740,000 ppm	Upper Explosive Limit

\*ppm—parts per million

\*\*American Conference of Governmental Industrial Hygienists