

# Carbon Monoxide

## The silent killer

### What is Carbon Monoxide?

Have you ever heard about Carbon monoxide (CO)? You won't taste, smell or see Carbon monoxide but it can kill quickly without warning.

Carbon monoxide is a colourless, odourless gas that can be poisonous to humans<sup>1</sup>. When carbon-based fuels do not burn properly, poisonous excess CO is produced. When CO enters the body, it prevents the blood from bringing oxygen to cells, tissues, and organs.

### Which sources emit CO?

CO can be emitted from not properly functioning gas cooking and heating appliances, such as boilers, fire and solid fuel and oil combustion. In particular faulty or unvented equipment using carbon-based fuels and blocked vents may present a risk.

According to CO poisoning cases reported to the German Federal Institute for Risk Assessment (BfR), CO comes

mainly from the indoor use of barbeque grills (20%) and combustion engines (11%). The emission of CO from burning barbeque coal often increases with time: when the coal is no longer in flames and cools down, it emits large amounts of highly lethal CO.

### CO kills

With a mortality rate of 2.24 for each 100.000 persons in Europe, CO kills more people annually than HIV/AIDS (2.0) or skin cancer (2.1), and slightly less than alcohol abuse (2.6), according to the World Health Organisation Europe<sup>2</sup>. And yet, many people are not aware of carbon monoxide and its fatal impact on human health. Several studies<sup>3</sup> indicate that fatal CO-intoxications have increased throughout the last years European-wide. In particular with elderly persons a high CO mortality has been registered<sup>4</sup>.

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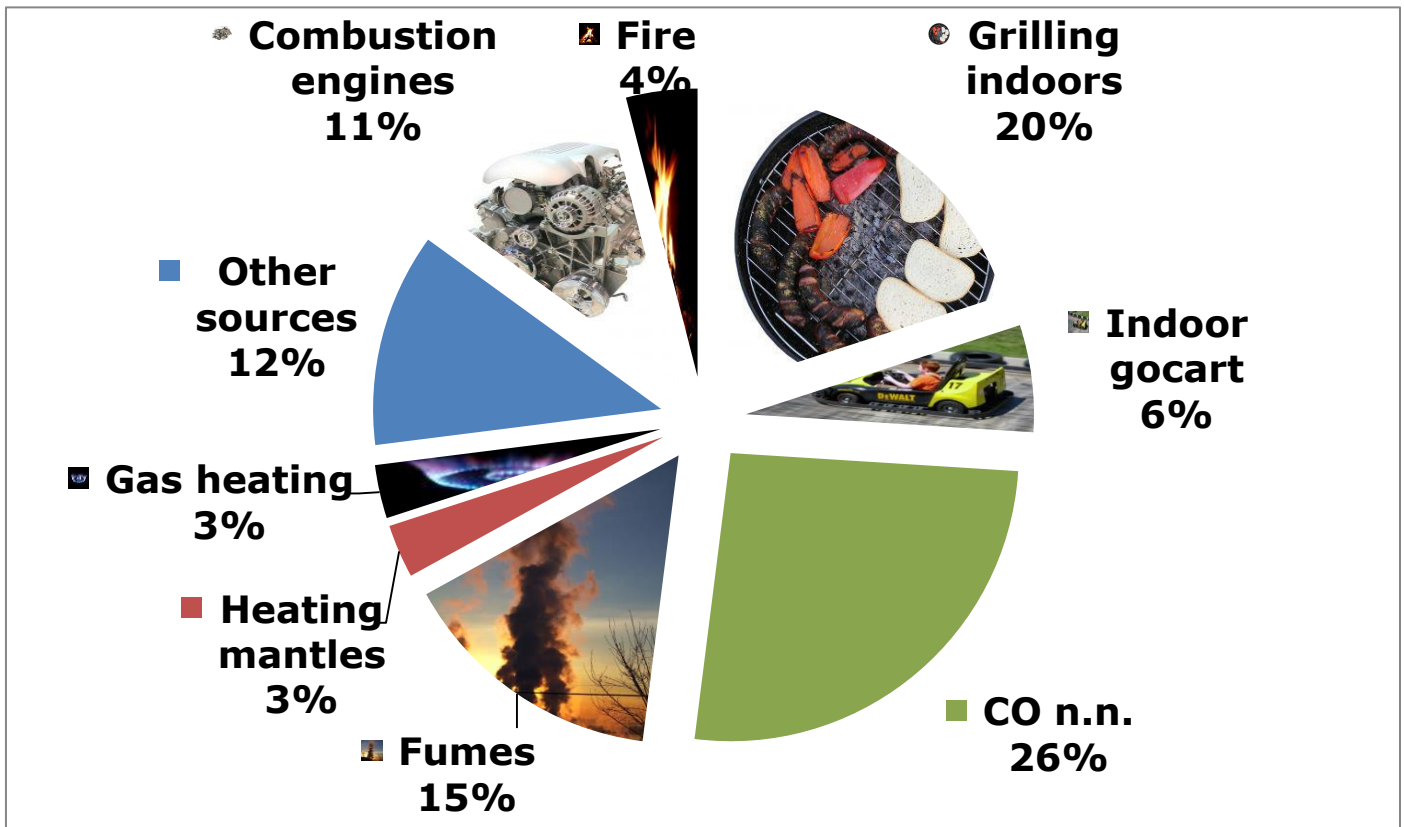
<sup>1</sup> [WHO, Environmental Health Criteria 213, 2004](#), p. 25

<sup>2</sup> M. Braubach et al.: *Mortality associated with exposure to carbon monoxide in WHO European Member States*, 2012, WHO Regional Office for Europe, p. 6

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<sup>3</sup> Federal Statistics Office, ICD 10 Cases (T 58), Germany; Delers M. et al, *Clinical Toxicology*, 2010, 48: 283, *Arch Kriminol.* 2011 ; 227:102-10

<sup>4</sup> WHO, CO-related mortality by age and gender, 2013




Main sources of CO in 314 poisoning cases reported to the BfR from 2000-2011

## What you can do: 5 tips to prevent CO poisoning

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**Servicing, not safety checks!**  
 Always have any fossil fuel appliances, running on gas, coal, oil, wood or petrol installed and annually serviced by a professional. They should record remedial works and leave a copy with the customer. Make sure your chimney is swept regularly.



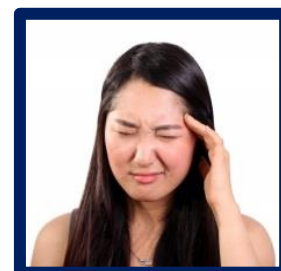
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**Carbon monoxide detectors**  
 CO audible alarms increase protection but are not a substitute for annual servicing. Read the manufacturer's instructions on installing the alarm in the best location. Also ask your engineer for advice. You may require 2 or more CO alarms if the flue passes through more than one room. Test the alarm regularly. If the alarm is activated, immediately evacuate property with all persons and pets.





### Remember symptoms of CO poisoning

Typical symptoms of a starting CO intoxication are headaches, nausea, sickness, shortness of breath, dimness of vision and other flu-like symptoms. If you experience these, do the symptoms only occur when at home or at work? Do you feel better when outside in the open air? If unsure, request a CO blood test as soon as possible.



### Barbeque

Never take a lit, smouldering or 'dead' barbecue into a confined space including: garage, conservatory, tent, caravan, home, boat, etc. As the barbecue cools, it emits large amounts of highly lethal, odourless and colourless CO. They have killed. Use well away from any habitable space. Barbecues (smouldering or otherwise) should never be used as heat source.



### Spread the word

Many people are not aware of the dangers of CO. High level exposure is usually fatal. Low level exposure can cause irreversible brain damage. This hazard should receive the utmost publicity, so spread the word!



## What you can do if somebody is poisoned by CO

- ✓ **First take care of your own safety!**
- ✓ Open immediately the windows and doors if possible
- ✓ Switch off the appliance (boiler, heating) if possible
- ✓ Is a person unconscious? Call immediately 112 or the emergency services and mention a possible CO-poisoning
  - Take the person out of the room property, and if possible outdoors or in the open space
  - Start reanimation if the person stopped breathing
  - Put the person in the recovery position



## ***Raising Standards for Consumers***

### ***European Association for the Coordination of Consumer Representation in Standardisation aisbl***

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ANEC is the European consumer voice in standardisation, defending consumer interests in the processes of technical standardisation and conformity assessment, as well as related legislation and public policies.

ANEC was established in 1995 as an international non-profit association under Belgian law and represents consumer organisations in 33 European countries.

ANEC is funded by the European Union and EFTA, with national consumer organisations contributing in kind. Its Secretariat is based in Brussels.



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Consumer Safety International (CSI) is a charity committed to reducing accidents in domestic commercial & holiday accommodation and their facilities worldwide and provides advice and assistance to accident victims and their families.

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