

# MACURCO

GAS DETECTION

## Monthly Topic: Carbon Monoxide (CO) vs. Carbon Dioxide (CO<sub>2</sub>)



- CO and CO<sub>2</sub> are often mistaken for one another; however, they are quite different
- CO (Carbon Monoxide) is a colorless, odorless, tasteless toxic gas formed by the incomplete combustion of carbon compounds like gasoline, wood, coal, natural gas, propane, kerosene, oil and other heating gases. Automobile internal combustion engines are the largest source of CO.
- CO<sub>2</sub> (Carbon Dioxide) is a colorless, odorless gas with an acrid taste formed by human and animal respiratory cycle as well as combustion. Unsafe levels can build up in normally occupied areas because of poor ventilation. CO<sub>2</sub> is used for beverage carbonation and plant growth acceleration.



Carbon Monoxide (CO)	Carbon Dioxide (CO <sub>2</sub> )
Nickname: "Silent Killer"	NA
CO is composed of one carbon atom & one oxygen atom	CO <sub>2</sub> is composed of one carbon atom & two oxygen atoms
Colorless	Colorless
Odorless	Odorless
Tasteless	Acrid Taste
Does not occur naturally in the atmosphere	Occurs naturally in the atmosphere at about 400 PPM
Result of incomplete combustion from carbon-based compounds (ex. coal, natural gas, propane, oil, wood, etc.)	Formed by human and animal respiratory cycle as well as combustion
Flammable Gas	Non-flammable gas
Common Type of fatal poisoning	Poisoning is rare
<b>Hazard:</b> Binds to hemoglobin in the blood and acts as a poison	<b>Hazard:</b> Displaces oxygen in the room causing asphyxiation
<b>Density:</b> 28.01 kg/m <sup>3</sup> (slightly lighter than air - 29 kg/ m <sup>3</sup> )	<b>Density:</b> 44.01 kg/m <sup>3</sup> (heavier than air)
<b>Symptoms:</b> dizziness, headache, nausea, shortness of breath, confusion, blurred vision, loss of consciousness	<b>Symptoms:</b> increased heart rate, frostbite, panic, convulsion, impaired consciousness
<b>Target Organs:</b> lungs, blood, heart, central nervous system	<b>Target Organs:</b> respiratory system, cardiovascular system
<b>OSHA Standards:</b> Permissible Exposure Limit (PEL) 50 PPM	<b>OSHA Standards:</b> PEL 5,000 PPM
<b>NIOSH Standards:</b> Recommend Exposure Limit (REL) 35 PPM	<b>NIOSH Standards:</b> REL 5,000 PPM

### Macurco Gas Products

- [CM-E1 \(Residential CO\)](#)
- [CM-6 \(Commercial CO\)](#)
- [CD-6H \(Commercial CO<sub>2</sub>\)](#)
- [PM-100 \(Portable CO\)](#)

### Macurco Literature

- [Quick Reference Sheet](#)
- [Parking Garage Guide](#)
- [Downloads Page](#)

### Learn More

- [Carbon Monoxide](#)
- [Carbon Monoxide NIOSH](#)
- [Carbon Dioxide](#)
- [Carbon Dioxide NIOSH](#)

### Common Applications where both gases could be present

- |                        |                           |                            |
|------------------------|---------------------------|----------------------------|
| ✓ Parking Garages      | ✓ Vehicle Repair Facility | ✓ Automobile Exhaust       |
| ✓ Food Processing      | ✓ Chemical Plants         | ✓ Food & Beverage          |
| ✓ Office Buildings     | ✓ Bus Depots              | ✓ Schools                  |
| ✓ Restaurants          | ✓ Grow Facilities         | ✓ Wastewater Treatment     |
| ✓ Retail               | ✓ Manufacturing Plants    | ✓ Pharmaceuticals          |
| ✓ Maintenance Facility | ✓ Confined Spaces         | ✓ Fast Food Establishments |

Visit our website: [www.macurco.com](http://www.macurco.com)  
 Questions or Comments? Email [info@macurco.com](mailto:info@macurco.com) or Call 877-367-7891  
 Aerionics Inc. 3601 N. St Paul Ave Sioux Falls, SD 57104

