



TECHNICAL RESCUE TEAM SETAUKET FIRE DEPT.

Leading the Brookhaven Technical Rescue Task Force Since 1995
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Pride Professionalism Dedication Bravery Brotherhood

Street Smart® Facts on Carbon Monoxide – *The Silent Killer...*

Symptoms of CO poisoning

CO enters the body through breathing. CO poisoning can be confused with flu symptoms, food poisoning and other illnesses. Some symptoms include shortness of breath, nausea, dizziness, light-headedness or headaches. High levels of CO can be fatal, causing death within minutes.

Carbon Monoxide Data Sheet

Carbon monoxide: CO
Hazard Flammable: will explode; LEL 12.5%
Auto Ignition Temperature: 1128* F
Classification: Health: extremely toxic
Synonyms: carbon oxide, flue gas, monoxide

Exposure Limits:

(OSHA) PEL\TWA: 50 ppm
(ACGIH) STEL: 400 ppm / 15 min.
(OSHA) IDLH: 1500 ppm / 30 min.
Industries: steel mills, fire departments, garages, loading docks, electrical utilities, and general industries

Carbon monoxide is a colorless gas. To the human senses it is invisible.

Carbon monoxide is a byproduct of combustion and will appear naturally in any situation where burning has taken place.

Carbon monoxide is a highly toxic gas, which is termed a toxic asphyxiant, meaning it reduces the oxygen transport properties of the blood. It reacts with the hemoglobin in the blood forming carboxyhemoglobin, which prevents the hemoglobin from transferring oxygen. Low ppm doses of carbon monoxide can cause headaches and dizziness. If the victim is removed to fresh air no permanent damages will result. High doses can be fatal.

Effects of Various CO Levels

50 -Permissible Exposure Level for 8 hours (OSHA)
200 -Possible mild frontal headache in 2 to 3 hours.
400 -Frontal headache and nausea after 1 to 2 hours. Occipital after 2-1/2 to 3-1/2 hours.
800 -Headache, dizziness, and nausea in 45 minutes. Collapse and possible death in 2 hours
1600 -Headache, dizziness, and nausea in 20 minutes. Collapse and death in 1 hour.
3200 -Headache and dizziness in 5 to 10 minutes. Unconsciousness and danger of death in 30 minutes.
6400 -Headache and dizziness in 1 to 2 minutes. Unconsciousness and danger of death in 10 to 15 minutes.
12,800 -Immediate effects-unconsciousness. Danger of death in 1 to 3 minutes.

CO Meters vs. Detectors –

SETAUKET FIRE

The Setauket Fire Department uses three different instruments for both monitoring and detecting CO.

A CO Meter (monitor) can be either a single gas METER (1) or Multi-gas METER (2). These can be found on E-8, E-14, L-2, R-6 & R-7. These METERS can be used to detect a presence of CO as well as monitor its level and lead you to the source of the CO leak. This process shall be conducted by trained personnel in full PPE and SCBA. Ventilation and evacuation procedures shall be adhered to and follow direction of the IC after sending your report to command. Teams of two shall always be used to monitor CO. Two different METERS shall be used while monitoring for CO.

A CO DETECTOR is a single gas detector similar to the one that should be in your home. These DETECTORS are exactly what they are called a DETECTOR. One the DETECTOR alarms the area shall be immediately evacuated with a patient if applicable. These DETECTORS are not to be used to Monitor CO or search for the source of CO. After evacuating the area, immediate notification shall be made to Command or Fire Dispatch notifying them of a CO DETECTOR activation and that you are evacuating the area. These DETECTORS shall not be used as a METER or MONITOR. These CO DETECTORS can be found on the trauma/O2 bag of each Ambulance and first responder car.

See the attached SFD CO DETECTOR policy.

Additional CO Facts

Physical Properties:

- Invisible, odorless and tasteless
- Results from incomplete burning of fuels

Sources:

- Un-vented kerosene and gas space heaters
- Leaking chimneys & furnaces
- Gas water heaters
- Back drafting from furnaces
- Wood stoves& fireplaces
- Gas Stoves
- Automobile exhaust
- Tobacco smoke

Additional CO Facts (Continued)

Health Effects:

- At low concentrations
 - Fatigue in healthy people
 - Chest pain in people with heart disease
- At higher concentrations
 - Impaired vision and coordination
 - Headaches
 - Dizziness
 - Confusion and nausea
- Fatal in concentrations lower than 1 percent.

Levels in Homes:

- Average levels in homes without gas stoves are between 0.5 and 5 ppm
- Levels near properly adjusted gas stoves vary between 5 and 15 ppm
- Levels near poorly adjusted gas stoves may be 30 ppm or higher

Stay safe,

Joey D

Portion of information from Source: American Industrial Hygiene Association