

Wildfire Smoke and Air Quality Reference Document, 2024

Ministry of Health
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Purpose

The Wildfire Smoke and Air Quality Reference Document (WSAQ) is intended to support local boards of health (BOHs) response to wildfire smoke or poor air quality events that may impact the health and wellbeing of Ontarians. It is not part of the Ontario Public Health Standards, Protocols, or Guidelines – nor is it legally binding. Specifically, the document is intended to:

- identify Air Quality Health Index (AQHI) levels for issuing public health messaging
- communicate public health messaging to support the various air quality alert levels
- support BOHs and local partners in their air quality health response planning

It is recognized that there may be a variation in local response plans to air quality (for example wildfire smoke events, heat related events, industrial pollutants, traffic related emissions) at the local, provincial, and federal levels. The intent of the WSAQ is to harmonized messaging during short term poor air quality events across the province to minimize the health impacts and to better protect residents and vulnerable members of the community. Please note that this document is for informational purposes only and is not intended to provide legal advice.

Background

Wildfire season in Canada is expected to increase in severity and duration. In 2023, Ontario's wildfire season consisted of 741 fires and 441,474 hectares of burned forests, which is almost 3 times more compared to the 10-year average. In addition to wildfire smoke originating from fires in Ontario, migrating smoke from wildfires burning in other provinces, territories and the United States can affect Ontarians as well.

Wildfire smoke is a complex mixture of particulate matter and gases (CO, CO₂, NO_x) as well as polycyclic aromatic hydrocarbons (PAHs), and volatile organic compounds (VOCs). Particulate matter with particles less than 10 microns in size (PM₁₀) can irritate the eyes and upper respiratory tract. Particles less than 2.5 microns in size (PM_{2.5}) are of **greatest health concern** as they can penetrate deep into the

lungs and are associated with various health effects. PM_{2.5} can constitute up to 90% of the total particle mass of wildfire smoke. Note that poor air quality events may also be driven by factors other than wildfire smoke (elevated levels of ozone or local sources of air contaminants, for example).

Symptoms from exposure to smoke

Exposure to smoke most commonly results in milder symptoms such as:

- eye irritation
- throat irritation
- cough
- runny nose
- headaches

More severe symptoms include:

- dizziness
- chest pains
- difficulty breathing
- wheezing
- heart palpitations

Exposure to wildfire smoke is associated with several health effects including exacerbation of existing respiratory and cardiovascular diseases such as:

- asthma
- chronic obstructive pulmonary disease
- congestive heart failure

At-risk populations

In general, those who are most at-risk of the health effects of wildfire smoke are:

- seniors
- indigenous Peoples
- people who smoke
- infants and young children
- people living in rural and remote areas
- pregnant women and pregnant people
- people involved in strenuous outdoor exercise
- people who work outdoors, including wildland firefighters
- people living in situations of lower socio-economic status such as:
 - those with lower income
 - those with lower education
 - those experiencing housing insecurity
 - those experiencing uncertain employment
- people with an existing illness or chronic health conditions such as:
 - cancer
 - diabetes
 - lung or heart conditions

Mental health impacts

Wildfires may also impact mental health, especially for individuals in closer proximity to a wildfire. Individuals may experience worsening mental health impacts such as:

- anxiety
- depression
- post-traumatic stress disorder
- general distress caused by natural disasters and climate change.

Roles and responsibilities

The [Ontario Public Health Standards](#) (OPHS) establish the minimum requirements for public health programs and services to be delivered by Ontario's 34 boards of health, which include assessment and surveillance, health promotion, health protection, and disease and injury prevention. The OPHS are published by the

Minister of Health, pursuant to Section 7 of the [Health Protection and Promotion Act, R.S.O. 1990, c. H.7.](#)

Under the [Health Hazard Response Protocol, 2019](#) and the [Emergency Management Standard](#), BOHs are required to:

- Conduct surveillance of environmental factors in the community including monitoring of trends over time, emerging trends, and priority populations.
- Collaborate with community partners to develop effective strategies to reduce exposure to health hazards and reduce the burden of illness from health hazards in the physical environment (which also includes poor air quality events due to wildfire smoke).

Boards of Health

Boards of Health (BOHs) actions to mitigate health impacts from poor air quality events may include:

- monitoring
- alerting
- response activities

Additionally, BOH response activities may vary due to the variability in municipal weather or emergency response plans. BOHs may also have varying responsibilities in working with municipalities and other community partners to help them provide other aspects of the response plans are delivered.

BOHs should ensure that:

- mitigation, preparedness, and response roles and responsibilities are clear amongst involved partners
- planning networks are well established prior to an air quality event

BOHs may use the Emergency Management Cycle to guide their planning for air quality and wildfire smoke events.

Fig. 1 - Emergency Management Cycle



Prevention and mitigation:

- Reduce the impacts of climate change and risk of adverse air quality and wildfire smoke events locally with an equity lens.
- Engage local stakeholders in adverse air quality and wildfire community mitigation measures, including where possible, identifying specific high-risk groups, settings, and circumstances. This may include:
 - priority populations who may be at-risk of the health effects of wildfire smoke or poor air quality events
 - workplaces and education facilities
 - outdoor events which may be happening concurrently (for example, outdoor recreation or sporting events)
- Prioritizing emergency management plans as they pertain to wildfire smoke or poor air quality events. This may also include heat health response planning.

Preparedness:

- Identify and ensure timely access to surveillance data streams for public health decision making.
 - Where possible, this may include working with municipalities to install small air quality sensors (such as PurpleAir Sensors) throughout the BOH to supplement traditional air monitoring networks.
- Review plans to ensure timely communication of health risks, preparedness and response including public health advice to the community. This may also include:
 - Promoting a layered approach to public health risk communications including:
 - encouraging the use of the [WeatherCAN](#) app and other notification services to partners to be notified and prepared for wildfire smoke or poor air quality events.
 - understanding AQHI forecasts, air quality alerts, and what it means for individuals (especially for those at increased risk). Given the variability of wildfire smoke and air quality events,

individuals should also be encouraged to monitor fluctuations in weather conditions should they improve.

- when to reduce physical exertion and time spent outdoors
 - taking measures to [protect indoor air](#) (sealing windows, the use of [portable air cleaners](#), for example), including how to set up HVAC systems to increase filtration and reduce inflow of outside air (meaning fan on; recirculate).
 - how to assess individual health risk and access services and medications during a wildfire smoke or poor air quality event.
 - At-risk individuals should also be encouraged to maintain a week-long surplus of medications should they be unable to reach a pharmacy or primary care provider.
 - use of NIOSH-certified N95 or equivalent respirators in certain situations to reduce health risks.
- Work with local partners to prepare for [simultaneous heat and smoke events](#). This may include identifying potential [cleaner air space](#) locations and cultural needs (such as for communities who may have the greatest exposure to the impacts of wildfire smoke).
 - Where applicable, promoting institutional evaluations of HVAC systems and the use of high-efficiency furnace filters (e.g., MERV-13).
 - If an AQHI of 7+ is forecast, BOHs may work with municipal partners to advise organizers of [sporting/outdoor events](#) (such as sports, recreational camps, concerts, festivals) to:
 - monitor forecasted AQHI conditions and decide how to proceed based on the organizers' risk assessment
 - consider type of activity involved and needs of participants or spectators
 - modify or limit outdoor activities (if necessary)
- During a wildfire smoke or poor air quality event, BOHs should anticipate questions and requests from the community for NIOSH-certified N95 or equivalent respirators.

- For community organizations that need support acquiring respirators, BOHs should identify and liaise with local partners already working with priority populations, including the senior and long-term care sectors and social services in making NIOSH-certified N95 or equivalent respirators available. Local partners can order NIOSH-certified N95 masks for free, including delivery, from Supply Ontario by contacting sco.supplies@supplyontario.ca.
 - These partners should also be made aware that while the use of NIOSH-certified N95 or equivalent respirators may provide some protection against exposure to the fine particles in smoke, they do not reduce exposure to the gases in wildfire smoke.
 - Respirators should not be used by children under 2 years of age, individuals who have trouble breathing while wearing the respirator, or someone who may need help to remove the respirator.

Response:

- Ongoing communication and public health recommendations to assess personal risk and take actions to reduce personal risk, for example:
 - keep indoor air clean
 - reduce time spent outdoors
 - decrease physical exertion
 - access to NIOSH-certified N95 or equivalent respirators.
- BOHs should monitor changing weather conditions for any prolonged period of wildfire smoke or poor air quality and alert at-risk communities and ensure appropriate risk messaging has been communicated to these populations.
- Monitor health impacts of wildfire smoke in the community (e.g., increase in ER visits related to cardio-respiratory symptoms and illnesses especially in sustained wildfire smoke events).
- Recommending to local partners to setting up additional [cleaner air spaces](#) (if included in the community wildfire response plan).

Recovery:

- Continue to monitor surveillance data stream and adjust public health messages accordingly.
- Participate in evaluation activities.

Local municipalities and community partners

Municipalities and community agencies will be key partners in mitigation, preparedness, planning, and response activities. The municipalities' roles may involve various departments, ranging from:

- recreation
- public works
- social services
- emergency management
- facilities
- other community partners.

It is recommended that BOHs work closely with appropriate local partners in the development of community response plans based on the review of the response planning guidance included in this document.

While response to local air conditions will vary according to existing local community response plans, there may be opportunities for plan improvement or enhanced coordination in the areas of:

- local partner notification processes
- public communications and support for public health education opportunities
- supporting [cleaner air spaces](#) accessible to the public, as needed
- working to address the needs of priority populations
- responding to impacts on municipally delivered health services such as Emergency Medical Services or Long-Term Care

- occupational health and safety for municipal/regional workers during poor air quality events
- activation of local Emergency Operations Centres, and activation of other local emergency response plans/protocols as required
- working with municipalities to install small air quality sensors (e.g., PurpleAir Sensors) to supplement traditional air monitoring networks

Ministry of Health

The Ministry of Health (MOH) is responsible for the administration of the [Health Protection and Promotion Act](#) (HPPA), including the [Ontario Public Health Standards](#). The ministry also develops plans and coordinates the provincial health system response for emergencies related to human health, disease and epidemics, and health services during an emergency under the [Emergency Management and Civil Protection Act](#) (EMCPA):

- The Office of the Chief Medical Officer Health, Public Health provides ongoing advice to BOHs in planning and evaluation activities.
- While response to poor ambient air should ideally be handled through local level plans, in the event of a widespread, severe, or prolonged wildfire smoke or poor air quality event, or where impact on the health care system is significant (e.g., health system capacity, or evacuations) additional provincial emergency management coordination may be required.

Ministry of the Environment, Conservation, and Parks, Environment and Climate Change Canada

The Ministry of the Environment, Conservation, and Parks (MECP), in collaboration with Environment and Climate Change Canada (ECCC) provides real-time air quality monitoring.

MECP maintains and operates a network of 38 ambient (outdoor) air monitoring stations established in communities across the province. This information is reported 24 hours a day, 7 days a week, through the Ministry's official [Air Quality Ontario](#) website, including concentrations of [common air pollutants](#) and the [Air Quality](#)

[Health Index \(AQHI\)](#). The ministry's website also provides air quality forecasts for today, tonight, and tomorrow.

MECP and ECCC are also responsible for issuing Special Air Quality Statements (SAQS) and Air Quality Advisories (AQAs) (see below).

Surveillance and assessment

Air Quality Health Index (AQHI)

The Air Quality Health Index (AQHI) is a health risk communication tool that indicates level of health risk associated with short term exposures to air pollution in your area, based on changes in mortality risk associated with 3 air pollutants in Canadian cities.¹ It is measured on a scale of 1 to 10+ - the lower the number, the lower the risk. The AQHI was developed jointly by both Health Canada and ECCC and is in use throughout Canada.

The AQHI is calculated based on the relative risks of a combination of 3 common air pollutants² that are known to harm human health. These pollutants include:

- **Ground-Level Ozone (O₃)**
- **Fine Particulate Matter (PM_{2.5})** and
- **Nitrogen Dioxide (NO₂)**

As people respond differently to air pollution, the AQHI provides a simple scale on how to protect health during air quality levels associated with low, moderate, high, and very high health risks.

The AQHI expresses the following elements:

¹ Stieb DM, Burnett RT, Smith-Doiron M, Brion O, Shin HH, Economou V. A new multipollutant, no-threshold air quality health index based on short-term associations observed in daily time-series analyses. *J Air Waste Manag Assoc.* 2008 Mar;58(3):435-50. doi: 10.3155/1047-3289.58.3.435. PMID: 18376646.

² In Ontario, fine particulate matter (PM_{2.5}) concentrations can override the natural AQHI at any time (even outside of wildfire smoke events). During these events, a rapid change in the AQHI's forecast values will occur and a Special Air Quality Statement (SAQS) or an Air Quality Advisory (AQA) may be issued.

- Air quality in relation to health on a scale from 1 to 10. As the number increases, the greater the health risk associated with air quality. When the level of air pollution is very high, the number will be reported as 10+.

The AQHI scale in the table below describes categories of health risk associated with the index reading:

1	2	3	4	5	6	7	8	9	10	10+
Low Risk AQHI 1-3			Moderate Risk AQHI 4-6			High Risk AQHI 7 -10			Very High Risk AQHI 10+	

- Ontario adopted a hybrid version of the AQHI in 2015 that considers both HC's AQHI formulation and MECP's 1-hour Ambient Air Quality Criteria (AAQCs) for O₃ and NO₂
 - The AQHI high risk category (AQHI of 7 or higher) is automatically triggered when MECP's 1-hour AAQCs for O₃ and NO₂ is exceeded in any given hour. Ontario does not have an AAQC for PM_{2.5}
- **Beginning in 2024, Ontario is planning to adopt a 1-hour trigger for PM_{2.5} (60µg/m³). The AQHI value will be reported as 7 (high-risk category) when the new PM_{2.5} trigger is exceeded (as is currently done for O₃ and NO₂).**
- The AQHI also includes health messages based on each risk category for both the general population and the 'at-risk' population. This messaging is intended to provide suggestions on how individuals may choose to adjust their activity levels depending on individual health risk from air pollution.

In Ontario, local AQHI readings can be found at MECP's [Air Quality Ontario website](#) that includes current readings and maximum forecast values for today, tonight, and tomorrow.³

Air quality and meteorology

Air quality alert notifications

MECP provides a [subscription service](#) that allows users to sign up to receive email notifications when a Special Air Quality Statement or Air Quality Advisory has been issued for their chosen forecast region(s).

The service provides 3 types of notifications:

- **Special Air Quality Statement (SAQS):** An SAQS will be issued when the AQHI is forecast to reach the high-risk category (AQHI 7-10). The purpose of a SAQS is to be precautionary and to be vigilant of your health.
 - A SAQS is also issued for areas where wildfire smoke is expected to cause deteriorating air quality which can range from a few hours to a few days.
- **Air Quality Advisory (AQA):** An AQA will be issued when the AQHI is forecast to reach, or has reached, the very high-risk category (AQHI of 10+) due to wildfire smoke.
- **Termination Notice:** A termination notice is issued once the Special Air Quality Statement or Air Quality Advisory has ended due to improved air quality.

Both Special Air Quality Statements and Air Quality Advisories are issued jointly by ECCC and MECP.

³ In addition to MECP's 38 air monitoring stations, AQHI readings are also supported through the proliferation of small air quality sensors (e.g., PurpleAir Sensors) throughout the province to supplement traditional air monitoring networks during wildfire events to assist with exposure assessment of wildfire smoke. While this data may be of lower quality relative to air monitors, these sensors perform sufficiently for screening level activities (such as screening for hot spots) and may be used to fill gaps where there is no monitoring and to help ground truth model results. These readings are available through the University of Northern British Columbia's [AQMap](#).

Air quality alert notifications are provided year-round with most alerts being issued between May and September when weather conditions are most conducive to elevated air pollutant concentrations. Air quality alerts currently in effect are posted on [MECP](#) and [ECCC](#)'s air quality websites.

Air quality alerts are based on forecasts and do not necessarily mean that poor air quality is certain since they are largely driven by weather, which will always contain an uncertainty. As poor air quality events are closely tied to the weather, it is impossible to be accurate 100% of the time. For example, a weather system could arrive in Ontario before the predicted time or may change direction.

High-risk AQHI values (7-10) could occur **without** an SAQS being issued with enough lead time. It is also possible that high-risk AQHI will not materialize even though a SAQS has been issued. A NowCast SAQS (when the forecaster sees the conditions currently happening) will be issued when high-risk AQHI is reported, and the conditions are expected to last more than 2 hours from the time SAQS being issued.

Early notification – Ontario Vigilance Bulletin (OVB)

Before issuing a SAQS or AQA, and within the limits of predictability, ECCC makes every effort to forecast poor air quality events in their significant weather outlook email to its health sector and emergency management partner distribution list once forecast guidance is certain enough to warrant elevated likelihood of worsening air quality conditions.

This product, called the Ontario Vigilance Bulletin (OVB) is sent as a PDF via e-mail 7 days a week by 2 p.m. ET or earlier by the Ontario Storm Prediction Centre. The OVB will communicate expected conditions, coverage, and expected duration as is possible with available forecast guidance.

BOHs may choose to communicate this early notification to their key partners or wait for the official ECCC warning. BOHs can forward the OVB to their key partners directly or direct their key partners to sign up for the OVB. To be included on the list, please contact [ECCC directly](#).

Wildfire smoke forecasting tools

Smoke forecasting tools in Canada provides predictions for concentrations of smoke in the upcoming hours to days. This can support decision-making to determine what actions need to be taken and how to inform the public. These forecasts have a degree of uncertainty but can offer information to predict how long wildfire smoke is expected to remain in an area.

- [FireSmoke Canada](#) uses the BlueSky Smoke Forecasting System to provide forecasts up to 48 hours in advance during wildfire season from April to September.
- [Government of Canada's FireWork](#) system is an air quality prediction system that indicates how smoke from wildfires is expected to move across North America over the next 72 hours. The system generates data twice daily (morning and evening) from early April to late October.

Personal notifications and Metnotes on the WeatherCAN App

The Government of Canada also provides the WeatherCAN smartphone application to keep Canadians safe and informed of weather events across the country. The WeatherCAN app offers authoritative and up-to-date weather information on such things as rainy or snowy weather, information on forecasted extreme heat or cold and warnings of severe storms and tornadoes.

The WeatherCAN app also allows for BOHs to receive personal notifications for AQHI values. The notifications provide alerts when the chosen AQHI value has been reached or is forecasted for selected locations. Notifications will also be sent when:

- the current AQHI conditions or forecast have reached or exceeded the selected custom value compared to the previous hour.
- the current AQHI conditions have decreased below the selected custom value in the previous hour.

Environment and Climate Change Canada Metnotes

[MetNotes](#) are short notes written by meteorologists that provide additional context to ECCC-produced weather forecasts. These brief messages may include possible impacts due to weather, an early notification on severe weather, or information to prepare people attending outdoor events affected by weather. They are only issued in the WeatherCan app.

Public health messaging

AQHI and At-Risk Public Health messaging

The MECP/ECCC/HC have standardized specific health messaging for both the general and at-risk populations depending on the current AQHI level.

Health Risk	AQHI	Health Messages	
		At-Risk Population*	General Population
Low	1-3	Enjoy your usual outdoor activities	Ideal air quality for outdoor activities.
Moderate	4-6	Consider reducing or rescheduling strenuous activities outdoors if you are experiencing symptoms.	No need to modify your usual outdoor activities unless you experience symptoms such as coughing and throat irritation.
High	7-10	Reduce or reschedule strenuous activities outdoors. Children and the elderly should also take it easy.	Consider reducing or rescheduling strenuous activities outdoors if you experience symptoms such as coughing and throat irritation.
Very High	10+	Avoid strenuous activities outdoors. Children and the elderly should also avoid outdoor physical exertion.	Reduce or reschedule strenuous activities outdoors, especially if you experience

			symptoms such as coughing and throat irritation.
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*** Those most at-risk of the health effects of wildfire smoke are:**

- seniors
- indigenous Peoples
- people who smoke
- infants and young children
- people living in rural and remote areas
- pregnant women and pregnant people
- people involved in strenuous outdoor exercise
- people living in situations of lower socio-economic status such as:
 - Those with lower income
 - Those with lower education
 - Those experiencing housing insecurity
 - Those experiencing uncertain employment
- people who work outdoors, including wildland firefighters
- people with an existing illness or chronic health conditions such as:
 - cancer
 - diabetes
 - lung or heart conditions

Wildfire smoke-related health messages

In the event of elevated wildfire or smoke-related event, MECP/HC/ECCC have standardized specific health messaging to be communicated by BOHs or municipalities to the public and local response partners.

- The best way to protect your health is **to reduce your exposure** to wildfire smoke.
- Pay attention to the Air Quality Health Index (AQHI), special air quality statements or other indicators of smoke levels in your community. If

necessary, **limit outdoor activity and strenuous physical activities**. If you feel unwell have difficulty breathing, stop altogether.

- Stay **indoors and keep windows and doors closed**. If it is too warm, turn on the air conditioning if possible. If you do not have air conditioning and it is too warm to stay inside with the windows closed, seek out local cooling or [cleaner air spaces](#).
- Use the **best quality air filter** that your ventilation system can handle based on manufacturers' recommendations. Be sure to run the fan mode and put the system on recirculate.
- Use a **portable air purifier to filter particles** from wildfire smoke. For more information on selecting a portable air purifier that is appropriate for your needs, refer to the "[Using an air purifier to filter wildfire smoke](#)" factsheet.
- **Reduce sources of indoor air pollutants** and protect your indoor air from wildfire smoke infiltration.
- If you need to work outdoors, check with your [provincial occupational health and safety associations](#) or your employer.⁴
- If you need additional support during a wildfire event, contact your local jurisdiction for information on **local cooling or cleaner air spaces**. Community centres, libraries, and shopping malls can also provide a break from the smoke.
- **Take care of your mental health** during a wildfire smoke event. Anyone who is having trouble coping with symptoms of stress, anxiety or depression should seek help from a health professional. These resources

⁴ Additional information on understanding the health risks of wildfire smoke and workplace safety may be found on the [Workplace Safety & Prevention Services](#) (WSPS) website.

are available free of cost to anyone experiencing mental health problems. Don't be afraid to reach out if you need help:

- [Health 811](#)
 - [Mental Health Support](#)
 - [Kids Help Phone](#)
 - [Hope for Wellness Helpline for Indigenous peoples](#)
- If you **must** spend time outdoors, a **well-fitted respirator type mask (such as a NIOSH-certified N95 or equivalent respirator)** that does not allow air to pass through small openings between the mask and face, may help reduce your exposure to the fine particles in smoke. These fine particles generally pose the greatest risk to health. However, respirators do not reduce exposure to the gases in wildfire smoke. It is important to listen to your body and reduce or stop activities if you are experiencing symptoms. If you need to remove your respirator, try to move to an area with cleaner air before removing it.
 - Respirators should **not** be used by:
 - children under 2 years of age
 - individuals who have trouble breathing while wearing the respirator
 - individuals who have difficulty removing the respirator

SAQS general health messages

If a SAQS has been issued, MECP has standardized specific health messaging to be communicated by BOHs or municipalities to the public and local response partners:

Check your local weather forecasts.

Be air aware! Check your local weather forecasts and alerts so you know when to take extra care.

Pay close attention to medical symptoms.

If you are taking medication or have a health condition, please pay close attention to your symptoms, and take a break if necessary.

People with cardiovascular disease can be particularly sensitive.

People with cardiovascular disease can be particularly sensitive to air pollution. They will generally experience more serious health effects at lower levels. Pollution can aggravate their diseases, leading to increased medication use, doctor and emergency room visits, and hospital visits.

People with lung diseases can be particularly sensitive.

People with lung diseases, such as asthma and chronic obstructive pulmonary disease (COPD) can be particularly sensitive to air pollution. They will generally experience more serious health effects at lower levels. Pollution can aggravate their diseases, leading to increased medication use, doctor and emergency room visits, and hospital visits.

Children and teenagers may be at higher risk.

Children, including teenagers, are at a higher risk from outdoor air pollution because when outdoors they are often active. Young people are more likely to have asthma and their lungs are still developing.

Older adults may be more sensitive.

Older adults may be more affected by air pollution exposure, possibly because they are more likely to have pre-existing lung and cardiovascular disease.

Plan to exercise when air pollution is low.

Active people of all ages who exercise or work outdoors are at increased risk to the health effects posed by air pollution. Be air aware and know the best times to be active outdoors by using the AQHI to plan your day.

Reduce energy use.

Be air aware by turning air conditioners to a higher temperature and turning off lights, computers, and other electrical appliances when not in use.

Avoid vehicular and industrial emissions.

You can limit exposure to air pollution by avoiding source emissions, where possible, such as on busy roads or heavy traffic areas.

Eliminate indoor air pollution.

Eliminate indoor air pollution sources such as tobacco smoke and where possible, limit outdoor pollutants from entering the home by replacing your furnace/central air HEPA filters every 3 months, if feasible.

Avoid chemicals that affect air quality.

Avoid using chemical-based products in your home that can affect indoor air quality. Choose less-toxic cleaners, paints, finishes and glues. Look for products labeled "VOC-free", "zero-VOC" or "low-VOC".

Glossary

Air Quality Advisory (AQA)

An **Air Quality Advisory** (AQA) will be issued by ECCC/MECP when the AQHI is forecast to reach, or has reached, the very high-risk category (AQHI of 10+) due to wildfire smoke.

Air Quality Health Index (AQHI)

The **Air Quality Health Index** (AQHI) provides a number on a scale from 1 to 10+ to indicate the level of health risk associated with air quality in your area. The higher the number, the greater the health risk and need to take precautions. The AQHI is calculated based on the relative risks of a combination of three common air pollutants that are known to harm human health. These pollutants include:

- Ground-Level Ozone (O₃)
- Fine Particulate Matter (PM_{2.5}) and
- Nitrogen Dioxide (NO₂)

Priority Populations

Priority Populations are groups that experience or are at-risk of experiencing worse health outcomes than others in the general population. Priority populations include equity-deserving populations that experience structural barriers to health.

Priority populations are identified based on evidence such as analysis of local, provincial and/or federal data and community engagement.

Special Air Quality Statement (SAQS)

A **Special Air Quality Statement** (SAQS) will be issued when the AQHI is forecast to reach the high-risk category (meaning AQHI 7-10). The purpose of a SAQS is to be precautionary and to be vigilant of your health.

Document History

Revision Date	Document Section	Description of Revisions
1.0	All	New Document

Resources

- [Ontario Public Health Standards: Health Hazard Response Protocol, 2019](#)
- [Ontario Public Health Standards: Healthy Environments and Climate Change Guideline, 2018.](#)
- [Ministry of the Environment, Conservation and Parks: Air Quality Ontario](#)
- [Environment and Climate Change Canada: Air Quality Health Index](#)
- [Environment and Climate Change Canada: WeatherCan](#)
- [Environment and Climate Change Canada: FireWork](#)
- [Health Canada: Guidance for Cleaner Air Spaces during Wildfire Smoke Events](#)
- [Health Canada: Wildfire smoke, air quality and your health](#)
- Health Canada's Wildfire Smoke 101 factsheets and infographics:
 - [Wildfire smoke 101: Wildfire smoke and your health](#)
 - [Wildfire smoke 101: How to prepare for wildfire smoke](#)
 - [Wildfire smoke 101: Combined wildfire smoke and heat](#)
 - [Wildfire smoke 101: Using an air purifier to filter wildfire smoke](#)
 - [Infographic: Protecting your indoor air from outdoor pollutants](#)
- [Canadian Health Science Assessment for Fine Particulate Matter \(PM2.5\)](#)