



Wildfire Smoke – Know the Hazards

When working outside, wildfire smoke can be hazardous for employees even when they are not close to a fire. This Safety Talk provides information about the hazards of wildfire smoke and what can be done to reduce your exposure. Source: [Cal/OSHA Wildfire Smoke Fact Sheet](#)

What are the hazards?

Wildfire smoke contains particulate matter (PM) in the air. The smallest particles, PM2.5, are the most concerning because they can irritate the lungs and cause persistent coughing, phlegm, and wheezing. It can also have serious health effects, such as:

- Reduced lung function
- Bronchitis
- Worsening of asthma
- Heart failure

Employees with symptoms of illness due to wildfire smoke exposure are allowed to seek medical treatment without fear of reprisal.

When is protection required?

Under Cal/OSHA [CCR 5141.1](#), employees must be protected when the following conditions apply:

- The current Air Quality Index (AQI) for PM2.5 is 151 or greater where employees are working. (The AQI is a method used by the EPA. The higher the AQI, the greater the level of air pollutions and the greater the health concerns).
- When employees are reasonably anticipated to be exposed to wildfire smoke.



What workplaces are exempt?

The regulation does not apply to the following workplaces and operations:

- Firefighters engaged in wildland firefighting
- Enclosed buildings where mechanical ventilation systems filter the air
- Enclosed vehicles with cabin air filters
- Employees exposed for a total of one hour or less during a shift

How to protect employees

Check the AQI – In the event of a wildfire, employers must check the AQI for PM2.5 periodically throughout each shift and communicate the levels to employees.

There are several resources available to check the AQI for PM2.5, such as [AirNow.Gov](#).



Protective Measures - If the value of 151 is ever reached or exceeded, employers will communicate the available protective measures to reduce employee exposures, such as:

- Training on the potential health affects.
- Discussing the right to obtain medical treatment without fear of retaliation.
- Teaching employees on how to find the current AQI.
- Discussing the employer's protection methods.



Protection Methods

Employers will look for feasible ways to lower employee exposure to wildfire smoke by implementing engineering controls, administrative controls, and the use of respirators. Examples of controls may include:

- Attempting to locate work indoors or in vehicles where the air is filtered.
- Changing procedures to allow work to be moved to a location where the AQI is lower.
- Reducing work time in areas without filtered air.
- Increasing time and frequency of breaks in filtered air.
- Lowering the physical intensity of work to lower breathing and heart rates.

Respiratory Protection

AQI 151-500 PM2.5 - If the employee's current exposure cannot be reduced to an AQI of less than 151 PM2.5, the employer must provide and encourage employees to use respirators, such as N95 masks.

AQI greater than 500 PM2.5- Employers must provide and require the use of respirators that will reduce exposure to PM2.5 inside the respirator to an equivalent of an AQI less than 151. (In this case, there are additional testing and training requirements).

Respirator Use

The N95 Respirator is the minimum level of protection for wildfire smoke. Surgical masks, scarves, and bandanas will not provide protection against wildfire smoke.

Employees who have a heart or lung problem should talk to their healthcare provider before using a respirator.

How to properly put on and use a respirator:

- To get the most protection from a respirator, there must be a tight seal around the face. A respirator will provide much less protection if facial hair interferes with the seal. Loose-fitting powered air purifying respirators may be worn by people with facial hair since they do not have seals that are affected by facial hair.
- For those who are using an N95 or other filtering facepiece respirator mask that is made of filter material:
 1. Place the mask over the nose and under the chin, with one strap placed below the ears and one strap above.
 2. Pinch the metal part (if there is one) of the respirator over the top of the nose so it fits securely.



Resources:

[Cal/OSHA Wildfire Smoke Publications Using Disposable Respirators](#)

[Cal/OSHA Wildfire Smoke Training Video](#)