



FACT SHEET

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CARBON MONOXIDE: The Quiet Killer

What is Carbon Monoxide?

Carbon monoxide (CO) is a colorless, odorless and deadly gas produced by the incomplete burning of fossil fuels. These fuels can be natural gas, oil, kerosene, coal or wood. Carbon monoxide replaces oxygen in the blood, interfering with the transport of oxygen needed by the cells in the body.

How Can I be Exposed to Carbon Monoxide?

CO is produced by all fuel burning appliances. Sources can be:

- Gas and oil furnaces
- Wood, kerosene, and pellet stoves
- Automobile exhaust
- Charcoal and gas grills
- Water heaters
- Generators that produce electricity
- Gas dryers, stoves/ovens
- Unvented gas fireplaces
- Camp stoves and gas lanterns



What are Symptoms of CO Poisoning?

The first physical symptoms of CO poisoning may include:

- ▶ headache ▶ fatigue
- ▶ dizziness ▶ nausea

These symptoms can mimic cold or flu symptoms and may be overlooked. If these symptoms go away when you are gone from the home and come back when you return, or if everyone in the home has these symptoms at the same time, this may be a sign of CO poisoning. Higher concentration of CO can cause a loss of consciousness, brain damage and death.

What should I do if I suspect CO in my home?



1. Leave your home immediately!
2. Call 911 or the Connecticut Poison Control Center (800-222-1222) from a cell phone or a neighbor's house after you have left the house.
3. Call the local fire department to test for CO, or call your fuel supplier or licensed heating contractor for an emergency inspection.

What can I do to prevent CO poisoning?

- Install a CO detector in your home near the bedrooms. Test alarms frequently; change batteries annually.
- Have your heating systems, chimney flues, gas appliances and generators checked yearly, and cleaned and serviced as needed by qualified heating/appliance contractors.
- DO NOT use alternative heating sources, such as a kerosene heater, inside the house or in the garage.
- DO NOT use a gas oven to heat the house.
- Never go to bed with a fire burning or smoldering.
- Repair or replace faulty car exhaust systems promptly.
- DO NOT run cars, lawn mowers, generators, snow blowers or other gas-powered equipment or tools in enclosed spaces such as a garage, porch, or basement. Opening windows and garage doors does not prevent a build up of CO.
- DO NOT use any equipment or appliances designed for outdoor use inside the house.



Health Effects of Carbon Monoxide Poisoning

Air concentration	Health Effects	Actions
Outdoor: 0-2 ppm*	Normal outdoor ambient level	None needed
Less than 10 ppm	None	None needed
10-20 ppm	Fatigue in healthy people; Chest pain in people with heart disease	Investigate possible source of CO. Repair when located.
20-75 ppm	Impaired vision and concentration; Headaches, dizziness, confusions, nausea; Symptoms can mimic the flu but clear up after leaving home.	Investigate possible source of CO. Repair when located. Move all residents to fresh air
75-200 ppm	Angina, impaired vision, reduced brain function may result.	Get out of house immediately; call 911 from outside of the house
Greater than 400 ppm	Can be fatal.	Evacuate immediately. Call 911 from outside of the house.

*parts per million

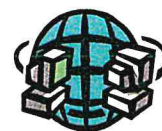
Any reading over 10 ppm indicates that there is an unusual source of CO that needs to be investigated.

What do I Need to Know about CO Detectors?



- Use only detectors certified by Underwriter Laboratories (UL)
- Choose a digital readout detector
- Detectors can be battery-operated or plug-in with a backup battery system
- Use according to manufacturers instructions
- Place outside sleeping areas
- Replace the detector every 5 years or sooner. The sensor has a limited life span.

Resources



CT Department of Public Health
Environmental Health Section
Epidemiology and Occupational
Health Assessment Program
860-509-7742 www.ct.gov/dph/co

Connecticut Poison Control Center
800-222-1222

U.S. Environmental Protection Agency

Underwriters Laboratories, Inc.

Connecticut Carbon Monoxide Detector Laws

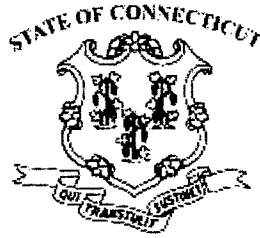
In 2005, the Connecticut legislature passed Public Act 05-161 that requires the installation of CO detectors in new one or two family buildings and in existing residences where alterations or additions requiring a permit occur. In 2012, Public Act 12-184 was passed that requires temporary CO detectors be installed if the residence is occupied during construction. In 2013, Public Act 13-272 was passed that requires working CO detectors in one or two family residences for which a building permit for new occupancy was issued prior to October 1, 2005 and after October 1, 1985 at the time title is transferred, effective January 1, 2014.

The full text of each law can be found at:

[Public Act 05-161](#)

[Public Act 12-184](#)

[Public Act 13-272](#)



Substitute House Bill No. 5394

Public Act No. 12-184

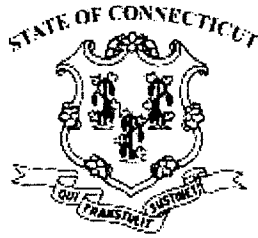
AN ACT CONCERNING SMOKE AND CARBON MONOXIDE DETECTORS AND ALARMS IN RESIDENTIAL DWELLINGS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. (NEW) (*Effective October 1, 2012*) Whenever any private residential dwelling designed to be occupied by one or two families is occupied during interior alterations or additions requiring a building permit, the temporary installation of battery-operated smoke detection and warning equipment and, if there is a fuel-burning appliance, fireplace or attached garage present, battery-operated carbon monoxide detection and warning equipment shall be required in the vicinity of, and during the performance of, such alterations or additions. Such equipment shall be of a type or technology that is tested and certified pursuant to standards issued by the American National Standards Institute or Underwriters Laboratories. Such equipment may combine smoke and carbon monoxide detection technology into a single device.

Sec. 2. (NEW) (*Effective October 1, 2012*) The Commissioner of Construction Services may establish, within available appropriations, a public awareness campaign to educate the public concerning the dangers of not having smoke and carbon monoxide detection and warning equipment in residential dwellings and to promote the installation of smoke and carbon monoxide detection and warning equipment in all residential dwellings.

Approved June 15, 2012



Substitute House Bill No. 6160

Public Act No. 13-272

AN ACT REQUIRING WORKING SMOKE AND CARBON MONOXIDE DETECTORS IN CERTAIN RESIDENTIAL BUILDINGS AT THE TIME TITLE IS TRANSFERRED.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. (NEW) (*Effective January 1, 2014*) (a) Prior to transferring title to any real property containing a residential building designed to be occupied by one or two families for which a building permit for new occupancy was issued prior to October 1, 2005, the transferor of such real property shall present to the transferee an affidavit certifying (1) that such building permit for new occupancy was issued on or after October 1, 1985, or that such residential building is equipped with smoke detection and warning equipment complying with this section, and (2) that such residential building is equipped with carbon monoxide detection and warning equipment complying with this section or does not pose a risk of carbon monoxide poisoning because such residential building does not contain a fuel-burning appliance, fireplace or attached garage.

(b) Any transferor who fails to comply with the provisions of subsection (a) of this section shall credit the transferee with the sum of two hundred fifty dollars at closing.

(c) Any smoke detection and warning equipment required pursuant to subsection (a) of this section shall (1) be capable of sensing visible or invisible smoke particles, (2) be installed in accordance with the manufacturer's instructions and in the immediate vicinity of each bedroom, (3) not exceed the standards under which such equipment was tested and approved, and (4) be capable of providing an alarm suitable to warn occupants when such equipment is activated. Such equipment may be operated using batteries.

(d) Any carbon monoxide detection and warning equipment required pursuant to subsection (a) of this section shall (1) be capable of showing the amount of carbon monoxide present as a reading in parts per million, (2) be installed in accordance with the manufacturer's instructions, (3) not exceed the standards under which such equipment was tested and approved, and (4) be capable of providing an alarm suitable to warn occupants when such equipment is activated. Such equipment may be operated using batteries.



Substitute House Bill No. 6894

Public Act No. 05-161

AN ACT REQUIRING THE INSTALLATION OF CARBON MONOXIDE DETECTORS IN NEW RESIDENTIAL BUILDINGS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. Section 29-292 of the general statutes is repealed and the following is substituted in lieu thereof (*Effective from passage*):

(a) The State Fire Marshal and the Codes and Standards Committee shall adopt and administer a Fire Safety Code and at any time may amend the same. The code shall be based on a nationally recognized model fire code and shall be revised not later than January 1, 2005, and thereafter as deemed necessary to incorporate advances in technologies and improvements in construction materials and any subsequent revisions to the code not later than eighteen months following the date of first publication of such revisions to the code, unless the State Fire Marshal and the committee certify that a revision is not necessary for such purpose. The regulations in said code shall provide for reasonable safety from fire, smoke and panic therefrom, in all buildings and areas adjacent thereto except in private dwellings occupied by one or two families and upon all premises except those used for manufacturing, and shall include provision for (1) carbon monoxide detection and warning equipment in new residential buildings not exempt under regulations adopted pursuant to this subsection and designed to be occupied by one or two families for which a building permit for new occupancy is issued on or after October 1, 2005, and (2) smoke detection and warning equipment in [(1)] (A) residential buildings designed to be occupied by two or more families, [(2)] (B) new residential buildings designed to be occupied by one family for which a building permit for new occupancy is issued on or after October 1, 1978, requiring equipment complying with the Fire Safety Code, and [(3)] (C) new residential buildings designed to be occupied by one or more families for which a building permit for new occupancy is issued on or after October 1, 1985, requiring equipment capable of operation using alternating current and batteries. Said regulations shall provide the requirements for markings and literature which shall accompany such equipment sufficient to inform the occupants and owners of such buildings of the purpose, protective limitations and correct installation, operating, testing, maintenance and replacement procedures and servicing instructions for such equipment and shall require that smoke detection and warning equipment which is installed in such residential buildings shall be capable of sensing visible

or invisible smoke particles, that the manner and location of installing smoke detectors shall be approved by the local fire marshal or building official, that such installation shall not exceed the standards under which such equipment was tested and approved and that such equipment, when activated, shall provide an alarm suitable to warn the occupants, provided each hotel, motel or inn shall install or furnish such equipment which, when activated, shall provide a visible alarm suitable to warn occupants, in at least one per cent of the units or rooms in such establishment having one hundred or more units or rooms and in establishments having less than one hundred units or rooms, it shall install or furnish at least one such alarm. Said regulations shall provide the requirements and specifications for the installation and use of carbon monoxide detection and warning equipment and shall include, but not be limited to, the location, power requirements and standards for such equipment and exemptions for buildings that do not pose a risk of carbon monoxide poisoning due to sole dependence on systems that do not emit carbon monoxide.

(b) (1) No certificate of occupancy shall be issued for any residential building designed to be occupied by two or more families, or any new residential building designed to be occupied by one or more families for which a building permit for new occupancy is issued on or after October 1, 1978, unless the local fire marshal or building official has certified that said building is equipped with smoke detection and warning equipment complying with the Fire Safety Code.

(2) No certificate of occupancy shall be issued for any new residential building not exempt under regulations adopted pursuant to subsection (a) of this section and designed to be occupied by one or two families for which a building permit for new occupancy is issued on or after October 1, 2005, unless the local fire marshal or building official has certified that said building is equipped with carbon monoxide detection and warning equipment complying with the Fire Safety Code.

Approved July 1, 2005