AIR POLLUTION: WHAT IS OZONE?

Ground-level **ozone** (O_3) is a gas that forms close to the Earth's surface through reactions between certain pollutants (known as **precursors**) in the presence of sunlight.

Ozone is a component of smog.

WHO IS MOST AT RISK TO AIR POLLUTION?

Even healthy young adults can experience health issues on days when the air is heavily polluted but some groups are more at risk:

- Children
- Seniors
- People with asthma, chronic obstructive pulmonary disease (COPD), cardiovascular diseases, diabetes
- Active people of all ages who exercise or work hard outdoors

Children / Seniors

HEALTH EFFECTS OF OZONE

Health effects of **ozone** can occur even at very low concentrations, including:

Increased lung problems

Increased hospital admissions

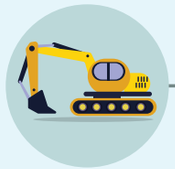
Increased medical visits

Premature death

WHERE DO OZONE PRECURSORS COME FROM?

Ozone precursors, such as nitrogen oxides (NOx) and volatile organic compounds (VOCs), can come from man-made or natural sources, including (but not limited to):

Vehicle emissions



Construction

Industry

Agriculture

Wood burning

Forest fires

HOW CAN I PROTECT MYSELF FROM AIR POLLUTION?

Know when the air is unhealthy:

- Check the **Air Quality Health Index** in your community to find out the best time to be active outside **(airhealth.ca)**
- If you have a heart or lung condition, talk to your health care professional about additional ways to protect your health when air pollution levels are high

Ways to reduce exposure:

- Avoid or reduce strenuous outdoor activities when air pollution levels are high
- Avoid or reduce exercising during smog episodes

WHAT ACTION IS THE GOVERNMENT OF CANADA TAKING ON OZONE?

- Federal regulations have reduced emissions of **ozone precursors** from key sources in Canada.
- Canada has agreed to international treaties to reduce transboundary flow of **ozone** and its **precursors**.
- Canada has established the **Canadian Ambient Air Quality Standards (CAAQS)**. These are health- and environment-based numerical values of outdoor air concentrations of pollutants intended to drive continuous air quality improvement in Canada. The CAAQS, a key element of the Air Quality Management System, were developed through a process steered by the Canadian Council of Ministers of the Environment (CCME).

		CAAQS Numerical Values			
Pollutant	**Averaging Time**	**Effective in 2015**	**Effective in 2020**	**Units**	**Metric**
Ozone	8 hours	63	62	Parts per billion (ppb)	The 3-year average of the annual 4th highest daily maximum 8-hour average concentrations

LEVELS OF OZONE IN OUTDOOR AIR

There are variations in levels of **ozone** in outdoor air by season and region. In general, higher levels of ambient **ozone** occur in spring and summer, and lower levels in winter. During summer, **ozone** levels peak between noon and 6 pm.

More information can be found on the **STATE OF THE AIR** website
http://airquality-qualitedelair.ccme.ca/en

For more information on air pollution, please visit **www.canada.ca/en/health-canada/services/air-quality.html** or **contact us** at: **HC.air.SC@canada.ca**

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