



WILDLAND FIREFIGHTING FACE MASKS

Be aware of their limitations!

Fighting wildland fires can expose firefighters to harmful components contained in smoke, which in part include:

- **Acrolein and formaldehyde.** They are highly irritating to the mucous membranes.
- **Carbon monoxide.** It can cause breathing problems, collapse, coma, and death when high levels are inhaled.
- **Airborne particulates.** Particles such as soot and ash can cause respiratory issues.

There are a variety of commercial products used for wildland firefighting, such as wildfire face protectors, shield hoods, shrouds, and bandanas. Some even come with air-filter inserts.

However, these products do not supply fresh air or oxygen. They don't protect against carbon monoxide or other contaminants, and they don't take the place of a respirator.

Some are designed to protect against large smoke and ash particulate. Some also provide protection against heat or flame.

Are wildland firefighting masks considered respirators?

No, wildland firefighter face masks offer little protection against the harmful components contained in smoke, and they do not protect against superheated gases or supply oxygen.



Are there NIOSH-approved wildland firefighting face masks that are acceptable to Oregon OSHA?

No, NIOSH only approves respirators. The only NIOSH-approved respirator to protect against smoke inhalation is a self-contained, breathing apparatus (SCBA), which may not be practical to use under typical wildland fire conditions. There are currently no other NIOSH-approved respirators that protect firefighters from all health hazards associated with the smoke from wildland fires.

Do bandanas provide protection?

No, smoke particles, gases, and vapors can easily pass through dry and wet bandanas.



A Division of the
Department of Consumer
and Business Services



Can firefighters use face masks when fighting wildfires?

Yes, they can be used on a voluntary basis as long as other precautions are taken to keep the exposures to harmful components contained in smoke below applicable Oregon OSHA permissible exposure limits (PEL), and when permitted by the fire management team or employer.



What are common situations that may increase exposure to firefighters using the wildland firefighting face mask?

- **Dense smoke:** Firefighters may stay in dense smoke longer if the wildland firefighter face mask gives the impression that smoke inhalation has been reduced. This may lead to longer exposures to higher concentrations of unfiltered smoke components. When firefighters assume they are protected from smoke, they may take unnecessary risks.
- **High carbon monoxide levels:** Using a wildland firefighter face mask during the mop-up stage can be hazardous because carbon monoxide levels can be higher during that phase of a fire.
- **Strenuous activities:** During a strenuous effort, the increased breathing resistance from the mask and heat stress can cause a sense of breathlessness and claustrophobia.



What can employers do to improve firefighter safety?

Management Strategies

- Involve firefighters, supervisors, and managers in developing a smoke exposure management strategy for the situation at hand.
- Limit wildland firefighter exposure to smoke when possible.
- Direct work upwind from smoke, whenever possible.
- Locate camps and incident command posts in areas that are upwind of the fire and are not prone to inversions.
- Assign work and provide breaks in areas of reduced smoke whenever possible.

Training/Education

- Educate firefighters to recognize signs and symptoms of smoke exposure.
- Educate firefighters about the known pollutants in smoke and their respiratory effects.
- Educate firefighters about the effects of reduced visibility and smoke behavior during conditions such as temperature inversions.



Monitoring

- Routinely monitor smoke exposure and its effects on firefighters.
- Regularly evaluate firefighters' health risks and work activity.
- Make use of electronic carbon monoxide dosimeters when possible, which can give accurate, instantaneous warnings to firefighters when carbon monoxide levels exceed set limits.

It also is important to refer to fire and prescribed fire rules in **Division 7, Subdivision N** and record firefighters' smoke-related injuries and illnesses.