

# FIRES SMOKE & YOUR HEALTH



To protect yourself from health problems related to smoke inhalation, it is important to understand types and uses of fire and techniques for minimizing smoke impacts. The Arizona Department of Environmental Quality (ADEQ) provides information to help the public respond to issues and concerns related to smoke from fires.

## TYPES OF FIRE

### Residential Woodburning

The cumulative impact of smoke from fireplace and woodstove fires can be significant in certain parts of Arizona, especially those communities in valleys. This type of fire is not regulated by ADEQ. For more information visit EPA's website, Burn Wise ([epa.gov/burnwise](http://epa.gov/burnwise)).

### Open Burning

Open burning is defined as the combustion of materials outdoors and in open areas. With a few exceptions, most outdoor fires are regulated by ADEQ and must occur during daylight hours. Open burning permits from ADEQ or a delegated local authority are required, and many types of waste materials are not permissible to burn because of the toxic smoke that can be produced. Open burning, when correctly practiced, can be a useful approach to clearing unwanted vegetation.

### Wildfire

Wildfire events can create significant smoke impacts for Arizona communities. While wildfires naturally occur, residents can take precautions to minimize the effects of smoke.

### Wildland Prescribed Fire

Federal, state and Tribal land management agencies intentionally set fires to control wildland fuel loading and improve the overall health of the forests and land. The land manager's goal is frequent, less intense smoke from prescribed fire to guard against infrequent, dense smoke from dangerous and destructive wildfires. ADEQ's Smoke Management Program issues burn approvals to federal and state land managers and coordinates with Tribal authorities.

### Unintentional Fire

Smoke from structure, car or tire fires generally contains more harmful pollutants than smoke from the combustion of natural fuels.



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For translations or other communications aids, please email the Title VI Coordinator at [idb@azdeq.gov](mailto:idb@azdeq.gov).

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## **SMOKE CHARACTERISTICS**

Smoke is made up of gases and microscopic particles called particulate matter (PM). If PM is inhaled deeply into the lungs, it can damage lung tissue and cause respiratory problems. The smallest particles are the most harmful. Smoke may also contain toxic air pollutants. The type and concentration of toxic pollutants are dependent on fuel sources such as wood, plastics, etc.

Smoke also contributes to local and regional haze and can impair visibility and the enjoyment of the outdoors.

## **HEALTH EFFECTS**

Excessive, persistent air pollution is a health threat, especially to children, the elderly and those with compromised immune systems. Since children are typically active outdoors and breathe faster than adults, they potentially breathe more outdoor air pollution per pound of body weight.

Air pollutants have been associated with increases in respiratory problems and diseases in children, including reduction of lung function and increased severity or frequency of asthma attacks. Air pollutants have also been associated with a number of other adverse health effects, including cancer and heart disease.

Symptoms from short-term exposure to smoke include scratchy throat, cough, irritated sinuses, headaches, runny nose and stinging eyes, and more serious reactions among those in high-risk groups. Elevated levels of PM also increase the potential for asthma attacks and other asthma-related symptoms in children.

## **PRECAUTIONS**

If you see, smell or taste smoke and it is affecting you and your family, consider some of the following actions:

- If you are beginning to experience symptoms, temporarily locate to another area as long as it is safe for you to do so.
- Stay indoors with doors and windows closed.
- Run the air conditioning on recirculate with a clean filter or the fan feature on your home heating system with the heat turned off.
- Run room air filtration units that use HEPA filters.
- Reduce your physical activity, and do not exercise.

If symptoms persist or become more severe, please contact your primary health care provider — even persons considered healthy can experience symptoms when exposed to smoke!

## **SMOKE INFORMATION RESOURCES**

### **ADEQ Wildfire Support**

[azdeq.gov/WildfireSupport](http://azdeq.gov/WildfireSupport)

### **Smoke Management**

[azdeq.gov/SmokeManagement](http://azdeq.gov/SmokeManagement)

### **Air Quality Monitoring**

[phoenixvis.net](http://phoenixvis.net)

### **Arizona Department of Health Services**

[azdhs.gov/preparedness/epidemiology-disease-control/extreme-weather/index.php#wildfires-home](http://azdhs.gov/preparedness/epidemiology-disease-control/extreme-weather/index.php#wildfires-home)