

# Wildfire Smoke Protection



## Training



UC Berkeley has measures in place to inform you of, and protect you from, the dangers of inhaling wildfire smoke.

Read the information below, based on Cal/OSHA Appendix B to Title 8 Section 5141.1. The standard is applicable when the current Air Quality Index for fine particulate matter (PM2.5) is 151 or greater. It applies to employees who work outside or in non-filtered buildings and/or vehicles for more than one hour per shift.



### Recognize Health Effects

Fine particulates suspended in air are the main harmful pollutant for people who are not very close to wildfires. **Recognize symptoms** from inhalation of particulate matter, which include lung irritation, persistent coughing, phlegm, wheezing, or difficulty breathing. More serious health effects include reduced lung function, bronchitis, worsening of asthma, heart failure, and early death. People who have existing heart and lung problems, or are over 65 years of age, are most likely to suffer serious health effects.



### Obtain prompt Medical Treatment

University Health Services located at 2222 Bancroft Way (or 642-2000) provides medical treatment to employees who become ill or injured due to wildfire smoke exposure during work. Follow campus procedures to **obtain prompt medical treatment** without fear of reprisal. After-hours assistance: uhs.berkeley.edu/after-hours

Emergency: Call 911



### Locate the local Air Quality Index

The Air Quality Index (AQI) is a measurement of pollution in air. Although there are AQIs for several pollutants, Title 8 section 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**.

Locate the AQI for your area at:

- [www.AirNow.gov](http://www.AirNow.gov)
- <https://tools.airfire.org>
- [www.arb.ca.gov/capcoa/dismap/htm](http://www.arb.ca.gov/capcoa/dismap/htm)
- [www.enviroflash.info](http://www.enviroflash.info)

If you do not have access to the internet, **contact your supervisor** for the current AQI in your area.



### Understand compliance Requirements

If you may be exposed to wildfire smoke and the AQI for **PM2.5 is 151 or greater**, you must be provided: a) the **current AQI** before and periodically during each shift, b) **training**, such as this fact sheet, c) **work modifications** to reduce your exposure, and d) **respirators** with encouragement and instruction on how to use them. **Consult with your supervisor** for questions about additional protections that may be available to you.

*At AQI levels of 151 or greater for PM2.5, the University must take additional precautions to protect you from wildfire smoke.*

AQI 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

AQI Categories for PM2.5



### Participate in two-way 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.



### Know your Protections

Examples of protective controls the University may implement include:

- **Locate work in protected areas** where air is filtered (enclosed structures or vehicles)
- **Change procedures** (i.e. move workers to a place with lower current AQI for PM2.5)
- **Reduce work time** in areas with unfiltered air
- **Increase rest time** and frequency; provide rest area with filtered air
- **Reduce the physical intensity of work to help lower breathing and heart rates**

**Contact your supervisor** to access the University control system at your worksite.



### Properly Select & Use Respiratory Protection

When the AQI level for PM2.5 is 151 or greater, the University will provide you with proper respirators for **voluntary use**. If the AQI level exceeds 500, use of a properly fit respirator is required for any critical outdoor work.

#### Importance & Benefits

The University will select respirators certified for protection against the specific air contaminants in your workplace. When properly selected and worn, **respirators effectively reduce your exposure** to wildfire smoke and protect your health. **Check your respirator** or respirator packaging for a label or statement of certification from the National Institute for Occupational Safety and Health (NIOSH).

An **N-95 filtering facepiece respirator** is the minimum level of protection for wildfire smoke.

For more information regarding **limitations** and **how to properly put on, use, and maintain** N-95 facepiece respirators and other masks made of filter material, visit [bit.ly/UCB-Wildfire](http://bit.ly/UCB-Wildfire) or see the **handout attached**.



For more information, please visit the UC Berkeley Office of Environment, Health & Safety Wildfire Smoke Page:

<https://ehs.berkeley.edu/safety-subjects/wildfire-smoke>

# N-95 Respirator

## Training

**N-95 Filtering facepiece respirators** are air-purifying respirators certified by NIOSH to have filter efficiency levels of 95% or greater. N-95 respirators filter out airborne contaminants including dusts, fumes, mists, and microbial agents such as tuberculosis bacteria & flu virus. An **N-95 filtering facepiece respirator** is the minimum level of protection for wildfire smoke. Respirator use can be beneficial even when the AQI for PM2.5 is 150 or less.

### How to Put on N-95 Respirators



#### 1. Read instructions.

Wash your hands. Hold the respirator in one hand, with nosepiece at your fingertips. Let the straps hang loosely.



2. Place respirator under your chin, with the nosepiece up. Hold the respirator with one hand and **pull the top strap over your head**. Rest it on top of head.



3. Pull the **bottom strap over your head** and place it around your neck, below your ears.




4. Use both hands to **mold the nosepiece** to the shape of your nose by pushing inward with your fingertips. Check for secure fit.




5. **Seal check**. Cover respirator completely with hands and exhale sharply. If air blows on your face, readjust respirator (steps 3 & 4).

*Note: The proper way to put on a respirator depends on the type and model of the respirator. Refer to the manufacturer's instructions.*

### Proper Use & Maintenance

- Choose N-95 respirators **certified for use** to protect against the contaminant of concern.
- **Read & follow instructions** from the manufacturer.
- Check for a **tight seal** around the face every time you put the respirator on.  The more air leaks under the seal, the less protection you receive.
- **Keep track** of your respirator as to not mistakenly use someone else's.
- **Inspect** the respirator prior to use; **check for damage** and contamination.
- **Replace** your respirator if it becomes damaged, deformed, dirty, or difficult to breathe through.
- **Ask your doctor** before using a respirator if you have a lung or heart problem.
- Go to an area with cleaner air, take off the respirator, and **seek medical help**, if you experience symptoms (i.e. difficulty breathing, dizziness, or nausea).
- **Dispose of the respirator** in the normal trash, unless it was used in a medical facility or research area with specific disposal procedures, or if there is evidence it may be contaminated.
- **Store** your respirator properly to protect it from damage, contamination, extreme temperatures, damaging chemicals, and crushing or deforming the facepiece.


- **DO NOT** use surgical masks or other items over your nose and mouth (i.e. scarves, T-shirts, bandannas). They will not provide protection against wildfire smoke. 
- **DO NOT** wear your respirator into atmospheres containing contaminants for which it is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or highly toxic materials.
- **DO NOT** attempt to reuse, clean, or disinfect disposable filtering facepiece respirators.
- **DO NOT** allow facial hair, hair, jewelry, glasses, clothing, or anything else to prevent proper placement or come between your face and the respirator.

### Required Use

N-95 respirators may be **required** as personal protective equipment, depending on your job responsibilities. Regarding wildfire smoke, you must wear a respirator when the current AQI is greater than 500. For required use, you must obtain 1.) **Medical Evaluation** and clearance, 2.) **Training** on an annual basis, and 3.) **Fit testing** for proper fit (annually). To ensure adequate protection, do not wear respirator models and sizes for which you have not been fit-tested by EH&S.

### Limitations

**Review and follow instructions** from the manufacturer on the respirator's use, maintenance, cleaning, care, and limitations. Also **follow instructions** from the manufacturer and University regarding medical evaluations, fit testing, and shaving.

N-95 respirators only filter out particulate contaminants. They **do not protect** you from chemical vapors/gases, oxygen deficient atmospheres, high risk exposures such as those created by aerosol-generating procedures (i.e. bronchoscopy, autopsy) and asbestos handling. Facial hair reduces the effectiveness of N-95 respiratory protection, but shaving is not required for voluntary use. If you have facial hair, you may wear a loose-fitting powered air purifying respirator. 

For questions about training, air monitoring on campus, or respirators: **Contact the Office of Environment, Health & Safety (EH&S) at 510-642-3073 or [ehs@berkeley.edu](mailto:ehs@berkeley.edu)** During a wildfire smoke event, campus updates and health advisories will be posted by **University Health Services** at <https://uhs.berkeley.edu/health-topics/wildfire-smoke-air-quality>