

# WILDFIRE SMOKE FACTSHEET



## Prepare for Fire Season

If you live in an area where the wildfire risk is high, take steps now to prepare for fire season. Being prepared for fire season is especially important for the health of children, older adults, and people with heart or lung disease.

### Before a Wildfire

- **If any family member has heart or lung disease, including asthma**, check with your doctor about what you should do during smoke events. Have a plan to manage your condition.
- **Stock up** so you don't have to go out when it's smoky. Have several days of medications on hand. Buy groceries that do not need to be refrigerated or cooked because cooking can add to indoor air pollution.
- **Create a "clean room"** in your home. Choose a room with no fireplace and as few windows and doors as possible, such as a bedroom. Use a portable air cleaner in the room.
- **Buy a portable air cleaner** before there is a smoke event. Make sure it has high efficiency HEPA filters and it is the right size for the room.
- **Know how you will get alerts** and health warnings, including air quality reports, public service announcements (PSAs), and social media warning you about high fire risk or an active fire.
- **Ask** an air conditioning professional what kind of high efficiency filters to use in your home's system and how to close the fresh-air intake if your central air system or room air conditioner has one.
- **Have a supply of N95 respirators** and learn how to use them. They are sold at many home improvement stores and online.
- **Organize your important items** ahead of time, including financial and personal documents. Know your evacuation routes and where to go if you have to evacuate. Make sure to prepare your children, and consider your pets when making an evacuation plan.



# During a Wildfire

- **Follow instructions from local officials** to keep yourself and your family safe.
- **Stay inside** with the doors and windows closed. Run your air conditioner with the fresh-air intake closed ("recirculate mode") to keep smoke from getting indoors. Seek shelter elsewhere if you do not have an air conditioner and it is too warm to stay inside with the windows closed.
- **Follow your health care provider's advice if you have heart or lung disease**, and follow your management plan if you have one. If your symptoms worsen, reduce your exposure to smoke and contact your provider.
- **Do not add to indoor air pollution.** Do not burn candles or use gas, propane, wood-burning stoves, fireplaces, or aerosol sprays. Do not fry or broil meat, smoke tobacco products, or vacuum. All of these can increase air pollution indoors.
- **Use a portable air cleaner** to reduce indoor air pollution. Follow the manufacturer's instructions on where to put the air cleaner and when to replace the filters.
- **Reduce how much smoke you inhale.** If it looks or smells smoky outside, avoid strenuous activities such as mowing the lawn or going for a run. Wait until air quality is better before you are active outdoors.
- **Pay attention to local air quality reports and health warnings.** Smoke levels can vary a lot during the day, so you may have a chance to do errands and open up windows when air quality is better. Public service announcements give you important information such as changing conditions, cancelled events, or evacuation notices.
- **Do not rely on dust masks or bandanas** for protection from smoke. An N95 respirator can protect you if it fits snugly to your face and is worn properly. These are not recommended for children.
- **Reduce smoke in your vehicle** by closing the windows and vents and running the air conditioner in recirculate mode. Slow down when you drive in smoky conditions.

## For more information:

- **Get air quality information:** Check your local news, the [airnow.gov](https://airnow.gov) website, or your state air quality agency's website.
- **Learn about home air cleaners:** <https://www.epa.gov/indoor-air-quality-iaq/guide-air-cleaners-home>
- **Find certified air cleaning devices:** <http://www.arb.ca.gov/research/indoor/aircleaners/certified.htm>
- **Learn how to use an N95 respirator mask:** <http://www.bepreparedcalifornia.ca.gov/Documents/Protect%20Your%20Lungs%20Respirator.pdf>
- **Learn more about wildfire smoke:** *How Smoke from Fires Can Affect Your Health:* <https://airnow.gov/index.cfm?action=smoke.index>



# WILDFIRE SMOKE FACTSHEET

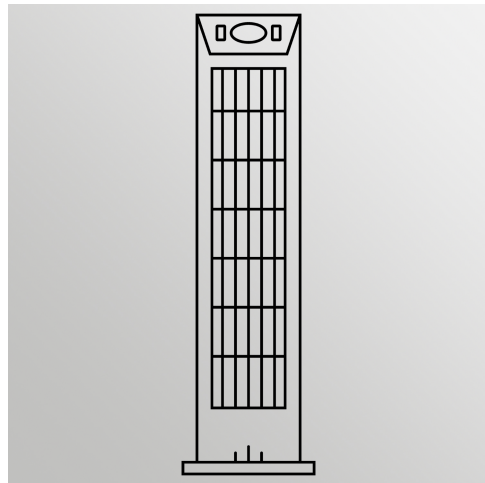


## Reduce Your Smoke Exposure

When wildfires create smoky conditions, there are things you can do, indoors and out, to reduce your exposure to smoke. Reducing exposure is important for everyone's health — especially children, older adults, and people with heart or lung disease.

### Reduce smoke exposure **indoors**

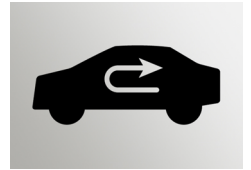
- **Stay inside** with the doors and windows closed. Whether you have a central air conditioning system or a room unit, use high efficiency filters to capture fine particles from smoke. Ask an air conditioning professional what type of high efficiency filter your air conditioner can accept.
- **Seek shelter elsewhere** if you do not have an air conditioner and it is too warm to stay inside with the windows closed.
- **Do not add to indoor air pollution.** Do not burn candles or use gas, propane, wood-burning stoves, fireplaces, or aerosol sprays. Do not fry or broil meat, smoke tobacco products, or vacuum. All of these can increase air pollution indoors.
- **Use a portable air cleaner** to reduce indoor air pollution. Make sure it is sized for the room and that it does not make ozone, which is a harmful air pollutant. Portable air cleaners can be used along with efficient central air systems with efficient filters to maximize the reduction of indoor particles.
- **Create a “clean room”** in your home. Choose a room with no fireplace and as few windows and doors as possible, such as a bedroom. Use a portable air cleaner in the room.
- **Have a supply of N95 respirators** and learn how to use them. They are sold at many home improvement stores and online.
- Long-term smoke events usually have periods when the air is better. When air quality improves, even temporarily, **air out your home** to reduce indoor air pollution.



Use a portable air cleaner to reduce indoor air pollution

# Reduce smoke exposure **outdoors**

- **Take it easier during smoky times** to reduce how much smoke you inhale. If it looks or smells smoky outside, avoid strenuous activities such as mowing the lawn or going for a run.
- **Know your air quality.** Smoke levels can change a lot during the day, so wait until air quality is better before you are active outdoors. Check your state or local air quality agency's website or [airnow.gov](http://airnow.gov) for air quality forecasts and current air quality conditions. On AirNow, you can also sign up to get email notifications, download an air quality app, or check current fire conditions. In addition, some communities have visual range programs where you can assess smoke conditions by how far you can see.
- **Have enough food and medication** on hand to last several days so you don't have to go out for supplies. If you must go out, avoid the smokiest times of day.
- **Reduce smoke in your vehicle** by closing the windows and vents and running the air conditioner in recirculate mode. Slow down when you drive in smoky conditions.
- **Do not rely on dust masks or bandanas** for protection from smoke. If you must be out in smoky conditions, an N95 respirator can protect you, if it fits snugly to your face and is worn properly.
- **Have a plan to evacuate.** Know how you will get alerts and health warnings, including air quality reports and public service announcements (PSAs). Public advisories can provide important information such as changing smoke conditions and evacuation notices. Know your evacuation routes, organize your important items ahead of time, and know where to go in case you have to evacuate.



## Reduce your risk of health problems:

- Have enough medication and food (enough for more than 5 days) on hand.
- Follow your health care provider's advice about what to do if you have heart or lung disease.
- If you have asthma, follow your asthma management plan.
- If you feel sick, reduce your exposure to smoke and contact your health care provider.
- Pay attention to public service announcements, health advisories, and air quality advisories.

## For more information:

- **Get air quality information:** Check your local news, the [airnow.gov](http://airnow.gov) website, or your state air quality agency's website.
- **Learn about home air cleaners:** <https://www.epa.gov/indoor-air-quality-iaq/guide-air-cleaners-home>
- **Find certified air cleaning devices:** <http://www.arb.ca.gov/research/indoor/aircleaners/certified.htm>
- **Learn how to use an N95 respirator mask:** [http://www.bepreparedcalifornia.ca.gov/ResourcesAndLinks/Languages/Documents/English/ENG\\_ProtectLungsSmoke7208color.pdf](http://www.bepreparedcalifornia.ca.gov/ResourcesAndLinks/Languages/Documents/English/ENG_ProtectLungsSmoke7208color.pdf)
- **Fires — Current Conditions:** [https://airnow.gov/index.cfm?action=topics.smoke\\_wildfires](https://airnow.gov/index.cfm?action=topics.smoke_wildfires)
- **Learn more about wildfire smoke:** *Wildfire Smoke, A Guide for Public Health Officials:* [https://www3.epa.gov/airnow/wildfire\\_may2016.pdf](https://www3.epa.gov/airnow/wildfire_may2016.pdf)



# WILDFIRE SMOKE FACTSHEET

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## Protect Yourself from Ash

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Protect yourself from harmful ash when you clean up after a wildfire. Cleanup work can expose you to ash and other products of the fire that may irritate your eyes, nose, or skin and cause coughing and other health effects. Ash inhaled deeply into lungs may cause asthma attacks and make it difficult to breathe.

Ash is made up of larger and tiny particles (dust, dirt, and soot). Ash deposited on surfaces both indoors and outdoors can be inhaled if it becomes airborne when you clean up. Ash from burned structures is generally more hazardous than forest ash.

### Avoid Ash Exposure

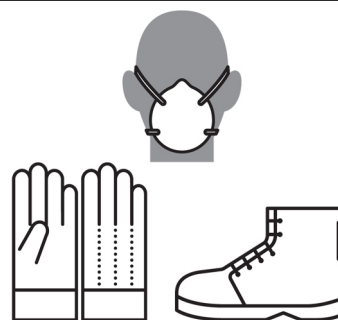
**Avoid direct contact with ash.** If you get ash on your skin, in your eyes, or in your mouth, wash it off as soon as you can.

**People with heart or lung disease**, including asthma, older adults, children, and pregnant women should use special caution around ash.

**Children and pets:** Children should not be nearby while you clean up ash. Do not allow children to play in ash. Clean ash off all children's toys before use. Clean ash off pets and other animals. Keep pets away from contaminated sites.

### Recommended Actions

**Clothing:** Wear gloves, long-sleeved shirts, long pants, shoes and socks to avoid skin contact. Goggles are also a good idea. Contact with wet ash can cause chemical burns or skin irritation. Change your shoes and clothing before you leave the cleanup site to avoid tracking ash offsite, into your car, or other places.



Use an N95 respirator and avoid skin contact with ash.

**Protecting your lungs:** Wear a tight-fitting respirator that filters ash particles from the air you breathe to help protect your lungs. Select a respirator that has been tested and approved by NIOSH and has the words "NIOSH" and either "N95" or "P100" printed on it. These have two straps and are available online, and at many hardware stores and pharmacies. Buy respirators in a size that can be tightened over your mouth and nose with a snug seal to your face. Surgical masks and one-strap dust masks will *not* protect your lungs. They are not designed to seal tightly to the face. If you have heart or lung disease talk to your doctor before using a respirator or working around ash.



**Cleanup:** Avoid stirring up or sifting through ash as much as you can. Avoid actions that kick ash particles up into the air, such as dry sweeping. Before sweeping indoor and outdoor hard surfaces, mist them with water to keep dust down. Follow with wet mopping. Use a damp cloth or wet mop on lightly dusted areas. When you wet down ash, use as little water as you can.

**Vacuum:** Use a high-efficiency particulate air (HEPA)-type vacuum to clean dusty surfaces. Don't use a typical household vacuum or a shop vacuum. They will send the collected dust or ash out into the air. Don't use leaf blowers or do anything else that will put ash into the air.

**Food and Water:** Wash any home-grown fruits or vegetables from trees or gardens where ash has fallen. Avoid bringing food or eating at the affected site, unless you keep the food in a sealed container.

Wash your hands well before eating. Check with your drinking water provider to be sure your water is safe to drink.

**Disposal:** Collected ash may be disposed of in the regular trash. Ash should be stored in plastic bags or other containers to prevent it from being stirred up. If you suspect hazardous waste, including asbestos, is present, contact your local hazardous waste authorities regarding appropriate disposal. Avoid washing ash into storm drains.

### For more information:

- **Get air quality information:** Check your local news, the [airnow.gov](http://airnow.gov) website, or your state air quality agency's website.
- **Learn about home air cleaners:** <https://www.epa.gov/indoor-air-quality-iaq/guide-air-cleaners-home>
- **Find certified air cleaning devices:** <http://www.arb.ca.gov/research/indoor/aircleaners/certified.htm>
- **Learn how to use an N95 respirator mask:** [http://www.bepreparedcalifornia.ca.gov/ResourcesAndLinks/Languages/Documents/English/ENG\\_ProtectLungsSmoke7208color.pdf](http://www.bepreparedcalifornia.ca.gov/ResourcesAndLinks/Languages/Documents/English/ENG_ProtectLungsSmoke7208color.pdf)
- **Learn more about wildfire smoke:** *Wildfire Smoke, A Guide for Public Health Officials:* [https://www3.epa.gov/airnow/wildfire\\_may2016.pdf](https://www3.epa.gov/airnow/wildfire_may2016.pdf)



# WILDFIRE SMOKE FACTSHEET

## Indoor Air Filtration



When wildfire smoke gets inside your home it can make your indoor air unhealthy, but there are steps you can take to protect your health and improve the air quality in your home. Reducing indoor sources of pollution is a major step toward lowering the concentrations of particles indoors. For example, avoid burning candles, smoking tobacco products, using aerosol products, and avoid using a gas or wood-burning stove or fireplace. Another step is air filtration. This fact sheet discusses effective options for filtering your home's indoor air to reduce indoor air pollution.

### Filtration Options

There are two effective options for improving air filtration in the home: 1) upgrading the central air system filter, and 2) using high efficiency portable air cleaners. Before discussing filtration options, it is important to understand the basics of filter efficiency.

#### ***Filter Efficiency***

The most common industry standard for filter efficiency is the Minimum Efficiency Reporting Value, or "MERV rating." The MERV scale for residential filters ranges from 1 through 20. The higher the MERV rating the more particles are captured as the air passes through the filter. Higher MERV (higher efficiency) filters are especially effective at capturing very small particles that can most affect health.

#### ***Central Air System Filter***

The filter used in the central heating/cooling system of the home can effectively reduce indoor particle concentrations when the system is operating or when only the fan is turned on. Most home systems use a low MERV (1-4) fiberglass filter that is 1" thick. Replacing this filter with a medium efficiency filter (MERV 5-8) can significantly improve the air quality in your home. Higher efficiency filters (MERV 9-12) will work even better, and a true high efficiency

filter (MERV 13-16) can reduce indoor particles by as much as 95 percent. Filters with a High Efficiency Particulate Air (HEPA) rating, (or MERV 17-20) are the most efficient. You may need to consult with a local heating and air technician or the manufacturer of your central air system to confirm which (or if) high efficiency filters will work with your system. If you can't switch to a more efficient filter, running the system continuously by switching the thermostat fan from "Auto" to "On" has been shown to reduce particle concentrations by as much as 24 percent.

#### ***Portable Air Cleaners***

Portable air cleaners are self-contained air filtration appliances that can be used alone or with enhanced central air filtration to effectively remove particles. How well they reduce air particle concentrations depends on several factors such as the size of the air cleaner, the area to be cleaned, the filter efficiency, how frequently the unit is turned on and the fan speed. Portable air cleaners fitted with high efficiency filters can reduce indoor particle concentrations by as much as 85 percent. Furthermore, portables can be operated continuously at a lower cost compared to the continuous operation of a central system.

# Choosing a Portable Air Cleaner

There are a wide variety of air cleaners on the market, ranging in price from about \$50 to \$3,000. Air cleaners that cost less than about \$200 often do not clean the air as well and may not be helpful for wildfire smoke.

## Types of Air Cleaners

Most air cleaners fall under two basic categories: 1) mechanical and 2) electronic.

Mechanical air cleaners operate by pulling air through a filter that traps particles. Mechanical air cleaners are very reliable and do not produce ozone, an air pollutant that is a known health hazard. Filters in these devices need to be replaced according to the manufacturers' recommendations, or when the filter is dirty and the air cleaner is not operating efficiently.

Electronic air cleaners often use an electrical charge to charge particles and remove them from the air. The three main types of electronic air cleaners are electrostatic precipitators (ESPs), ionizers, and intentional ozone generators. ESPs have plates (collectors) that need to be cleaned when they get dirty. Ionizers work by making particles deposit on nearby materials. **Ozone generators produce large amounts of ozone, and should never be used in homes or other occupied spaces.** Other types of electronic air cleaners use ultraviolet (UV) bulbs and surface coatings like titanium dioxide to improve the removal of pollutants. However, these devices can emit ozone and some that are designed to remove chemicals actually emit volatile organic chemicals into the air. This includes devices that are sold as "hydroxyl" generators.

Electronic air cleaners are not currently regulated, except in California. Caution should be used when selecting an electronic air cleaner, as they may generate ozone and/or other potentially harmful chemical compounds. Air cleaners certified as being ozone-safe can be found on California's list of certified air cleaners at: <https://www.arb.ca.gov/research/indoor/aircleaners/certified.htm>.

## Size Rating of Air Cleaner

When purchasing an air cleaner, check the square footage rating of the device to be sure that the air cleaner capacity is appropriate for the space it is intended to clean. A useful way to estimate the proper size device is the Clean Air Delivery Rate, or CADR, which is the removal efficiency for a specific size particle and volume of air delivered by an air cleaner in one minute. A useful tool to determine the appropriate air cleaner size for the intended space can be found at <http://www.ahamdir.com>.

## Efficiency and Noise

For best results, the portable air cleaner you purchase should have a filter rated as "high efficiency" (high MERV) or HEPA. The filters for these devices may be more expensive but will do a much better job of cleaning the air than devices with cheap, low efficiency filters.

Noise level is also an important consideration, as some air cleaners can be quite loud when operating at the maximum settings. If noise level is important to you, look for models with low noise ratings, or those that are rated by a reputable reviewer as quiet.

### For more information on air cleaning devices:

- California Air Resources website: <https://www.arb.ca.gov/research/indoor/aircleaners/consumers.htm>
- Learn about home air cleaners: <https://www.epa.gov/indoor-air-quality-iaq/guide-air-cleaners-home>





# WILDFIRE SMOKE FACTSHEET



## Protect Your Lungs from Wildfire Smoke or Ash

Wildfire smoke and ash can irritate your eyes, nose, throat, and lungs. They can make you cough or wheeze, and can make it hard to breathe. A respirator is a device (mask) that covers your nose and mouth, fits tightly to your face, and can filter out smoke or ash particles before you breathe them in. Respirators are not sized for children.

### Protecting Your Health

The most effective way to protect yourself during wildfire emergencies is to stay indoors or limit your time outdoors when there is smoke in the air. This is especially important if you have heart or lung disease and are at higher risk for adverse health effects. Reducing physical activity and using HEPA-filtered air cleaners indoors are other ways to reduce your smoke exposure. Consider temporary relocation out of the smoky area if possible. By limiting your exposure one of these ways, you may not need to wear a respirator.

### Respirators Can Help Protect Your Lungs



N95 or P100 respirators can help protect your lungs from smoke or ash. Straps must go above and below the ears.

### How Do I Know if I Need to Wear a Respirator?

- People who stay indoors or limit their time outdoors during wildfire emergencies are doing the most effective thing to avoid exposure and may not need to wear a respirator.
- People who must be outside for extended periods of time in smoky air or an ash-covered area may benefit from using a tight-fitting N95 or P100 respirator to reduce their exposure.
- People experiencing health effects from a smoky environment, even if indoors, may also benefit from using a tight-fitting respirator to reduce their exposure.
- For people who want to wear a respirator, learning how to select and correctly use the respirator is important for achieving the most protection possible.

## Choose the Correct Respirator

- Respirators are sold at many hardware and home repair stores and pharmacies.
- Choose a “particulate respirator” that has been tested and approved by the National Institute of Occupational Safety and Health (NIOSH). It will have the words **“NIOSH” and either “N95” or “P100”** printed on it.
- Choose a respirator that has two (2) straps to go around your head.
- Choose a size that will fit over your nose and under your chin and seal tightly to your face. Any leakage around the edge of the mask causes unfiltered air to enter and be inhaled.
- Do NOT choose a mask with only one strap or two straps that go around your ears. They are not designed to seal tightly to the face and will not protect your lungs.

## How to Use this Type of Respirator

- To get a secure fit, place the respirator over your nose and under your chin, with one strap placed below the ears and one strap above the ears (see photo on page 1).
- Pinch the metal part of the respirator (if there is one) over the top of your nose so it fits securely.

- Follow instructions on the package about how to check for a tight face seal.
- Make sure the skin is clean shaven where the respirator touches the face. A good seal is not possible with facial hair.
- Throw away your respirator when it gets harder to breathe through, or if it gets dirty.

## Possible Risks

- Wearing a respirator can make it harder to breathe. If you have heart or lung problems, ask your doctor before using a respirator.
- If you have difficulty breathing, get dizzy, or have other symptoms while wearing a respirator, go to a place with cleaner air and remove it.
- Wearing a respirator, especially if it’s hot or you are physically active, can increase the risk of heat-related illness. Take breaks often and drink water.
- Respirators do not come in sizes suitable for children. Since they would not fit well enough to provide a tight face seal, they would not be effective at reducing exposure.

### For more information:

- To learn more about protecting yourself from wildfire smoke, contact your local or state health department or go to [www.airnow.gov](http://www.airnow.gov)
- To learn more about respirators, visit: [https://www.cdc.gov/niosh/npptl/topics/respirators/disp\\_part/default.html](https://www.cdc.gov/niosh/npptl/topics/respirators/disp_part/default.html)
- Infographic about respirators: <https://airnow.gov/static/topics/images/epa-infographic-respirator.jpg>
- How to put on and remove your respirator: <https://www.cdc.gov/niosh/docs/2010-133/pdfs/2010-133.pdf>



# WILDFIRE SMOKE FACTSHEET

## Protecting Children from Wildfire Smoke and Ash



### Background

- Children are especially at risk for health effects from exposure to wildfire smoke and ash, mostly because their lungs are still growing.
- Wildfire concerns include the fire itself, the smoke and ash, and the chemicals from materials that have burned, such as furniture.
- Smoke can travel hundreds of miles from the source of a fire. Pay attention to local air quality reports during fire season, even if no fire is nearby.

### Health Effects from Wildfire Smoke and Ash

- Children who breathe in wildfire smoke and ash can have chest pain and tightness; trouble breathing; wheezing; coughing; nose, throat, and eye burning; dizziness; or other symptoms.
- Children with asthma, allergies, or chronic health issues may have more trouble breathing when smoke or ash is present.

### Preparing for Wildfires

- Pay attention to local air quality reports. Stay alert to smoke-related news coverage and public health advisories.
- Look up your local [Air Quality Index \(AQI\)](http://www.airnow.gov) on the [AirNow](http://www.airnow.gov) ([www.airnow.gov](http://www.airnow.gov)) web site.
- If [Enviroflash](http://www.enviroflash.info/) is available for your area, sign up for air quality alerts. (<http://www.enviroflash.info/>).

- Create a "clean room" in your home. Choose a room with few windows and doors. Buy a portable air cleaner you can use in this room. Never use an ozone-generating air cleaner.
- Stock up on food, medicine and child care supplies before the threat of a wildfire.
- Remember that you may need to leave your home. Plan for it and prepare your children.

### During Wildfires

- Continue to listen to local reports and public health warnings.
- Keep children indoors with the doors and windows closed. Use your "clean room". If you have an air conditioner, run it with the fresh-air intake closed to keep outdoor smoke from getting indoors. Use your portable air cleaner as well. Reduce health risks by avoiding strenuous activities.
- Keep the indoor air as clean as possible. Do not smoke. Do not use gas, propane, or wood-burning stoves, fireplaces, or candles. Never use ozone-generating air cleaners. Never use natural gas or gasoline-powered generators indoors. Do not use spray cans. Do not fry or broil meat. Do not vacuum. All of these can lead to poor air quality.
- A good time to open windows to air out the house and clean away dust indoors is once air quality improves (check AirNow for updates).
- Use common sense to guide your child's activity. If it looks or smells smoky outside, if local air quality is reported as poor, or if local officials are giving health warnings, wait until air quality improves before your family is active outdoors.

## Special considerations:

- If your child has any problem breathing, is very sleepy, refuses food and water, or other health concerns, reduce his/her exposure to smoke and seek medical help right away.
- If your child has asthma, allergies, or a chronic health condition, he/she is at high risk from health effects related to wildfire smoke and ash. Seek medical advice as needed. For children with asthma, follow the asthma action plan.
- Do not rely on masks for protection from smoke. Paint, dust and surgical masks, even N95 masks, are not made to fit children and will not protect children from breathing wildfire smoke. Humidifiers or breathing through a wet washcloth do not prevent breathing in smoke.

## Evacuation

- Seek shelter in another place (e.g., public air shelter) if your family does not have an air conditioner OR air cleaner OR if it is too warm

in your home to stay inside with the windows closed. Plan to take the quickest route to the shelter to limit exposure to smoke.

- Bring all medication (taken by each family member) with you.
- Reduce smoke in your vehicle by closing the windows and vents and operating the air conditioning with the fresh intake closed to keep outdoor smoke from getting into car. Never leave children in a car or truck alone.

## After a Wildfire

- Make sure ash and debris have been removed before bringing your child back to home or school.
- Children should not be doing any cleanup work. Fires may deposit large amounts of ash and dust with harmful chemicals. Avoid bringing polluted ash and dust back to areas used by children (such as a home or car). Remove shoes at the doorway, wash clothing separately, and change out of clothing before you have contact with your children.

## For more information:

**Learn more about wildfire smoke:** *Wildfire Smoke, A Guide for Public Health Officials:*

[https://www3.epa.gov/airnow/wildfire\\_may2016.pdf](https://www3.epa.gov/airnow/wildfire_may2016.pdf)

**Get air quality information:** Check the [airnow.gov](https://www.airnow.gov) website, or your state air quality agency's website.

**Air Quality Flag Program:** This visual tool alerts schools and organizations and their communities to the local air quality forecast. <https://airnow.gov/flag>

**Learn about home air cleaners:** <https://www.epa.gov/indoor-air-quality-iaq/guide-air-cleaners-home>

**Find certified air cleaning devices:** <http://www.arb.ca.gov/research/indoor/aircleaners/certified.htm>

**Contact Poison Control at 1-800-222-1222** for emergency concerns regarding ingestion or exposure to hazards.

**Contact your Pediatric Environmental Health Specialty Unit** with children's environmental health questions: [www.pehsu.net](http://www.pehsu.net)

Document Authored by Marissa Hauptman, MD, MPH, Laura Anderko, PhD, RN, Jason Sacks, MPH, Lora Strine, Scott Damon MAIA, Susan Stone, MS, Wayne Cascio, MD, Martha Berger, MPA. Aspects of this fact sheet were adapted from 2011 PEHSU Factsheet: Health Risks of Wildfires for Children - Acute Phase Guidance by James M. Seltzer, M.D., Mark Miller, M.D., M.P.H., and Diane Seltzer, M.A.—Region 9 Western States Pediatric Environmental Health Specialty Unit.

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This factsheet is dedicated in memory of Dr. James M. Seltzer as well as the first responders and others who have been affected by wildfires.



# WILDFIRE SMOKE FACTSHEET

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## Protect Your Pets from Wildfire Smoke

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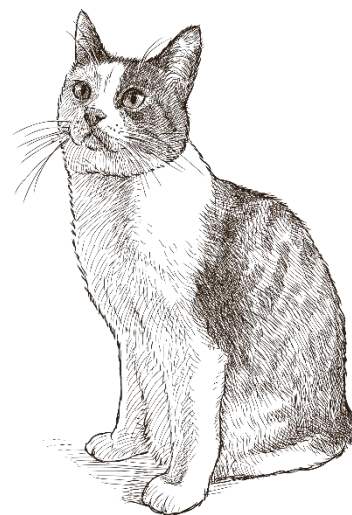
Your pets can be affected by wildfire smoke. If you feel the effects of smoke, they probably do, too!

Smoke can irritate your pet's eyes and respiratory tract. Animals with heart or lung disease and older pets are especially at risk from smoke and should be closely watched during all periods of poor air quality.

### Know the Signs

If your animals have any of these signs, call your veterinarian:

- Coughing or gagging
- Red or watery eyes, nasal discharge, inflammation of throat or mouth or reluctance to eat hard foods
- Trouble breathing, including open-mouth breathing, more noise when breathing, or fast breathing
- Fatigue or weakness, disorientation, uneven gait, stumbling
- Reduced appetite or thirst



### Recommended Actions

Even if the fire danger is not imminent, high levels of smoke may force you to stay indoors for a long time or even to evacuate. Reduce your pet's exposure to smoke as you would reduce your own.

#### Before the fire season:

- Whether you have a central air conditioning system or a room unit, buy high efficiency filters you can use to capture fine particles from smoke.
- Think about creating a clean room in your house with a portable air cleaner.

#### When smoke is present:

- **Keep pets indoors** as much as you can, with doors and windows closed. Bring outdoor pets into a room with good ventilation, like

a utility room, garage, or bathroom. Move potentially dangerous products, such as pesticides, out of the reach of pets.

- **Smoke is especially tough on your pet birds.** Keep them inside when smoke is present.
- **Keep indoor air clean:** do not fry or broil foods, vacuum, burn candles, use a fireplace or woodstove, or smoke tobacco products. These activities add particles to your home.
- **Spend less time outdoors and limit physical activities when it is smoky.** For example, when it's smoky, it's not a good time for you and your pet to go for a run. Let dogs and cats outside only for brief bathroom breaks if air quality alerts are in effect.



**Be ready to evacuate:** Include your pets in your planning. Have each pet permanently identified, for example with a microchip. Know where they will be allowed to go if there is an evacuation – not all emergency shelters accept pets. Know where your pets might hide when stressed, so you won't have to spend time looking for them in an emergency. Get pets used to their carriers and have your family practice evacuating with your pets. Covering carriers with a sheet during transport may calm a nervous pet.

**If you must leave your pets behind, never tie them up.**

### Evacuation Kit

**Prepare a pet Evacuation Kit.** Assemble the kit well before any emergency and store it in an easy-to-carry, waterproof container close to an exit.

- **Food, water, and medicine** for 7 to 10 days
- **Sanitation and first aid supplies**
- **Important documents**, such as: identification papers including proof of ownership; vaccination records; medical records and medication instructions; emergency contact list, including veterinarian and pharmacy; and a photo of your pet (preferably with you)
- **Travel supplies**, such as: crate or pet carrier labeled with your contact information; extra collar/harness with ID tags and leash; flashlight, extra batteries; and muzzle
- **Comfort items**, such as favorite toys and treats, and an extra blanket or familiar bedding

### For more information:

- Get air quality information: Check your local news, the [airnow.gov](https://www.airnow.gov) website, or your state air quality agency's website.
- Reduce Your Smoke Exposure fact sheet: [https://www3.epa.gov/airnow/smoke\\_fires/reduce-your-smoke-exposure.pdf](https://www3.epa.gov/airnow/smoke_fires/reduce-your-smoke-exposure.pdf)
- Learn more about wildfire smoke: *Wildfire Smoke Guide for Public Health Officials*: <https://airnow.gov/>
- American Veterinary Medical Association. Get more tips and information on caring for pets and livestock during a wildfire: <https://www.avma.org/public/EmergencyCare/Pages/Wildfire-Smoke-and-Animals.aspx>



# WILDFIRE SMOKE FACTSHEET

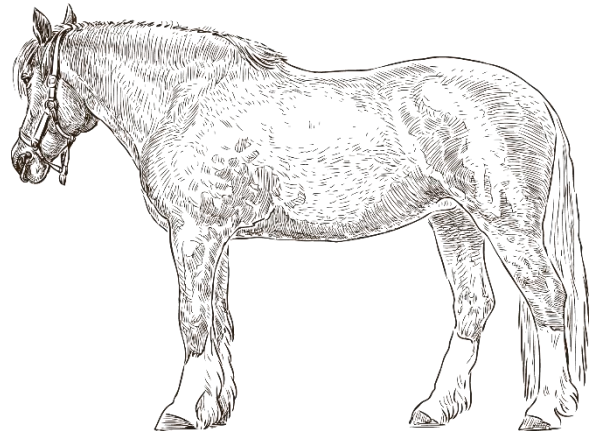
## Protect Your Large Animals and Livestock from Wildfire Smoke



Your animals can be affected by wildfire smoke. If you feel the effects of smoke, they probably do too! High levels of smoke are harmful. Long exposure to lower levels of smoke can also irritate animals' eyes and respiratory tract and make it hard for them to breathe. Reduce your animals' exposure to smoke the same way you reduce your own: spend less time in smoky areas and limit physical activity. Animals with heart or lung disease and older animals are especially at risk from smoke and should be closely watched during all periods of poor air quality. Take the following actions to protect your large animals and livestock against wildfire smoke.

### Protect Your Animals During Smoke Episodes

- Limit strenuous activities that increase the amount of smoke breathed into the lungs.
- Provide plenty of fresh water near feeding areas.
- Limit dust exposure by feeding low-dust or dust-free feeds and sprinkling or misting the livestock holding areas.
- Consider moving outdoor birds to a less smoky environment, such as a garage or basement.
- Give your livestock 4 to 6 weeks to recover fully from smoky conditions before resuming strenuous activity.
- Protect yourself, too! Think about wearing an N95 or P100 respirator while taking care of your animals.



### Prepare Before a Wildfire

Know where to take your livestock if smoke persists or becomes severe, or if you need to evacuate. Good barn and field maintenance can reduce fire danger for horses and other livestock.

### Record Keeping

- Make sure your animals have permanent identification (ear tags, tattoos, electronic microchips, brands, etc.).
- Keep pictures of animals, especially high-value animals, such as horses, up-to-date.

- Keep a list of the species, number and locations of your animals with your evacuation supplies.
- Note animals' favorite hiding spots. This will save precious rescue time!
- Keep vaccination records, medical records and registration papers with your [Evacuation Kit](#).

### Preparing for Evacuations

- Assemble an **Evacuation Kit**.
- Know where you can temporarily shelter your livestock. Contact your local fairgrounds,

stockyards, equestrian centers, etc. about their policies.

- Identify trailer resources and train all livestock to load in those trailers.
- Make an evacuation plan for your animals. Plan several different evacuation routes.
- Check with local emergency management officials before you need to evacuate.
- Do not wait until the last minute. Corral animals to prepare for off-site movement.
- Above all, ensure the safety of you and your family.

### Evacuation Kit

This list has just some recommended items for large animals and livestock. Your animals may have their own special requirements.

- Supply of feed, supplements and water for 7 to 10 days.
- Blankets, halters, leads, water buckets, manure fork and trash barrel.

- Copies of vaccination records, medical records and proof of ownership.
- Tools: flashlight, heavy leather gloves, rope, shovel, knife and wire cutters.
- Animal care instructions for diet and medications (for animals left at a shelter).
- Emergency cash, emergency contact list and first aid kit.

### If You Must Leave Your Animals Behind

- If evacuation cannot be accomplished in a safe and timely way, have a preselected, cleared area where your animals can move about.
- Open gates, cut fences, or herd livestock into areas of lower fire risk.
- Let neighbors and first responders know to be on the lookout for your animals.
- Leave enough food and water for 48 to 72 hours. Do not rely on automatic watering systems.
- Once you leave your property, do not return until told to do so by officials.

### For more information:

- Get air quality information: Check your local news, the [airnow.gov](http://airnow.gov) website, or your state air quality agency's website.
- Reduce Your Smoke Exposure Fact Sheet: [https://www3.epa.gov/airnow/smoke\\_fires/reduce-your-smoke-exposure.pdf](https://www3.epa.gov/airnow/smoke_fires/reduce-your-smoke-exposure.pdf)
- Learn more about wildfire smoke: *Wildfire Smoke, A Guide for Public Health Officials*: [https://www3.epa.gov/airnow/wildfire\\_may2016.pdf](https://www3.epa.gov/airnow/wildfire_may2016.pdf)
- American Veterinary Medical Association. Get more tips and information on caring for pets and livestock during a wildfire: <https://www.avma.org/public/EmergencyCare/Pages/Wildfire-Smoke-and-Animals.aspx>  
<https://www.avma.org/public/EmergencyCare/Pages/Large-Animals-and-Livestock-in-Disasters.aspx>

