Indoor air quality resources for professionals

Access documents on the health risks of indoor air contaminants. Learn how to reduce exposure to these contaminants in residential and non-residential spaces.

On this page

Residential indoor air quality guidelines

The Residential Indoor Air Quality Guidelines present recommended exposure limits (also called guideline values) for contaminants. The exposure limits represent the concentration of indoor air contaminants below which health effects are unlikely to occur. The guidelines include:

- long-term exposure limits
    - for health problems that can occur from continuous or repeated exposure over several months or years

- short-term exposure limits
    - for health problems that can occur immediately after a brief exposure

We have developed guidelines for specific indoor air contaminants. This list shows the recommended exposure limit for the sampling time (in brackets):

- acetaldehyde
    - long-term exposure limit (24 hours): 280 µg/m^3 (157 ppb)
    - short-term exposure limit (1 hour): 1420 µg/m^3 (795 ppb)
- acrolein
    - long-term exposure limit (24 hours): 0.44 µg/m^3
    - short-term exposure limit (1 hour): 38 µg/m^3
- carbon dioxide
    - long-term exposure limit (24 hours): 1800 mg/m^3 (1000 ppm)
- carbon monoxide
    - long-term exposure limit (24 hours): 11.5 mg/m^3 (10 ppm)
    - short-term exposure limit (1 hour): 28.6 mg/m^3 (25 ppm)
- formaldehyde
    - long-term exposure limit (8 hours): 50 µg/m^3 (40 ppb)
    - short-term exposure limit (1 hour): 123 µg/m^3 (100 ppb)
- naphthalene
    - long-term exposure limit (24 hours): 10 µg/m^3 (1.9 ppb)
- nitrogen dioxide
    - long-term exposure limit (24 hours): 20 µg/m^3 (11 ppb)

    - short-term exposure limit (1 hour): 170 µg/m^3 (90 ppb)
- ozone
    - long-term exposure limit (8 hours): 40 µg/m^3 (20 ppb)
- radon
    - exposure limit 200 Bq/m^3
- toluene
    - long-term exposure limit (24 hours): 2.3 mg/m^3 (0.6 ppm)
    - short-term exposure limit (8 hours): 15 mg/m^3 (4.0 ppm)
- xylenes
    - long-term exposure limit: (24 hours): 150 µg/m^3 (36 ppb)
    - short-term exposure limit: (1 hour): 7 200 µg/m^3 (1 700 ppb)

*You can request the science assessments on which these exposure limits are based.

Guidance documents for specific indoor air contaminants

In some cases, we can't determine an exposure limit from the available scientific evidence. When this happens, we develop a guidance document that focuses on actions to reduce indoor exposure.

For example, we have developed guidance documents for indoor air contaminants, including:

- mould
- benzene
- fine particulate matter (PM2.5)

Indoor air reference levels (IARLS)

We have also identified indoor air reference levels (IARLs) for 25 different volatile organic compounds (VOCs) commonly found in indoor air.

Risk assessment prioritization

We have developed a process to prioritize contaminants for assessment based on their potential to pose a health risk at levels found in Canadian homes. We conduct this prioritization process approximately every 3 years.

Guidance for non-residential (public) indoor spaces

We have developed guidance on maintaining and improving air quality in non-residential (public) indoor spaces. Local jurisdictions, public officials, managers, employees and anyone who has a role to play in indoor air quality can use these documents. The documents include:

- Guidance for cleaner air spaces during wildfire smoke events
    - This document provides advice on how to create and manage community-based cleaner air spaces for wildfire smoke events. It includes both detailed guidance and a simplified checklist.
- Best practices for improving air quality in ice arenas
    - This guidance provides recommendations to public officials, managers and employees to help them maintain and improve air quality in ice arenas. It also provides an overview of the potential health effects of poor air quality in ice arenas as well as detailed guidance to develop a monitoring and response framework.

Additional Resources

- Ventilation and the indoor environment
- Using ventilation and filtration to reduce aerosol transmission of COVID-19 in long-term care homes
- Choosing a portable air purifier
- Flood clean up and indoor air quality
- Protecting your indoor air from outdoor pollutants

Contact us for more information.

Date modified:
2022-12-09