

## Carbon Monoxide Leader's Notes



Welcome to the HSENI Carbon Monoxide Awareness badge pack. The objective of this badge is to raise awareness of the risk of Carbon Monoxide poisoning amongst the young people of Northern Ireland.

There are 12 tasks detailed in the pack. Each leader should determine how many tasks each section should complete.

Task 6 - True/False Game, this is an activity game to be played during your meeting. Participants line up in the centre of the room and decide which side of the room will be TRUE and which side will be FALSE. Read out some statements on Carbon Monoxide (a selection of which has been chosen for you), the participants must guess if the statement is either true or false and run to the appropriate side of the room.

Task 12 – Design a poster showing the symptoms associated with Carbon Monoxide poisoning.

## What is Carbon Monoxide?

Carbon Monoxide (CO) is a colourless, odourless and tasteless gas which can be very hard to detect.

It is toxic and breathing it in can cause long-term health problems, or death.

## Who can be affected by Carbon Monoxide?

It can affect anyone. However, children, students, the elderly, pregnant women and anyone with heart or breathing problems are more vulnerable to its effects.

# Symptoms of Carbon Monoxide poisoning

The signs and symptoms of Carbon Monoxide poisoning are often mistaken for other illnesses such as food poisoning, flu or tiredness. Symptoms to look out for include:

- Headache
- Nausea
- Breathlessness
- Dizziness
- Collapse
- Unconsciousness
- Chest pain

## How is Carbon Monoxide produced?

Carbon Monoxide is produced when fuels such as gas, coal, oil, petrol, wood and paraffin burn without enough oxygen, especially in poorly ventilated places.

It can also be produced around the home through vehicles in closed garages, barbeques in enclosed areas and portable generators.

## Types of fuel which produce Carbon Monoxide

### OIL

Typical appliances that burn oil are:

Heating Boilers

Cooking/heating ranges

Air heating units

Oil is also extensively used in industrial and commercial premises including hospitals and factories.

**DANGER SIGNS** to look out for on your OIL burning appliance:

Sooting (i.e. black sooty marks) around the appliance, slow and sluggish burning, smells, chimney 'blow downs' or soot deposits in others areas of the house such as bedrooms.

Another sign can be excess condensation in the room where the appliance is located.

## SOLID FUEL

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Solid fuel includes:

Coal

Peat

Slack and smokeless fuels such as Anthracite, Phurnacite and Ovoids.

Typical appliances that burn solid fuel are:

Open fires

Solid-fuel cookers

Room heaters

Multi-fuel stoves/fires.

Using the wrong fuel in any appliance can be dangerous, as well as potentially damaging to the appliance itself. It is important to follow the manufacturer's instructions and to choose and use the correct fuel.

**DANGER SIGNS** to look out for on your **SOLID FUEL** burning appliance:

Sooting (i.e. black sooty marks) around the appliance, slow and sluggish burning, smells, blackening of glass on glass-fronted fires, chimney 'blow downs' or smoke deposits in other areas of the house such as bedrooms.

## WOOD

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Wood is burnt as logs and branches, and in many processed forms such as sawdust, chips and pellets. It is seen as a green, renewable, energy resource.

Typical appliances that burn wood are:

Open fires

Ranges

Wood-burners and boilers providing heat

Hot water and/or central heating

It is also burnt in large-scale industrial units designed to supply heat, steam and even electrical power.

**DANGER SIGNS** to look out for on your **WOOD** burning appliance:

Sooting (i.e. black sooty marks), smells, condensation and reduced heating performance.

# GAS

Gas can be either Natural Gas (NG) or Liquefied Petroleum Gas (LPG: propane or butane).

Natural Gas is supplied by pipeline and LPG is supplied in bottles and from bulk tanks. NG and LPG gases are NOT interchangeable, and appliances have to be designed & adjusted for the type of gas used.

Typical appliances that burn gas are:

Fires

Heaters

Cabinet heaters

Stoves/hobs

Boilers & central heating systems

Gas is also used in restaurant/takeaway kitchens, in commercial/ industrial heating systems and in some manufacturing systems.

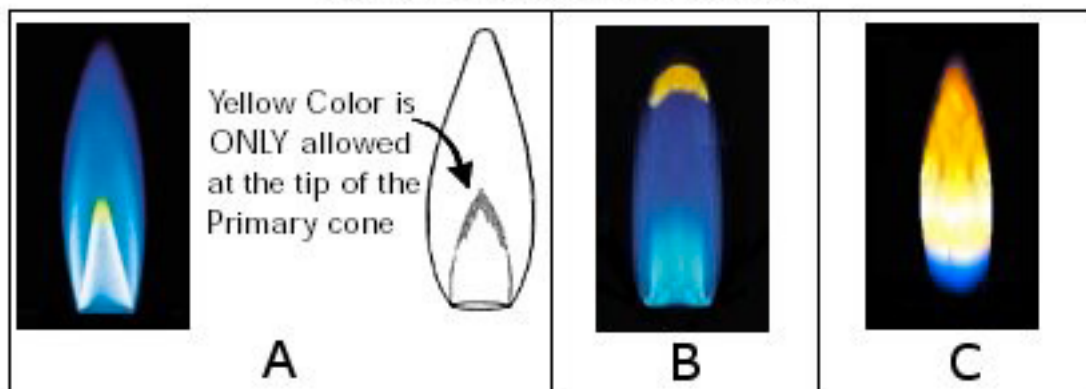
Gas Safe Register is the official list of gas engineers who are qualified to work safely on gas appliances. It replaced CORGI registration. You can find or check a Gas Safe Registered engineer by visiting [www.gassaferegister.co.uk](http://www.gassaferegister.co.uk) or by calling 0800 408 5500.

**DANGER SIGNS** to look out for on your GAS burning appliance:

Gas appliances should burn with a steady blue flame (except for some fuel effect fires which are designed to burn with a yellow flame – see the manufacturers instructions).

An unsteady or yellow flame, sooting/scorching/staining around appliances and flues, pilot lights which blow out, excessive room condensation and unusual smells.

## Gas Flame Characteristics



**A** - Natural Gas Flame  
**B** - Liquid Propane Flame  
**C** - **Call for Service!**

Many heating appliances are expected to “work” 24 hours a day, 365 days a year, keeping us warm and supplied with constant hot water. However, like any other equipment, they work better and last longer when correctly installed, burn the right fuel and are properly maintained.

## How to prevent Carbon Monoxide poisoning

### 1. THE RIGHT FUEL

It is important to burn the right fuel in your appliance. Coal and wood should be the correct size and moisture content, oil should be the proper grade (mostly 28 Seconds) and gas should be matched to the appliance.

### 2. AIR SUPPLY

All fuels need air to burn correctly. If too little air is available, harmful fumes can escape into the room. Never seal up flues, chimneys, air bricks or ventilation grills, you may be putting your family at risk. Seek advice if you are in any doubt.

### 3. FLUE-WAY CLEANING

Flue-ways allow hot gases to pass to the chimney from solid fuel burning appliances. Flue-ways should be swept clean every month to remove soot or ash.

Some stoves and roomheaters have a removable/drop down plate in the top of the fire box - this should also be removed and cleaned once a month. Remember - always let the fire go out the day before cleaning.

Special equipment such as a flue gas analyser is needed to test appliances and the air for the presence of Carbon Monoxide

### 4. CHIMNEY SWEEPING

All chimneys must be swept at least once a year preferably by a Northern Ireland Association of Chimney Sweeps registered sweep or other approved sweep. However, if your appliance is used continuously throughout the year, or burns wood and coal, more frequent sweeping is recommended.

The best time to have your chimney swept is at the start of the heating season. The chimney should also be swept after any prolonged period when the appliance has not been used, e.g. holidays, etc. This applies even if you burn smokeless fuels.

## 5. INSTALLING AND SERVICING

It is VITALLY important to ensure that new fuel burning appliances are installed by recognised/registered and established engineers, and serviced by competent companies or individuals.

Always follow the manufacturer's instructions for boilers, stoves, gas fires and solid fuel room heaters. The Health and Safety Executive for Northern Ireland recommends a service at least once a year depending on the fuel being used.

## 6. CARBON MONOXIDE ALARM

Audible alarms give an instant warning of dangerous Carbon Monoxide levels. Before purchasing an alarm, always ensure it complies with British Standard EN 50291 and carries a British or European approval mark, such as a CE or Kitemark.

CO alarms come in many shapes and forms, and are manufactured by a wide range of companies. The alarms are sold in DIY shops and supermarkets, and the price can range from £15 to £30.

ALWAYS read the manufacturer's instructions for the correct and safe location for the alarm.

### **What to do in the event of a Carbon Monoxide leak**

If you suspect Carbon Monoxide, STOP using the appliance until it has been checked by a registered installer or engineer.

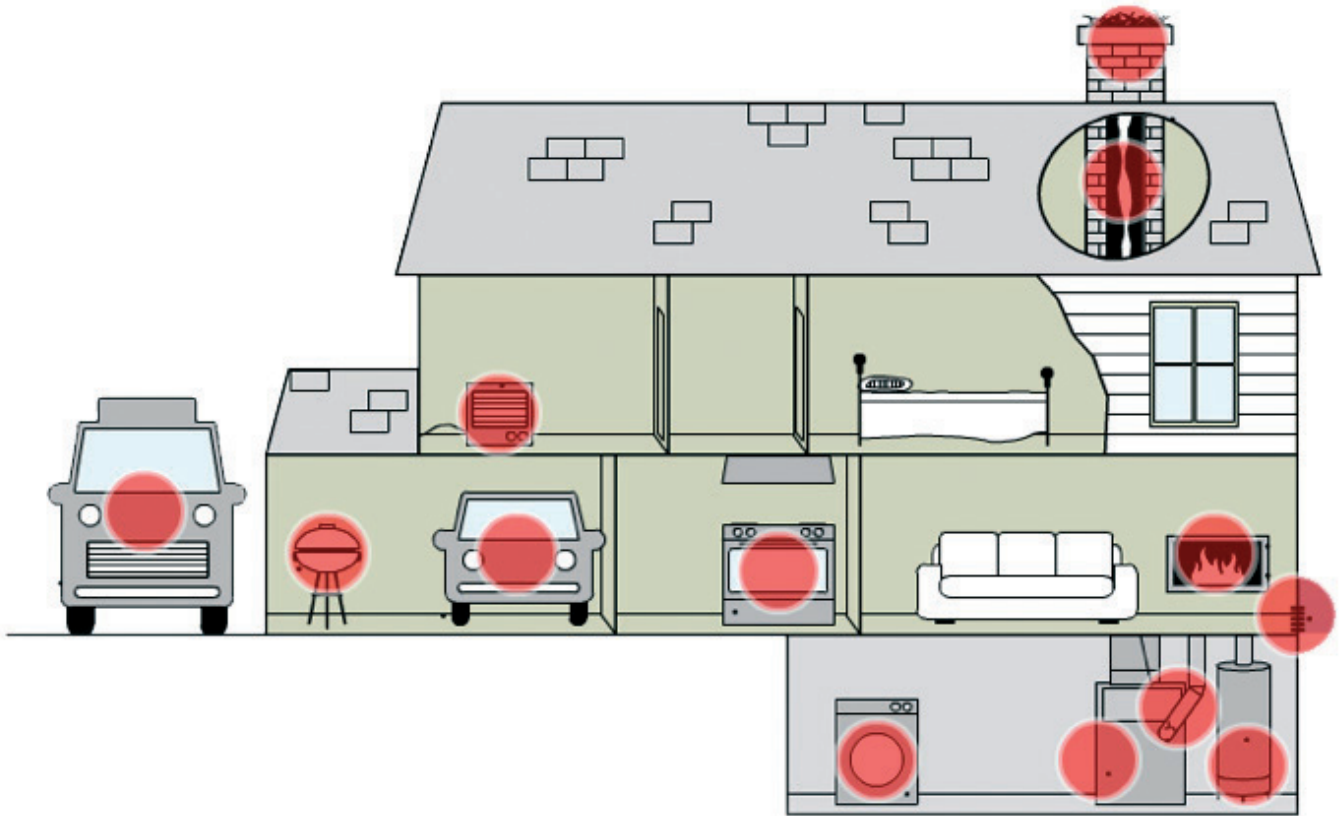
OPEN windows to ventilate the area and go outside into fresh air. Stay there until the relevant support arrives.

If possible, EXTINGUISH or TURN OFF the fuel supply.

In a medical emergency, CALL 999 for an ambulance.

If you receive medical attention, be sure to state that you suspect Carbon Monoxide poisoning. This will ensure you receive appropriate treatment, such as a breath or blood test.

# Sources of Carbon Monoxide inside the home



To visit the Carbon Monoxide home go online at [www.hseni.gov.uk/watchout](http://www.hseni.gov.uk/watchout)

# Terminology

**Ventilated or Ventilation** - Lets the air in and out, like a window, or an open door. Lots of houses have things called vents that let fresh air in and smells and smoke out, so you don't have to open a window.

**Appliance** - Big machines that do jobs around your house, like the cooker, washing machine, tumble dryer. Some appliances use gas to heat things - a gas fire, or the boiler which heats your house.

**Condensation** - When water is boiling, steam comes out. Once it cools it turns back into water. So if someone is cooking, or the kettle is boiling, your house can get steamed up. If the steam hits your nice and cool windows, it makes them get foggy and wet.

**Fuel** - Something you burn to provide heat, make your house warm, dry your clothes, heat your water and cook food. Oil, coal, sticks, turf, gas are all different fuels. Petrol and diesel are fuels that make cars and lorries go. Fuel is like a food to provide energy to do different jobs.

**Fossil Fuel** - A fuel that comes from plants, such as wood, coal, turf, oil, gas.

**Maintained** - A looked after, kept clean and fixed when it gets broken.

**Flue-way** - Lets smoke and smells escape out into the fresh air.

**Extinguish** - When you put out a fire, you extinguish it.

**Colourless** - Has no colour.

**Odourless** - Has no smell.

**Tasteless** - Lacking in flavour.

**Stove** - A type of cooker or heater.

**Toxic** - Poisonous and harmful.

**Nausea** - A feeling that you want to be sick. Vomiting.

**Heating Range** - A cooker that also heats the house.

For more information on Carbon Monoxide or anything within this document please contact **[www.hseni.gov.uk/watchout](http://www.hseni.gov.uk/watchout) or call HSENI on 0800 0320 121**