

Personal Safety

Respiratory Protection in Wildfire Regions in California

Brought To You by Kimberly-Clark Professional | Aug 25, 2021

Protection from Wildfires

California Code of Regulations, Title 8, Section 5141.1. Protection from Wildfire Smoke.

Wildfire smoke presents hazards that employers and workers in affected regions should be aware of. Even when they are not close to a fire or in an evacuation zone.

Each employer is responsible for the safety and health of its workers and for providing a safe and healthful workplace. Employers are required to protect workers from the anticipated hazards associated with the response and recovery operations for wildfires that workers are likely to conduct in accordance with the California Code of Regulations.

Wildfire smoke contains very fine particles in the air called particulate matter (PM). A significant health concern is the smallest particles called "PM2.5" because they are 2.5 microns in diameter or smaller. That is much smaller than the diameter of a human hair. PM2.5 can irritate the lungs and cause serious or even fatal health effects, such as, reduced lung function, bronchitis, worsening of asthma and/or heart failure.

AQI Category for PM2.5	Level 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

Below is an image provided by **PurpleAir** showing the impacts of air quality conditions during the September 2020 wildfire breakout on the West Coast.



Any industry in which workers are exposed to wildfire smoke while working away from the fire zone outside poses a risk, such as:

- Farmers
- Agriculturists
- Landscaping
- Parks & Recs
- Construction

California Division of Occupational Safety and Health (Cal/OSHA) has a regulation, section 5141.1, Protection from Wildfire Smoke, that requires employers to protect workers from unhealthy levels of PM_{2.5}.

Protection Workers Exposed to Wildfire Smoke (ca.gov)

Overview of Section 5141.1

Who must comply with the standard?

There are two conditions in which the standard will take effect. The Air Quality Index (AQI) for airborne particulate matter is 2.5 micrometers or smaller (PM_{2.5}) is 151 or greater on the AQI and the employer should reasonably anticipate that employees could be exposed to wildfire smoke.

How do I find the current AQI?

The current AQI is the method used by the U.S. Environmental Protection Agency (U.S. EPA) to report air quality on a real-time basis. Real time AQI can be found via the web at: ***AirNow.gov***

Who is exempt from the standard?

Just like any occupational hazard, a hazard assessment must be completed to identify current hazards

and health risks to your employers. Workers in enclosed buildings and enclosed vehicles with ventilation as specified in the Section are exempt from the standard. Environments where the employer can demonstrate that the concentration of PM_{2.5} does not exceed an AQI of 151 or greater by measuring PM_{2.5} levels in accordance with Appendix A of the Section are also exempt.

How can I help control harmful exposures to my employees?

6. Identify harmful exposures
7. Communicate with employees
8. Train and instruct employees
9. Reduce worker exposure to harmful wildfire smoke
10. Institute a written respiratory program for required use (PM 2.5 higher than AQI of 500) or voluntary use respiratory program (PM_{2.5} lower than AQI of 151), which may necessitate the use of N95 respirators.

Resources:

Protecting Outdoor Workers Exposed to Smoke from Wildfires (ca.gov)

California Code of Regulations, Title 8, Section 5141.1. Protection from Wildfire Smoke.

Protection Workers Exposed to Wildfire Smoke (ca.gov)

IWFAQRP (wildlandfiresmoke.us)

AirNow.gov

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