Your Business is Protected from the Threat of Gas, but is your Home?

When we consider gas hazards and the need for gas detection, we tend to automatically think about commercial environments such as plants where processes involve hazardous materials. The last place we tend to associate with the need for gas detection equipment is our home, but in reality every day appliances like cookers, heaters and boilers that burn fossil fuels such as gas, oil, coal and wood can pose a serious threat if not installed or maintained correctly.

Carbon Monoxide (CO) is a dangerous toxic gas; its effects can be fatal depending on concentrations that a sufferer is exposed to and how long exposure lasts for. For example, at 150ppm (parts per million) symptoms include slight tiredness, dizziness and nausea after 2-3hrs. At 800ppm symptoms worsen to dizziness, nausea and convulsions within 45 minutes, unconsciousness within two hours and death within 2-3 hours of exposure). What makes CO particularly dangerous is the fact that none of our senses can alert us to its presence; you can't smell CO, you can't see it and you can't taste it. CO is produced due to the incomplete burning of combustible fuels such as gas, coal and wood. During normal burning, Carbon Dioxide is produced, but when there is not enough Oxygen available (due to poor ventilation or a blocked flue), CO forms instead. If appliances like cookers, heaters and boilers are not properly ventilated or maintained, devices in the home can become a potential source of CO. It is also important to remember that as CO builds up in the body, its affects worsen so it is additionally important to consider that children and pets in your home (who have lower body masses), will be more susceptible to its effects more quickly.

It is not only your own appliances that can pose a potential threat; there have been some highly publicised deaths resulting from CO releases from neighbour's properties that have vented in through cavity walls and roof spaces. So even if you don't have fossil fuel fired appliances, you still need to ensure you are protected against the threat of CO.

How Prevalent is Domestic CO Poisoning?

It is hard to quantify the amount of domestic CO poisoning that occurs in Europe every year, because there are potentially many unidentified cases. A factor contributing to this is that the symptoms of low level CO exposure are very similar to the Influenza virus, except Influenza sufferers experience a raised temperature. This means that some victims go undetected because they assume they are only suffering from a cold or Flu bug.

The potential prevalence of domestic CO poisoning can be highlighted by the following statistics:

Europe has a population of around 735 Million people and 60% of this population use fuel-burning devices in their homes, putting around 441 Million people at risk from the effects of CO.

Based on a World average, 10-15% of the total population are expected to suffer from Flu every year, with this figure rising to up to 50% when aggressive strains are more prevalent.

With this in mind, it is interesting to note that on average only 70% of suspected Influenza cases turn out to be caused by a strain of the Flu virus. This means that the remaining 30% of the population are not experiencing Flu and could potentially be suffering from the effects of CO poisoning every year.

So with such a dangerous hazard potentially lurking in our homes and putting our families at risk, what can we do to protect ourselves? Luckily the answers are quick, simple, relatively low cost and highly effective.

1. The use of a CO alarm or alarms in the case of appliances in different rooms (for example, a log burning stove in the lounge and a cooker in the kitchen).
2. The correct installation and servicing of appliances by a competent person such as a CORGI engineer for gas appliances. In many European countries, including the UK, there are laws governing the proper installation or maintenance of fuel burning devices; this means that equipment must only be modified or maintained by a competent person registered with the applicable organisation.

By undertaking both these aspects you can minimise the chances of a CO leak occurring in the first place and if it does, you can ensure you will be alerted to its presence by the use of an alarm.

The Importance of CO Alarms

CO alarms really do save lives. Figures relating to CO deaths show a marked decrease in the last few years catalysed by much media attention and raised awareness for CO; from approximately 50 in 2005 down to 30 in 2007 in the UK. Media campaigns, like the recent Carbon Monoxide – Be Alarmed campaign in the UK, by COCAA (Carbon Monoxide Consumer Awareness Alliance), have also helped to raise the profile for not only CO awareness, but the proper use of CO alarms in UK homes.

Part of the campaign featured a report detailing trends in CO awareness and the use of CO alarms. This report has highlighted that only 22% of people in the UK have their appliances regularly serviced by a qualified professional and use a CO alarm. In fact 34% of people surveyed admitted to having neither aspect of protection in their home, leaving them completely at risk. This becomes even more worrying when statistics for awareness of the symptoms of CO show that only 6% people know what they are.

Following the success of a number of high profile media campaigns about CO over the last few years, the message is evolving to focus on one of its key aspects; the use of a CO alarm. Although proper appliance care is an excellent way to minimise the risks of suffering a CO leak, such a leak can occur at any time. In fact, the only way to ensure that you know about a leak is by using a CO alarm; without one, there is no way of telling that you are being poisoned until it's potentially too late.

So with awareness growing, why are so many households still at risk? According to the recent COCAA report, the main barriers include not being aware of CO as a risk, not knowing where to get a CO alarm from and also concerns about the cost of a CO alarm.

Blane Judd, CEO for CIPHE (The Chartered Institute of Plumbing and Heating Engineering), is well versed in the dangers of CO; CIPHE is a founding member of the COCAA with a strong commitment to raising the awareness for CO. Blane also understands the importance of CO alarms from personal experience, after providing his mother with a Honeywell Analytics SF450EN CO alarm; the alarm went off within a week of being installed, alerting her to a serious issue with her cooker. "CIPHE is actively involved in raising awareness for CO; we are one of the founder members of COCAA and regularly participate in meetings to discuss how we can continue to promote the message to installers and consumers. In addition, our members often carry a supply of CO alarms that can be fitted when installing an appliance.

"The importance of using an alarm was brought home to me by a recent incident involving my mother, where a CO alarm alerted her to a serious issue with her cooker. My mother had been suffering health problems which at the time were not attributed to CO poisoning. Without the alarm we may not have discovered the fault with the cooker until it was too late."

Blane's story highlights the simple fact that CO alarms really can save lives and prevent further tragedies.

Choosing the right kind of CO alarm

With a variety of models available on the market, it's important to know what to look for in a good alarm. The average alarm costs approximately £25 and it's important to select one that is officially approved to EN 50291:2001 – the European Standard governing

domestic CO alarms. This means that a CO alarm has been built to a high standard and is capable of doing the job in hand. A chosen device should also feature a kitemark or equivalent country specific quality standard. You should only buy a device that features an audible alarm; without one the device will not be able to alert you or your family to an issue if you are sleeping. This means avoiding Black Spots (small devices that contain an orange coloured catalyst that reacts to CO and darkens when exposed to the gas), because they have no alarm and can also be poisoned by household chemicals such as cigarette smoke and aerosols.

Tim Jack, Business Leader for Domestic Products EMEAI at Honeywell Analytics, explains why it's so important to choose the right device. "The cost of CO alarms has been a big market driver in the selection of a suitable device, but many models on the market aren't fit for purpose or capable of doing the job and protecting you. It is important to select an alarm that is both quality assured with kitemarking and officially approved to EN 50291:2001 - the European Standard for CO alarms; this guarantees the performance of the alarm. The SF450EN CO alarm from Honeywell Analytics is one of the few devices on the market to be officially approved to EN 50291:2001. It is also officially approved by CORGI (the gas registration scheme within the UK). As a preferred CO alarm of top energy providers, councils and housing associations, the SF450EN delivers quality and performance with affordability; retailing at £24.95. The device has a guaranteed operational life of six years, with no need to change any parts, sensors or batteries; just £4.15 per year (and just over a penny a day) for complete protection.

"As a manufacturer of CO alarms, we are not only motivated from a commercial viewpoint but a moral one; we work with support groups and organisations like COCAA and COGDEM (Council of Gas Detection and Environmental Monitoring), to help raise awareness of CO poisoning and the importance of using the right type of alarm. We find that people often want to gain expert advice when it comes to protecting against CO, and we are seeing many members of the public buying alarms from energy providers or heating and plumbing installers and engineers. As part of our initiative to raise awareness for not only CO, but the use of the right types of CO alarms, we are about to release a free multi-media CD that contains all the information people need to know on CO; from identifying the symptoms through to how to spot potential issues with appliances and how to select the right CO alarm. It is designed to provide consumers, landlords and installers with all the information they need to know about minimising the threat of CO and provides one of the most comprehensive resources on CO in the market place."

As manufacturers, pressure groups and organisations galvanise to raise the awareness for not only CO but proper CO alarm use, it is hoped that more and more people will realise the importance of using a CO alarm, preventing further unnecessary tragedies. If you would like to learn more about CO and what you can do to protect yourself and your family please contact Honeywell Analytics.

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