



WILDFIRE SMOKE

Protect Yourself from Wildfire Smoke

Source: Keenan & Associates and Cal/OSHA

BACKGROUND

Wildfire smoke and cleanup presents hazards that employers and workers in affected regions must understand. Smoke from wildfires contains chemicals, gases and fine particles that can harm health. Hazards continue even after fires have been extinguished and cleanup work begins.

In accordance with the Cal/OSHA Emergency Regulation, Title 8, 5141.1, proper protective equipment and training is required for worker safety in wildfire regions. Cal/OSHA put out a recent News Release, reminding employers to protect workers from unhealthy air due to wildfire smoke. The News Release can be viewed [online](#).

Another concern during wildfires are power outages which can present electrical and other hazards for workers. Proper installation and use of generators can prevent electrocution hazards. Workers must also be aware of the potential of electrocution or being injured by moving parts of machinery and other equipment when power is restored.

WHAT CAUSES HEALTH EFFECTS FROM WILDFIRE SMOKE?

The health effects of wildfire smoke mainly come from “particulate matter,” the tiny particles suspended in the air. The smallest – and usually the most harmful – particulate matter is called PM2.5 because it has a diameter of 2.5 micrometers or smaller. Particulate matter can irritate the lungs and cause persistent coughing, phlegm, wheezing, or difficulty breathing. People over 65 and people who already have heart and lung problems are the most likely to suffer from serious health effects. These respiratory conditions can also make the effects of COVID-19 more severe.

WHAT CAN YOU DO TO PROTECT AGAINST WILDFIRE SMOKE?

Do Not:

- Use anything that burns and adds indoor pollution, such as candles, furnaces and gas stoves when smoke levels are high.
- Vacuum/sweep because that can stir up particles that are already inside your facility.

Do:

- Follow the Cal/OSHA Emergency Regulation, Title 8, [Section 5141.1](#), to Protect Outdoor Workers from Wildfire Smoke which is in effect. It applies to workplaces where:
 - The current Air Quality Index (AQI) for airborne Particulate Matter (PM 2.5) is 151 or greater.
 - Employers should reasonably anticipate that employees could be exposed to wildfire smoke.
 - Exemptions include enclosed buildings/vehicles where the air is filtered, employees exposed to PM2.5 of 151 or greater for a total of one hour or less during a shift, emergency responders, etc.

- **Monitor the current Air Quality Index (AQI) for PM2.5:**

- If employees may be exposed to wildfire smoke, then the employer is required to find out the current AQI applicable to the worksite.
- The AQI is a measurement of how polluted the air is. An AQI over 100 is unhealthy for sensitive people and an AQI over 150 is unhealthy for everyone.

Air Quality Index (AQI)	
Categories for PM2.5	Levels of Health Concern
0 to 50	Good
51 to 100	Moderate
101 to 150	Unhealthy for Sensitive Groups
151 to 200	Unhealthy
201 to 300	Very Unhealthy
301 to 500	Hazardous

Employers can monitor the AQI using the following websites:

- The easiest way to find the current and forecasted AQI for PM2.5 is to go to www.AirNow.gov and enter the zip code of the location where you will be working.
- The current AQI is also available from the U.S. Forest Service Wildland Air Quality Response Program at <https://tools.airfire.org/> or a local air district, which can be located at www.arb.ca.gov/capcoa/dismap.htm.
- Employees who do not have access to the internet can contact their employer for the current AQI. The EPA website www.enviroflash.info can transmit daily and forecasted AQIs by text or email for particular cities or zip codes.
- Other sources include [California Air Resources Board website](#) and [Local air pollution control district websites](#) or [local air quality management district website](#).

Cal/OSHA, Title 8, 5141.1 Requirements [Section 5141.1](#):

If the current AQI for PM2.5 is 151 or greater, the employer is required to:

1. Check the current AQI at the start of each shift and periodically thereafter.
2. Communication – Inform employees of the AQI for PM2.5 and the protective measures available to them.
3. Provide effective training and instruction to employees (refer to Section 5141.1 [Appendix B](#)).
4. Reduce employee exposures through source control and/or changes to work procedures or schedules.
5. Provide proper respiratory equipment, such as a disposable respirator, and encourage voluntary use.
6. If the AQI for PM2.5 exceeds 500, respirator use is required. Employers must ensure employees use respirators and implement a written respiratory protection program as required in Title 8, Section 5144 Respiratory Protection Standard.

Information on current wildfires is available from [CalFire](#) and the [Incident Information System website](#). Employers shall allow employees who show signs of injury or illness due to wildfire smoke exposure to seek medical treatment and may not punish affected employees for seeking such treatment.