Screen for carbon monoxide poisoning instantly to help safeguard your staff with the ToxCO® range

Saving lives, one breath at a time.

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What is Carbon Monoxide (CO) poisoning?

CO poisoning occurs after the inhalation of CO\(^1\). It is a significantly toxic gas, but being colourless, odourless, tasteless, and non-irritating, it is very difficult for people to detect\(^2\). CO is a product of incomplete combustion and is often produced in domestic or industrial settings by vehicles and other gasoline-powered tools, such as heaters and cooking equipment. As a result, CO poisoning is the most common type of fatal poisoning in many countries\(^3\).

CO is and has been the most common cause of both accidental toxic poisoning and death in the United States for over 100 years\(^4\).

Diagnosing CO poisoning

One of the significant problems with diagnosing CO poisoning is that it can engender similar symptoms to flu\(^5\). Symptoms of CO poisoning include:

- headache
- nausea
- vomiting
- fatigue
- dizziness

In the UK, the House of Commons All Parliamentary Gas Safety Group recommends providing medical professionals, such as ambulance personnel, on-call GPs and health visitors, with hand held devices so that they can test for exposure there and then\(^5\).
Staff safety

The ToxCO® has the capability of not only testing the level of CO on a patient’s breath, but can also measure ambient levels of CO, helping to safeguard those entering a potentially dangerous incident.

In 2009, the London Ambulance Service (LAS) undertook a feasibility study into pre-hospital CO monitoring of patients. According to the study, previous incidents demonstrated that on many occasions ambulance personnel had been exposed to ‘unidentified situations’ of elevated CO concentration in which crews performed clinical assessment and treatment of patients. In the cases reviewed, the attending ambulance personnel neither had the equipment nor the protocols to screen CO as the presenting medical condition.

Following on from the study, LAS have recommended CO monitors for staff safety and to aid rapid patient screening.
ToxCO®
Patient breath and atmospheric CO monitor

Instantly screen for carbon monoxide poisoning.

2 year warranty*
Improved infection control
Connects via USB

Mouthpiece breath test
For use with adults

Ambient monitoring mode
To alert staff of high atmospheric CO

Face mask breath test
For use with unconscious patients

Ideal for:
Ambulance services, first responders, GP’s and health visitors.

*Subject to service requirements.
The ToxCO® is an easy to use, non-invasive breath/ambient CO monitor, with three sampling modes. Breath samples can be taken from patients to screen for CO poisoning and also monitor ambient levels to alert staff of potentially fatal levels of CO in the air.

Features and benefits

• Brand new easy to use interface
• Maintenance reminders
• Tag readings
• SteriTouch® technology
• Large touchscreen
• Ambient monitoring
• Face mask breath testing

Technical specification

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentration range</td>
<td>0-54%COHb/0-600ppm</td>
</tr>
<tr>
<td>Display</td>
<td>Full colour touchscreen</td>
</tr>
<tr>
<td>Detection principle</td>
<td>Electrochemical sensor</td>
</tr>
<tr>
<td>Repeatability</td>
<td>≤±5% difference on consecutive readings</td>
</tr>
<tr>
<td>Accuracy</td>
<td>≤±3ppm/10% - whichever is greater*</td>
</tr>
<tr>
<td>Power</td>
<td>3 x AA (LR6 or equivalent) - up to 1000 minutes</td>
</tr>
<tr>
<td></td>
<td>1 x CR2032 lithium coin cell</td>
</tr>
<tr>
<td>$T_{90}$ response time</td>
<td>&lt;30 seconds</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>0-50ºC</td>
</tr>
<tr>
<td>Storage/transport temperature</td>
<td>0-50ºC</td>
</tr>
<tr>
<td>Operating/storage/transport pressure</td>
<td>Atmospheric ±10%</td>
</tr>
<tr>
<td>Operating humidity</td>
<td>15-90% non-condensing</td>
</tr>
<tr>
<td>Storage/transport humidity</td>
<td>0-95%</td>
</tr>
<tr>
<td>Sensor operating life</td>
<td>2 years</td>
</tr>
<tr>
<td>Sensor sensitivity</td>
<td>1ppm</td>
</tr>
<tr>
<td>Sensor drift</td>
<td>&lt;5% per annum</td>
</tr>
<tr>
<td>Dimensions</td>
<td>Approx. 37 x 77 x 140mm</td>
</tr>
<tr>
<td>Weight</td>
<td>Approx. 215g (including batteries)</td>
</tr>
<tr>
<td>Materials</td>
<td>Case: polycarbonate/ABS blend with SteriTouch® anti-microbial additive D-piece™: polypropylene SteriBreath™: polypropylene</td>
</tr>
<tr>
<td>$H_2$ cross interference</td>
<td>≤6%</td>
</tr>
</tbody>
</table>

*Readings of >500ppm at temperatures between 0-14ºC can decrease accuracy to ≤±3ppm/15%.
**Consumables**

**SteriBreath™ mouthpieces**: SteriBreath™ mouthpieces are both cost effective and compact. They are individually sealed for optimum infection control, and condensation in tube confirms accurate breath sample.
*Order code: STERIBREATH-MP (250 per box)*

**D-piece™**: A D-piece™ is used to attach the SteriBreath™ to the monitor. The D-piece™ incorporates a one-way valve and an infection control filter, which are proven to remove and trap >99.9% of airborne bacteria. The D-Piece™ should be changed every four weeks, or more often if visibly soiled. An automatic reminder will appear on the screen every 28 days.
*Order code: D-PIECE-3 (12 per box)*

**Monitor cleaning wipes**: Free from alcohol, ensuring the continued performance of your monitor. Products containing alcohol cannot be used on any of the ToxCO® range.
*Order code: WIPE-V (pack of 50)*

**Face mask sampling system**: This sampling system is single patent use and allows the patient to breathe normally through a face mask in order to produce a breath sample.
*Order code: ISSA-V (1 sampling kit)*

- **Small face mask**
  *Order code: EC60-IM-V*

- **Medium face mask**
  *Order code: EC60-MM-V*

- **Large face mask**
  *Order code: EC60-AM-V*

**References**

Contact Bedfont® or one of our worldwide ToxCO® distributors for a free demonstration.

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A full list of our worldwide distributors can be found at
www.bedfont.com/distributors/

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