GAWDA GASES AND WELDING DISTRIBUTORS ASSOCIATION	Safety Alert
08 June 2023	Outdoor Workers Exposed to Wildfire Smoke

Due to the ongoing smoke pollution from the Canadian wildfires employees that work outside - especially drivers and yard employees- could be adversely affected by the smoke.

Member companies in the smoke path should review the NIOSH document on the following pages (or <u>click here</u> to download a copy), consider training the employees on the contents of the document and supply N95 respirator masks to affected employees.



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Outdoor Workers Exposed to Wildfire Smoke

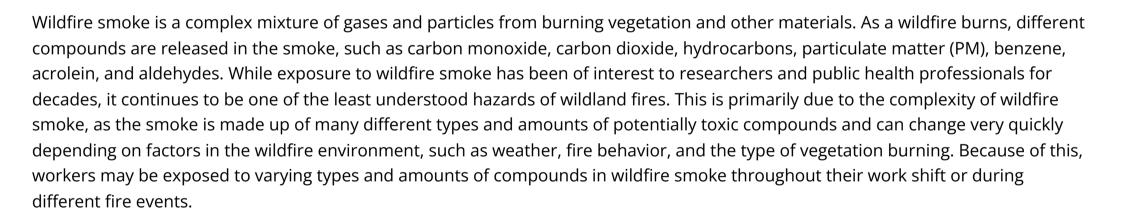
Wildland fires include wildfires, prescribed fires (intentionally set fires for ecological benefit), and fires occurring in the wildland-urban interface (where wildland vegetation and urban areas meet).



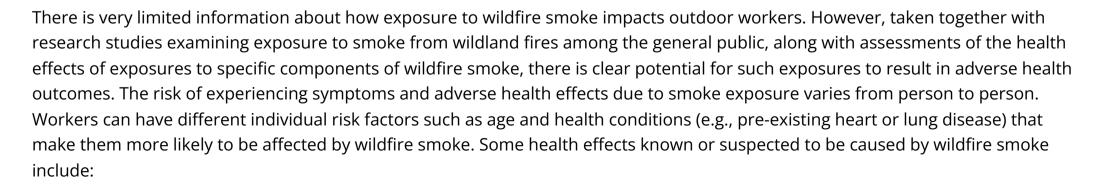
Wildfires may present a major health hazard to outdoor workers from exposure to smoke. Image by NIOSH.

Wildfire Smoke and Outdoor Work

What is wildfire smoke?



Can wildfire smoke affect an outdoor worker's health?



- Symptoms such as eye irritation, sore throat, wheeze, and cough,
- Asthma and chronic obstructive pulmonary disease (COPD) exacerbations,



- Bronchitis and pneumonia,
- Adverse birth outcomes, and
- Cardiovascular (heart and blood vessel) outcomes.

Workers may also experience varying health effects when exposed to smoke. Long work schedules and physical demands of the work performed (resulting in higher breathing rates) may impact a worker's exposures and health response to wildfire smoke. Still, the scientific community does not fully understand how long-term, repeated exposures, or exposures to high concentrations of wildfire smoke may affect a worker's health. Additionally, very little is known about how exposure to many different compounds at the same time, including compounds released from the burning of man-made materials (such as those found in the wildland-urban interface), may affect a worker's health. Employers should be aware that wildfire smoke may adversely affect the health of their workforce and prepare to take action to limit their workers' exposures when a wildfire is emitting smoke in and around their work environment.

What can employers and workers do to reduce smoke exposure?



Employers and workers should prepare for and plan to implement procedures to reduce exposures to smoke when necessary. If workers must work in areas with high levels of smoke, especially for long periods, or if a worker is sensitive to wildfire smoke and feels their health or safety is negatively impacted by smoke exposure, the following steps can be implemented to reduce smoke exposure:

- Frequently monitor air quality conditions in the area by visiting the Environmental Protection Agency (EPA) US Fire and Smoke Map or the state health department's air quality website. This map provides the Air Quality Index (AQI) for a specific location and provides a range of air quality from good to hazardous. The AQI is EPA's color-coded tool for communicating air quality to the public.
- Relocate or reschedule work tasks to smoke-free or less smoky areas or times of the day,
- Reduce levels of physical activity when possible, especially strenuous and heavy work,
- Require and encourage workers to take frequent breaks in places that are free from smoke, and
- Limit the worker's smoke exposure by making accommodations for that worker to perform his/her duties indoors or in a location that reduces exposure to smoke, if possible. To create an indoor environment that reduces exposure to and protects the occupants from wildfire smoke, it is important that employers and building managers:
 - Install air cleaners equipped with a high-efficiency particulate air (HEPA) filter or electrostatic precipitators,
 - Ensure that windows and other building openings such as loading docks and bays are kept closed to reduce overall smoke exposure inside,
 - Operate heating, ventilation, and air conditioning (HVAC) systems in the re-circulate setting or temporarily reduce the amount of outdoor air supplied to the building, and
 - Install the highest efficiency filters recommended by the designer or manufacturer of the HVAC system.

Is personal protective equipment (PPE) such as respirators an option for protecting workers?



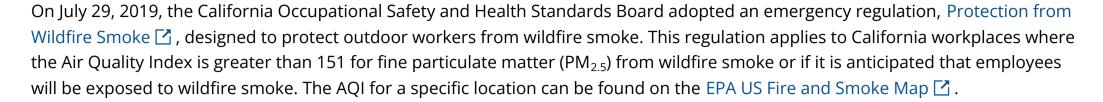
Controlling exposures to occupational hazards is the fundamental method of protecting workers. NIOSH recommends using the hierarchy of controls to determine how to implement feasible and effective workplace hazard control solutions. While elimination, substitution, and engineering and administrative controls are most effective in reducing workplace hazards, in some situations the use of personal protective equipment (PPE), such as the use of respirators, may be considered to limit a worker's exposure to a hazard in the workplace. A NIOSH Approved® filtering facepiece respirator (FFR), like an N95® respirator, can be used to reduce exposure to airborne particulates from wildfire smoke when the recommendations listed above cannot be implemented and it is feasible to obtain respirators. It is important to understand that FFRs do not protect against gases, such as carbon monoxide.

If an employer requires their employees to use respiratory protection to limit smoke exposure in an occupational setting, they must always do it as part of a comprehensive respiratory protection program as required under the Occupational Safety and Health Administration's (OSHA) Respiratory Protection standard (29 CFR 1910.134) . This includes medical evaluations, respirator fit testing, and training of the workers required to wear respirators. Additionally, when required in the occupational setting, tight-fitting respirators cannot be used by people with facial hair that interferes with the face seal.

When respirators are used on a voluntary basis in an occupational setting, employers should follow the requirements for the voluntary use of respirators. This information can be found on the OSHA website .

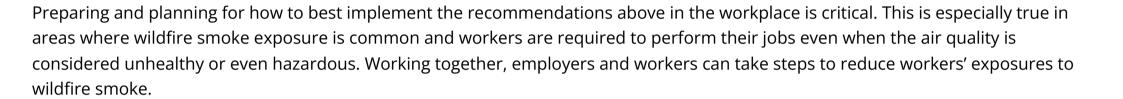
Respirators, such as an N95[®], may be one of the easiest controls to implement for limiting a worker's exposure to the particulate matter in wildland smoke, and in some cases may be the only option to protect some workers. Employers, however, may need to consider alternative controls and solutions when respirators are not easily available.

What actions are states taking to protect outdoor workers?



More information about this emergency regulation and updates on a permanent standard can be found on the Cal/OSHA website 🖸 .

When working in smoke consider:



Additional Resources

NIOSH

- Agriculture, Forestry and Fishing
- Construction Safety and Health
- Science Blog: Non-occupational Uses of Respiratory Protection What Public Health Organizations and Users Need to Know
- Health Hazard Evaluation, Evaluation of Fire Debris Cleanup Employees' Exposure to Silica, Asbestos, Metals, and Polyaromatic Hydrocarbon
- Hazards During Cleanup Following Wildfires
- NIOSH Approved[®] Filtering Facepiece Respirators

Other Agency Resources

National Institute of Environmental Health Sciences

- Wildfire Worker Training Program 🖸
- Worker Health and Safety: Protecting Yourself during Wildfire Cleanup Fact Sheet 🖸
- Protecting Yourself While Responding to Wildfires: Safety and Health Awareness for Responders to Wildfires 🖸

Occupational Safety and Health Administration

- Wildfires 🖸
- Respiratory Protection 🖸

U.S. Environmental Protection Agency

- Wildfire Smoke and Your Patients' Health
- Wildfire Smoke A Guide for Public Health Officials

Cal/OSHA

• Cal/OSHA Protection from Outdoor Smoke Regulation 🖸

University of California, Los Angeles Labor Occupational Safety and Health Program

- Worker Protection from Wildfire Smoke 🔼 🔀
- Protección Para Trabajadores Contra El Humo De Incendios Forestales 🔼 🔀

Last Reviewed: May 10, 2023, 08:10 AM