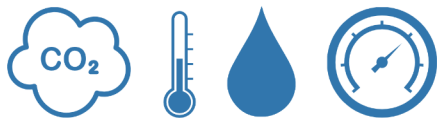


Carbon Dioxide (CO₂) Monitor Loaning Program for Indoor Air Quality

WHAT DO CO₂ MONITORS MEASURE?

CO₂ monitors can help to assess ventilation by providing real-time measurements of CO₂ in the air. Some devices also log data, and may provide other measurements such as temperature and humidity.



WHAT ARE THE BENEFITS OF MONITORING CO₂?

Most people spend the majority of their time indoors, including home, school, and work. In an indoor setting, it is natural to find CO₂ in the air, and **lower levels are not a concern**.

However, when a space has poor ventilation and indoor CO₂ increases, people may be at an increased risk of:

- Tiredness
- Headache
- Eye irritation
- Sore or dry throat
- Difficulty concentrating
- Dizziness
- Stuffy, congested or runny nose, sneezing, coughing and rhinitis

These effects may not be from CO₂ exposure, but from poor indoor air quality in general.

Crowded and inadequately ventilated spaces are more likely to have high CO₂ levels.

HOW DO I INSTALL THE MONITOR, AND WHERE SHOULD I PLACE IT?

Place the monitor at a height of about 1-2 metres (3-6 feet), away from windows and air supply vents, and if possible, at least about 2 metres (6 feet) away from people, fuel-burning appliances, and open flames. You may choose to monitor for several days to learn about patterns in your space, and some devices have apps to support this.

WHERE DOES INDOOR CO₂ COME FROM?

When we breathe out, we release CO₂ into the air. CO₂ that is found in the indoor environment is mainly from breathing, but can also come from cigarette smoking and fuel-burning appliances.



CO₂ is odourless, colourless, and non-flammable. The best way to know how much CO₂ is in the air is to measure it with a CO₂ monitor.

CO₂ AS AN INDICATOR OF VENTILATION

Poorly ventilated spaces, without enough fresh outside air moving in, can allow for indoor air pollutants (such as CO₂, volatile organic compounds (VOCs), mould, and smoke) to build up and potentially impact health.

HOW TO INTERPRET INDOOR CO₂ LEVELS



Health Canada has set **1000 parts per million (ppm)** as an indoor long-term exposure limit, based on a 24-hour average. It is normal and expected to see changes in CO₂ levels throughout the day. **Ideally, indoor CO₂ levels should be below 1000 ppm, and as close to outdoor levels as feasible (300 - 500 ppm).** Severe acute health effects are not expected at CO₂ levels below 5000 ppm.

We recommend using the monitor consistently for a period of time (e.g. 7 days) to determine trends and causes for CO₂ level changes, and take action where necessary and possible to improve ventilation.

While CO₂ monitors do not directly measure the risk of infectious disease transmission in a space, good ventilation can reduce the risk of infections transmitted through the air.

HOW TO IMPROVE VENTILATION AND AIR QUALITY IN A SPACE?

If your monitor is showing high levels of CO₂, consider the following actions to increase ventilation or control the sources of contaminants:

- Open windows or doors. Increase the amount of outdoor air being drawn in (keeping in mind outdoor air quality)
- Maintain, repair, and/or upgrade your Heating, Ventilation and Air-Conditioning (HVAC) system
 - Set the mechanical ventilation system to a higher setting or let it run longer
 - Make sure air is distributed evenly throughout the building using the HVAC fan or a separate fan or air supply
- Use portable air cleaners with HEPA filters, which can reduce indoor air contaminants including smoke and aerosols containing bacteria or viruses
- Ensure fuel-burning appliances are properly vented
- Not smoking indoors
- Use a range hood exhaust fan with outside venting when cooking
- Fix moisture problems and control humidity levels
- Choose low VOC carpets, furniture, paint, and cleaning products

Generally, indoor air quality can be improved by:

- Controlling and eliminating sources of air pollutants
- Ensuring good ventilation
- Cleaning the air (typically by filtering)



It is also important to consider outdoor air quality and reduce entry of outdoor air pollutants when necessary. This is especially crucial during wildfire smoke events.