

Environmental Health Issue- Carbon Monoxide

- Presented by QBE
- Loss Control Services

About Qdot

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Qdot managed by a team of experienced professionals, is committed to promote quality & excellence culture in GCC (UAE, QATAR, KSA, Oman, Kuwait, Bahrain) by providing below mentioned services.

Management System Services

- ISO 9001, ISO 14001, ISO 45001, HACCP, ISO 22000, FSSC 22000, BRC GS, Halal, ISO 22716 (GMP), Organic Certification, ISO 27001, ISO 41001, ISO 37001, ISO 50001, ISO 55001, ISO 17020 & ISO 17025 etc

Training Services

- IRCA Approved Lead Auditor
- Awareness & Trainings on ISO Standards

Product Registration

- SABER, SQM, SFDA, CITC, IECEE, ECAS, EQM, RoSH, EESL, SLCP, G-Mark etc

Social Compliance

- SEDEX-SMETA, SA 8000, amfori BSCI, ISO 26001, WRAP, GRLI, ESG, CTPAT etc



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Carbon Monoxide

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- Gas
- Colorless
- Odorless
- Same density as air.
- Caused by incomplete combustion.



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Carbon Monoxide Effects

- 0-2 ppm- normal indoor concentration
- 200 ppm headache after 2-3 hours
- 400 ppm headache and nausea after 1-2 hours
- 800 ppm headache, nausea in 45 minutes, unconsciousness in 45 minutes
- 1,600 ppm headache, nausea in 20 min. death in 2 hours
- 3,200 ppm headache, nausea in 5-10 min. death in 30 min.
- 6,400 ppm headache, nausea in 1-2 min. death in 10-15 min.
- 12,800 ppm death in 1-3 minutes.



Carbon Monoxide Exposure Limits

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- OSHA Permissible Exposure Limit (PEL) 8-hour TWA 50 ppm (parts per million)
- American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV) 8-hour TWA - 25 ppm



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Carbon Monoxide Poisoning Symptoms

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- Headache
- Fatigue
- Shortness of breath
- Nausea
- Dizziness
- Flu-like symptoms



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Workplace Carbon Monoxide

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- Fork trucks
- Portable generators/generators in buildings.
- Concrete cutting saws, compressors.
- Power trowels, floor buffers, space heaters.
- Welding, gasoline powered pumps.



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Portable Equipment

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Breathing Air



Fork Trucks



Confined Spaces



Workplace Carbon Monoxide Controls



- Conduct a workplace survey to identify all potential sources of CO exposure.
- Educate workers about the sources and conditions that may result in CO poisoning as well as the symptoms and control of CO exposure.
- Always substitute less hazardous equipment if possible. Use equipment that allows for the placement of gasoline-powered engines outdoors at a safe distance from air entering the building.
- Monitor employee CO exposure to determine the extent of the hazard.

Residential Sources of Carbon Monoxide

- Leaking chimneys/furnaces
- Wood stoves/fire places
- Back drafts of furnaces and chimneys
- Gas water heaters
- Gas stoves
- Tobacco smoke
- Unvented space heaters
- Automobiles in attached garages
- Gasoline powered tools/equipment

Furnace/ Burner Leaks

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Preventing Carbon Monoxide Poisoning

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- Have qualified professionals install appliances.
- Have qualified technician inspect furnace annually.
- Make sure gas appliances are adjusted properly.
- Check fire places and chimneys for blocked flues.
- Don't start vehicles in closed garages.
- Don't use kerosene space heaters in garages or homes.
- Don't use gasoline powered tools and engines indoors.
- Install carbon monoxide detectors.



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Carbon Monoxide Detectors

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- Consumer Product Safety Commission recommends every home have CO meter
- Should be UL 2034 approved.
- Battery operated units or AC units
- \$29-\$59
- Replace every 5 years.
- Test according to manufacturer's recommendations.



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Carbon Monoxide Detectors

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UL 2034 Requirements

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- At 70 ppm must alarm no sooner than 60 minutes but no later than 240 minutes.
- At 150 ppm must alarm no sooner than 10 minutes but no later than 50 minutes.
- At 400 ppm must alarm no sooner than 4 minutes but no later than 15 minutes.



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Carbon Monoxide Detectors Location

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- Each sleeping area.
- Away from high humidity.
- Away from vents, flues and chimneys, ventilation openings.
- More than 6 ft away from heating and cooking appliances.
- Do not plug into a outlet on a switch.



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Carbon Monoxide Detectors

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- Do not paint the alarm.
- Do not use solvents, cleaners hair spray or other aerosols near the alarm.
- Vacuum dust off of the alarm with a soft brush.



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Response to Alarm

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- Do not ignore the alarm!
- Evacuate the house.
- Call 911 if anyone suffers flu-like symptoms.
- Contact the gas utility or fire department to locate the source of the CO.
- Ventilate the house.
- Have qualified technician inspect and repair device causing CO.
- Do not re-occupy the house until those testing the house inform you danger is over.



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