

# HealthAlert Wildfire Smoke



Wildfire smoke contains fine particulate matter - a respiratory hazard for people downwind from the fire. The following guidance is based on Cal/OSHA's Title 8, Section 5141.1, Appendix B and applies to employees who work outside or in non-filtered buildings and/or vehicles during wildfires for more than one hour per shift.

## WHAT ARE THE HEALTH EFFECTS OF WILDFIRE SMOKE?

The primary health effects of inhaling wildfire smoke are lung irritation, persistent coughing, phlegm, wheezing, or difficulty breathing. More serious health effects include reduced lung function, bronchitis, worsening of asthma, heart failure, and death. People over the age of 65 and those with pre-existing heart and lung issues are most at risk.

## OCCUPATIONAL EXPOSURE TO WILDFIRE SMOKE

Effective measures must be taken in advance to protect employees from wildfire smoke. When wildfires are active, employees must notify their supervisor whenever air quality worsens. Employees that show signs of exposure to wildfire smoke will be provided medical care without fear of reprisal.

## WILDFIRE SMOKE AND AIR QUALITY INDEX

Air Quality Index (AQI) is a measurement of pollution in air. There are AQIs for several pollutants, however, T8CCR §5141.1 is based on the AQI for PM2.5. PM2.5 has a diameter of 2.5 micrometers or smaller and is considered the most harmful size of particulate matter. Current AQI is available at the following links or by contacting your supervisor:

- <https://aqi.usc.edu/>
- [www.AirNow.gov](http://www.AirNow.gov)
- [www.AQMD.gov](http://www.AQMD.gov)

Air Quality Index (AQI) Categories for PM2.5	
Category	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

\* Protective measures required @ AQI levels  $\geq$  151

## COMMUNICATION

Supervisors must establish a means of communicating worsening air quality conditions to employees. If the AQI becomes harmful, you will be alerted in-person, via text, email, website, radio, or other effective method. Notify your supervisor if you notice the air quality is worsening, or if you're suffering symptoms due to the air quality.



## USC PROTECTS EMPLOYEES FROM WILDFIRE SMOKE

When employees are exposed to wildfire smoke, the University will determine the current AQI applicable to the worksite. When the AQI for PM2.5 is 151 or more, the University will:

- Check the AQI before and periodically thereafter.
- Provide training to employees.
- Lower employee exposures.
- Provide air purifying respirators (e.g., N95) and encourage their use. See steps for donning and doffing N95 respirators on following page.

The University may also:









- Relocate work to areas where air is filtered.
- Change work procedures or location.
- Reduce work time in areas with unfiltered air.
- Reduce the physical intensity of work.
- Provide rest area with filtered air.

## THE IMPORTANCE, LIMITATIONS, AND THE BENEFITS OF USING AN N95 RESPIRATOR

N-95 filtering facepiece respirators are the minimum level of protection for wildfire smoke. When properly selected and worn, N95 respirators effectively reduce your exposure to wildfire smoke and protect your health. For more information regarding limitations and how to properly put on, use, and maintain an N-95 facepiece respirators during wildfires contact the USC Office of Environmental Health & Safety or go to: <http://tiny.cc/3m-wildfire-protect>

USC employees may request an N95 for voluntary use at: <http://tiny.cc/n95-voluntary-use>

N95 respirators are mask-like air-purifying devices that are certified by NIOSH to have a filter efficiency of 95% or greater. N95s are designed to filter out airborne contaminants including dusts, fumes, mists, and microbial agents. An N95 respirator is the minimum level of protection for wildfire smoke and can be beneficial even when the AQI for PM2.5 is 150 or less.

How to Don an N95 Respirator		How to Doff an N95 Respirator	
 <p><b>Step 1</b> Place respirator over nose and mouth with the metal nose clip on top.</p>	 <p><b>Step 1</b> Pull bottom strap over the head.</p>		
 <p><b>Step 2</b> Pull top strap over your head until it rests on the crown of your head above your ears.</p>	 <p><b>Step 2</b> Release bottom strap once it is passed the chin.</p>		
 <p><b>Step 3</b> Pull bottom strap over head until it rests just below ears.</p>	 <p><b>Step 3</b> Pull top strap over head until respirator becomes free.</p>		
 <p><b>Step 4</b> Mold the metal nose clip over the nose to achieve a secure seal. Check seal by completely covering respirator with both hands and exhale sharply.</p>	 <p><b>Step 4</b> Remove the respirator completely from the face and place in proper storage. Store away from other respirators.</p>		