

Wildfire smoke training

Changing weather patterns, including longer, hotter summers, are leading to more wildfires. That means employees are more likely to be exposed to unhealthy levels of wildfire smoke. These talking points provide some information to help protect you from wildfire smoke. It is also important for employers to train workers specific to their workplace.

Air quality index – and how to find it

The air quality index (AQI) is a tool that describes daily or forecasted air quality for your location. AQI includes fine particulate matter that measures 2.5 micrometers (PM2.5). The Environmental Protection Agency (EPA) has divided the AQI into six categories based on different levels of health concern in the table below:

Daily AQI color	Levels of concern	Values of index	Description of air quality
Green	Good	0 to 50	Air quality is satisfactory, and air pollution poses little or no risk
Yellow	Moderate	51 to 100	Air quality is acceptable. However, there may be a risk for some people, particularly those sensitive to air pollution.
Orange	Unhealthy for sensitive groups	101 to 150	Members of sensitive groups may experience health effects. The general public is less likely to be affected.
Red	Unhealthy	151 to 200	Some members of the general public may experience health effects; members of sensitive groups may experience more serious health effects.
Purple	Very unhealthy	201 to 300	Health alert: The risk of health effects is increased for everyone.
Maroon	Hazardous	301 and higher	Health warning of emergency conditions: everyone is more likely to be affected.

You can find your local AQI on www.airnow.gov. Another source is the Oregon Department of Environmental Quality air quality monitoring data site <https://oraqi.deq.state.or.us/home/map>.

Some work sites use their own air sampling device. Employees required to use these devices must be trained to do so, following the manufacturer's recommendations.

If you are unable to access real-time AQI updates, you can use a tool called the 5-3-1 visibility chart, which estimates smoke levels and determines which precautions to take <https://oregonsmoke.blogspot.com/2014/08/5-3-1-visibility-chart-helps-determine.html>.

Symptoms of wildfire smoke exposure

Here are signs of potential exposure to wildfire smoke:

Eyes

- Burning
- Redness
- Tears
- Not able to see well

Respiratory system

- Runny nose
- Sore throat
- Cough
- Not able to breathe well
- Wheezing
- Sinus irritation

Fatigue

- Headache
- Irregular heartbeat
- Chest pain

Effects of wildfire smoke

The biggest health threat from wildfire smoke is the microscopic particles that can get into lungs. This can cause health problems such as chronic heart and lung disease, or even premature death in people with lung disease.

Most people have a good natural defense system that allows them to recover from wildfire smoke exposure. Sensitive people are more at risk from wildfire smoke's harmful effects.

The following conditions increase someone's sensitivity to health effects from wildfire smoke:

- Asthma
- Chronic obstructive pulmonary disease (COPD), including bronchitis and emphysema
- Smoking
- Recent respiratory infections, such as pneumonia, acute bronchitis, bronchiolitis, cold, flu, or those with or recovering from COVID-19
- Heart or circulatory problems, such as irregular heartbeat, congestive heart failure, coronary artery disease, angina, and a history of heart attack or stroke

- Children under 18 years old
- Adults over age 65
- Pregnancy
- Diabetes
- Other medical or health conditions, which can be exacerbated by exposure to wildfire smoke as determined by a physician

What the employer must provide

Employers must include an emergency response procedure in their emergency medical plan if an employee shows signs of severe symptoms of exposure to wildfire smoke. Employees can seek medical treatment for illness related to workplace wildfire smoke exposure without fear of retaliation.

Employers must let employees know what they plan to do to protect them from exposure to wildfire smoke. If an employer decides in advance that they will suspend operations at an AQI of 101, the employer does not have to train employees on wildfire smoke risk.

If employers intend to keep employees working, they must meet these requirements at each AQI level:

- AQI 101: employers must provide training, access to filtering facepiece respirators or KN95 face masks, and share their communication plan.
- AQI 201: In addition to the requirements for AQI 101, employers are required to implement engineering controls (such as filtered indoor air or vehicles) or administrative controls (such as shorter or different work shifts).

If the controls do not reduce levels below AQI 201, filtering facepiece respirators or N95 respirators are then required. For the 2021 season, KN95 masks may be used. Employers must ensure that employees wearing filtering facepiece respirators are trained in the proper use of the respirators, including putting them on and removing them, any limitations

on their use, how to care for the respirator, and the ability to demonstrate a seal check.

Oregon OSHA has a video to assist with this training: https://www.youtube.com/watch?v=ucmx_hj1SW8

- AQI 501: In addition to the previous requirements, employers must require respirators and implement a complete respirator program. KN95 masks may not be used at this level.

Filtering facepiece respirators

If employers provide filtering facepiece respirators, they must train workers on how to use them properly. They must also explain the importance, benefits, and limitations of using a filtering facepiece respirator.

Importance – A filtering facepiece respirator can protect the wearer in many work environments, provided it is fitted and worn properly. Make sure that the respirator is designed for protection against particulates. The filtering facepiece respirator should be approved by the National Institute for Occupational Safety and Health (NIOSH) and should filter at least 95% of inhaled airborne particles (minimum N95, R95, or P95).

Benefits – Filtering facepiece respirators are lightweight, disposable, comfortable to wear, and relatively inexpensive.

Limitations – It can make breathing more difficult and increase your risk of heat-related illnesses. Use with facial hair can prevent a tight seal, which can reduce the protection it provides. If you have an existing heart or lung condition, it is best to consult a doctor before using.

Always read and follow the manufacturer's instructions.

Find out more

Oregon OSHA's temporary rule on protection from wildfire smoke <https://osha.oregon.gov/OSHArules/adopted/2021/temp-rule-protection-from-wildfire-smoke.pdf>