



ALLEGHENY COUNTY HEALTH DEPARTMENT

# THE HEALTH EFFECTS OF WOOD SMOKE

Wood smoke contains numerous pollutants, including air toxics. These pollutants have a negative impact on our region's air quality and can cause serious health effects in sensitive populations. Wood stoves, fireplaces and outdoor firepits are all sources of air pollution that can negatively impact a neighbor's or family member's health.

## NO BURN DAYS

When **Allegheny County** is forecasted to have an **AIR QUALITY ACTION DAY**, or in municipalities identified in **Subsection 2106.06.d** when a **MON VALLEY AIR POLLUTION WATCH** or **WARNING** under **Section 2106.06** has been issued, **ALL recreational burning** is **PROHIBITED**



# HIDDEN POLLUTION



Fine particulate pollution, or PM2.5, can come from a variety of sources: power plants, industrial plants, motor vehicle traffic and even a backyard fire pit.

*Wood smoke contains numerous air toxics, and contributes to high levels of regional air pollution. While for some, bonfires and campfires have never posed a problem, many people may experience increased asthma symptoms, breathing difficulty and other health effects when they are exposed to wood smoke.*

With the numerous hills and valleys in Allegheny County, wood smoke can become trapped near the ground, smoking out entire neighborhoods, or it can be carried across a hilly backyard and directly into a neighbor's bedroom.

Most of us are familiar with what happens when you get caught downwind of a campfire—your eyes water, you begin to cough, it's hard to breathe—so it should come as no surprise that even the smallest backyard bonfire might affect your family and your neighbors.



CARBON  
MONOXIDE  
METHANE  
BENZENE

FORMALDEHYDE  
TOLUENE  
NITROGEN  
DIOXIDE

SULFUR  
DIOXIDE

NAPHTHALENE

PROPIONALDEHYDE  
ACETALDEHYDE

FURFURAL  
FORMIC ACID

GUAIACOL PHENOL

SYRINGOL CATECHOL

PHENANTHRENE

ANTHRACENE

HYLANTHRACENES

BENZO(E)PYRENE

BENZO(A)PYRENE

# POLLUTANTS IN WOOD SMOKE

Wood smoke contains numerous pollutants. Some are on EPA's list of six common pollutants, also known as criteria pollutants, like carbon monoxide, fine particulate pollution and sulfur dioxide.

Wood smoke also contains numerous air toxics. Air toxics, also known as hazardous air pollutants, are pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects.

Concentrations of air toxics and other emissions in wood smoke vary depending on the wood burned and the temperature at which it is burned.

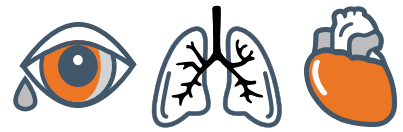
An example of some of the pollutants in wood smoke are listed to the left.

***The only way to completely minimize your risk of exposure to these pollutants is to refrain from burning entirely.***

List of emissions from Summary of the Emissions Characterization and Noncancer Respiratory Effects of Wood Smoke, Timothy V. Larson & Jane Q.Koenig, From Table 2, PA-453/R-93-036, 46p. (US EPA December 1993)



# HEALTH EFFECTS OF WOOD SMOKE



The effects of wood smoke can vary depending on the person. Even if you have never experienced a negative side effect, your family members and neighbors may.

Fine particulate pollution is a primary component of wood smoke. Numerous scientific studies have linked fine particulate pollution with decreased lung function, aggravated asthma, irregular heartbeat, nonfatal heart attacks and premature death in people with heart or lung disease.

Short-term exposure to particles (hours/days) can aggravate lung disease, causing asthma attacks and acute bronchitis and may increase susceptibility to respiratory infections.

If you have heart or lung disease, such as congestive heart failure, angina, chronic obstructive pulmonary disease, emphysema or asthma, you may experience health effects earlier and at lower smoke levels than healthy people.

Children also are more susceptible to smoke for several reasons: their respiratory systems are still developing, they breathe more air (and air pollution) per pound of body weight than adults and they're more likely to be active outdoors.

Even if you aren't a member of a sensitive population, wood smoke can cause coughs, headaches, eye/throat irritation and illness such as bronchitis in otherwise healthy people.

Subscribe to receive email, text or smart phone app notifications of burn ban days at: [www.allegHENYcounty.us/alerts](http://www.allegHENYcounty.us/alerts)



GovQA is the ACHD complaint portal. All air pollution related complaints-not just about wood smoke-can be reported. Complaints will be investigated by ACHD staff, and violations can be issued when necessary.

Access GovQA by scanning the QR code or visit [callcenter.allegHENYcounty.us](http://callcenter.allegHENYcounty.us).



More information can be found online at:

**[allegHENYcounty.us/airquality](http://allegHENYcounty.us/airquality)**



ALLEGHENY COUNTY HEALTH DEPARTMENT - Air Quality Program  
301 39th Street Building #7 • Pittsburgh, PA 15201-1811  
PHONE: (412) 578-8103 • FAX: (412) 578-8144