

Employee Protection from Wildfire Smoke

Cal/OSHA Appendix B to Section 5141.1: (Mandatory) Protection from Wildfire Smoke Information to Be Provided to Employees

Note: This Cal/OSHA standard is only applicable when the current Air Quality Index (AQI) for small particulate matter (PM2.5) exceeds 150 and only covers employees who work outside or in non-filtered buildings and vehicles for more than one hour per shift.

(1) The health effects of wildfire smoke.

Although there are many hazardous chemicals in wildfire smoke, the main harmful pollutant for people who are not very close to the fire is “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. Particulate matter can also cause more serious problems, such as reduced lung function, bronchitis, worsening of asthma, heart failure, and early death. People over 65 and people who already have heart and lung problems are the most likely to suffer from serious health effects.

(2) The right of obtain medical treatment without fear of reprisal.

Employers must have effective provisions made in advance for prompt medical treatment of employees in the event of serious injury or illness caused by wildfire smoke exposure.

(3) How to obtain the current Air Quality Index for PM2.5.

Various government agencies monitor the air at locations throughout California and report the current Air Quality Index (AQI) for those places. 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. Although there are AQIs for several pollutants, Cal/OSHA’s regulation concerning wildfire smoke only uses the AQI for PM2.5. 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 place where you will be working. The current AQI is also available from the U.S. Forest Service 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.

(4) The requirements in Cal/OSHA’s regulation about wildfire smoke.

If employees may be exposed to wildfire smoke, and the current AQI for PM2.5 at the worksite is 150 or more, Cal/OSHA requires employers to take several actions:

1. Find out what the current AQI is at the location.
2. Provide training to employees.
3. Lower employee exposures.
4. Provide respirators and encourage their use.

(5) The employer’s communication system.

Employers must establish a two-way communication system to alert employees when the air quality is harmful and what protective measures are available to employees. Employers must also have a system that encourages employees to inform their employers if they notice the air quality is getting worse, or if they are suffering from any symptoms due to the air quality, without fear of reprisal. The University’s will communicate with the campus community when the AQI for PM2.5 exceeds 150 in the following ways:

- Email communication to managers;
- An All Announcement to the entire campus community; and
- When feasible, sandwich boards will be placed around campus.

(6) The employer’s methods to protect employees from wildfire smoke.

Each employer must take action to protect employees from PM2.5 when the current AQI for PM2.5 is 151 or greater. Examples of protective methods include relocating work in enclosed structures or vehicles where the air is filtered; changes in procedures such as moving workers to place with a lower AQI, reducing worktime in areas with

unfiltered air, increasing rest time and frequency, providing a rest area with filtered air, and reducing the physical intensity of the work to help lower the breathing rate and heart rate. The University's control system is to provide covered employees with N95 masks while they are working outside or in unfiltered, unenclosed buildings or vehicles.

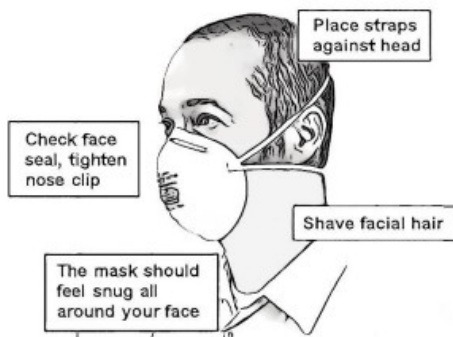
(7) The importance, limitations, and benefits of using a respirator when exposed to wildfire smoke. When the current AQI for PM2.5 is 151 or greater, employers must provide their workers with proper respirators for voluntary use. If the AQI is over 500, respirator use is mandatory. Respirators can be an effective way to protect employee health by reducing exposure to wildfire smoke when they are properly selected and worn. Respirator use can be beneficial even when the AQI for PM2.5 is less than 150, to provide additional comfort and protection. A respirator should be used properly and kept clean. The following precautions must be taken:

1. Choose respirators certified for the use to protect against the contaminant of concern. NIOSH, the National Institute of Occupational Safety and Health of the U.S. Centers for Disease Control and Prevention, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will list what the respirator is designed for (particulates, for example). Surgical masks or items worn over the nose and mouth such as scarves, T-shirts, and bandannas will not provide protection against smoke. A N95 filtering facepiece respirator, shown in the image below, is the minimum level of protection for wildfire smoke.
2. Read and follow all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirator's limitations.
3. Do not wear a respirator into atmospheres containing contaminants for which the respirator is not designed. A respirator designed to filter particles will not protect employees against gases or vapor, and it will not supply oxygen.
4. Employees should keep track of their respirator so that they do not mistakenly use someone else's respirator.
5. Employees who have a heart or lung problem should ask their doctor before using a respirator.

(8) How to properly put on, use, and maintain the respirators provided by the employer.

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. The proper way to put on a respirator can depend on the type and model of the respirator. For those who use an N95 or other filtering facepiece respirator, a 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.



*Drawing Showing Proper Fitting of a Filtering Facepiece Respirator
(shaving is not required for voluntary respirator use)*

Regardless of the type of respirator, check how well it seals to the face by following the manufacturer's instructions for user seal checks. Adjust the respirator if air leaks between the seal and the face. The more air leaks under the seal, the less protection the user receives. Replace the respirator filter if it gets damaged, soiled, or difficult to breathe through. If you have symptoms such as difficulty breathing, dizziness, or nausea, go to an area with cleaner air, take off the respirator, and get medical help.