

# Coke 101

## What is coke?

Coke is a processed form of coal used in several industrial processes, but especially in iron ore smelting. To make coke, coal is heated to temperatures around 2100°F and baked in a coke oven for 15-30 hours. Several coke ovens grouped together are called a coke battery.

During the coking process, impurities are released from the coal which creates a refined coke product. Many of the impurities released are toxic chemicals. Some facilities have separate processing procedures that collect these chemical impurities and transform them into useful byproducts which can be sold or used during other manufacturing processes. In other cases, certain impurities are flared, or burned, to transform them into less toxic substances.

## What types of pollutants are associated with coke?

The Environmental Protection Agency (EPA) classifies coke oven emissions as among the most toxic of all air pollutants. Pollutants from coke plants are known to cause leukemia and other cancers, respiratory ailments, problems with the central nervous system, strokes and premature death. A partial list of some of the specific pollutants from coke plants and the harmful effects they could cause include:

Pollutant	Description	Health Effect
Benzene	Colorless liquid that evaporates quickly when exposed to the air	Short term -drowsiness, headaches, irregular heartbeat Long term -compromised immune system, certain cancers
Particulate Matter	Solid or liquid particles suspended in the air	Increased risk of heart attacks, stroke, asthma, decreased lung function, low birth weight, premature birth, among others
Sulfur Dioxide	Colorless gas with pungent odor	Irritates airways and aggravates respiratory diseases like asthma
Nitrogen Oxides	A group of highly reactive gasses	Worsens respiratory disease, such as emphysema, bronchitis, asthma, and can aggravate existing heart disease
Hydrogen Sulfide	Colorless gas with distinct rotten egg odor	Low levels -eye and throat irritation, difficulty breathing, headaches Higher levels -nausea, vomiting, nervous system disorders

## How are coke emissions regulated?

Controlling coke plant pollution can be difficult. Unlike the smoke stack of a power plant, there are many sources of air pollution including the combustion stack, quench tower, fugitive leaks from coke oven doors/sheds, stand pipes, etc.

Federal regulations establish minimum emission standards for coke ovens, and state and local regulators can set stricter standards. Many emission standards for coke ovens pertain to "visible emissions" -- the density of the smoke that escapes from the ovens themselves or from associated pipes and stacks. Other pollutants that coke ovens produce may be subject to their own standards and may be monitored separately from visible emissions.

## How can I check my air quality?

### Sign up for Allegheny Alerts

Choose what types of alerts you are interested in and if you want them to call, text, or email you.



The easiest way is to google "Allegheny Alerts" and click the link called Allegheny County Citizen Notifications.

### Check the Air Quality Index

The AQI gives you a forecast of what the air quality will be like, and what the associated health effects are for the day.



Visit AIRNow.gov for the official air quality report. You can also check the map at PurpleAir.com for a more localized, citizen science report of air quality.

## How can I get more involved?

### Support strong regulations

Opportunities to comment on the upcoming PM2.5 SIP, a plan to lower particulate matter pollution in our region, will be available soon.



Visit [gasp-pgh.org](http://gasp-pgh.org) for more info on the upcoming SIP and how you can make your voice heard.

### Report air quality concerns

Air quality issues may go unnoticed if citizens don't make complaints. Report any foul odors or suspected violations to ACHD.



Call (412) 687-ACHD or visit [www.alleghenycounty.us](http://www.alleghenycounty.us) and search "air quality complaint." You can also download the Smell PGH app for quick reporting.

### Become a Watchdog

There are so many other ways to get involved; writing letters to the editor, attending important meetings, training to spot possible violations.



Visit GASP's "Get Involved" page to learn more, and check out our "Projects" page for more information on coke.

