

For workers

RECOMMENDATIONS FOR EMPLOYERS

In circumstances where the deterioration of air quality is associated with brush or forest fires, monitor the concentration of fine particulate matter (PM_{2.5}) in the air¹ at least once daily but ideally more often, given that the situation can quickly change.

- Current levels of PM_{2.5}: [AQmap \(FR\) \(unbc.ca\)](#); select the station closest to your location. Remember to check the value **over the past hour**, to compare it with the thresholds indicated in the table below.
- Predictions regarding plumes of smoke: [système RAQDPS d'Environnement et Changements climatiques Canada, via l'interface AniMet](#). The information on this site can prove useful when planning activities for the upcoming 24 to 48 hours.

Several occupational health organizations in Canada and the United States encourage applying measures based on the hierarchy of control measures related to plumes from brush or forest fires without, in the majority of instances, specifying the levels of PM_{2.5}. This being said, below are a few benchmarks established by a group of experts using the data available in scientific literature (INSPQ, 2023a). These are accompanied by recommendations that may prove useful for employers.

Level of PM _{2.5} (average over 1 h (µg/m ³))	Work performed outdoors	Work performed indoors, including in a closed vehicle
0-30	Carry out regular tasks ² .	
30-60	Carry out regular tasks, but keep an eye out for symptoms ³ among workers, and take measures to address any issues.	If workers are likely to be bothered, consider closing windows and doors, as well as recirculating or filtering indoor air if possible.
60-100	Implement your plan for work reorganization aimed at limiting activities that could cause shortness of breath if performed outdoors. The employer could provide individual respiratory protection devices (N95) to those workers who wish to don one.	Close the windows and doors leading outside if this can be done without increasing the risks associated with heat/high temperatures. In some circumstances it may be best to favour natural ventilation and thereby avoid heat strokes, which can be fatal ⁴ .
100-250	Implement your plan for work reorganization aimed at limiting all activities performed outdoors. The employer could provide individual respiratory protection devices (N95) to those workers who wish to don one.	Follow the instructions below if you have any of the devices noted: <ul style="list-style-type: none"> ○ Portable air conditioner, window-sill air conditioner or heat pump: continue to run these devices, as they do not allow air from outside to enter. ○ Air exchange system: turn it off or put it in recirculation mode. ○ Air purifier: Turn it on, following the recommendations of a ventilation expert. ○ Central ventilation system (mechanical): decrease the intake of outdoor air as much as possible (unless the system is equipped with a MERV 13 filter or higher), but without completely shutting off the system. Consider the required elimination of certain contaminants generated by the company's activities.
250+	<ul style="list-style-type: none"> • Work outdoors only if essential and have workers wear an appropriate respiratory protection device. • Give some thought to other safety considerations (e.g., visibility for drivers) such as ocular irritation. 	

¹ Note that air quality indexes (such as that provided by Environment and Climate Change Canada) tend to focus more on other contaminants (nitrogen oxides, sulfur oxides, etc.) which are not as present in the air during fires, so they may be less appropriate for monitoring the situation, depending on the circumstances.

² Certain increasingly vulnerable persons, particularly those with pulmonary issues, can experience symptoms at concentrations inferior to 30 µg/m³, therefore keeping an eye out is of the utmost importance.

³ The first symptoms experienced are ocular irritation or irritation of the nose and throat (eyes or throat will feel scratchy, and nose will feel scratchy or be runny). Cough and Difficulty breathing may also be present.

⁴ We recommend looking at the following evaluation tools: <https://www.irsst.qc.ca/prevenir-coup-chaieur-travail/accueil.aspx>.