



# Air Quality Guide for Ozone

Air Quality Index	Protect Your Health
Good (0-50)	No health impacts are expected when air quality is in this range.
Moderate (51-100)	Unusually sensitive people should consider limiting prolonged outdoor exertion.
Unhealthy for Sensitive Groups (101-150)	The following groups should limit prolonged outdoor exertion: <ul style="list-style-type: none"><li>• People with lung disease, such as asthma</li><li>• Children and older adults</li><li>• People who are active outdoors</li></ul>
Unhealthy (151-200)	The following groups should avoid prolonged outdoor exertion: <ul style="list-style-type: none"><li>• People with lung disease, such as asthma</li><li>• Children and older adults</li><li>• People who are active outdoors</li></ul> Everyone else should limit prolonged outdoor exertion.
Very Unhealthy (201-300)	The following groups should avoid all outdoor exertion: <ul style="list-style-type: none"><li>• People with lung disease, such as asthma</li><li>• Children and older adults</li><li>• People who are active outdoors</li></ul> Everyone else should limit outdoor exertion.

## What You Should Know About Ozone and Your Health

- Ozone in the air we breathe can harm our health—particularly on hot, sunny days when ozone can reach unhealthy levels.
- Even relatively low levels of ozone can cause health effects.
- People with lung disease, children, older adults, and people who are active outdoors may be particularly sensitive to ozone.
- Ozone exposure may also increase the risk of premature death from heart or lung disease.
- This fact sheet tells you how you can find out when air quality is unhealthy and take simple steps to protect your health.

## What is ozone?

Ozone is a colorless gas found in the air we breathe. Ozone can be good or bad depending on where it occurs:

- Ozone occurs naturally in the Earth's upper atmosphere (the stratosphere), where it shields the Earth from the sun's ultraviolet rays.
- At ground-level, ozone is an air pollutant that can harm human health.

## Where does ground-level ozone come from?

Ground-level ozone is formed when two types of pollutants react in the presence of sunlight. These pollutants are known as volatile organic compounds (VOCs) and oxides of nitrogen. They are found in emissions from:

- Vehicles such as automobiles, trucks, buses, aircraft, and locomotives
- Construction equipment
- Lawn and garden equipment
- Sources that combust fuel, such as large industries and utilities
- Small industries such as gas stations and print shops
- Consumer products, including some paints and cleaners

## Does my area have high ozone levels?

- Ozone is particularly likely to reach unhealthy levels on hot sunny days in urban environments. It is a major part of urban smog.
- Ozone can also be transported long distances by wind. For this reason, even rural areas can experience high ozone levels.
- The Airnow Web site at [airnow.gov](http://airnow.gov) provides daily air quality reports for many areas. These reports use the Air Quality Index (or AQI) (shown on the first page) to tell you how clean or polluted the air is.

- Enviroflash, a free service, can alert you via email when your local air quality is a concern. Sign up at [www.enviroflash.info](http://www.enviroflash.info).

## How does ozone affect health?

Ozone can:

- Make it more difficult to breathe deeply and vigorously.
- Cause shortness of breath and pain when taking a deep breath.
- Cause coughing and sore or scratchy throat.
- Inflammate and damage the lung lining.
- Make the lungs more susceptible to infection.
- Aggravate lung diseases such as asthma, emphysema, and chronic bronchitis.
- Increase the frequency of asthma attacks.
- Continue to damage the lungs even when the symptoms have disappeared.

These effects may lead to increased school absences, visits to doctors and emergency rooms, and hospital admissions. Research also indicates that ozone exposure may increase the risk of premature death from heart or lung disease.

## Who is sensitive to ozone?

Some people are more sensitive to ozone than others. Sensitive groups include children; people with lung disease, such as asthma, emphysema, or chronic bronchitis; and older adults. Even healthy adults who are active outdoors can experience ozone's harmful effects.

## What is an Air Quality Action Day for Ozone?

Your State or local air quality agency may declare an Air Quality Action Day for Ozone when ozone levels are forecast to reach unhealthy levels. On ozone action days, you can take simple steps (see below) to reduce the pollution that results in ground-level ozone.

## Keep the Air Cleaner

- Conserve energy—at home, at work, everywhere. Turn off lights you are not using.
- Car pool or use public transportation. When air quality is healthy, bike or walk instead of driving.
- Combine errands to reduce vehicle trips.
- Limit engine idling.
- When refueling: Stop when the pump shuts off. Putting more fuel in is bad for the environment and can damage your vehicle. Avoid spilling fuel. Always tighten your gas cap securely.

- Keep your car, boat, and other engines tuned up.
- Inflate your car's tires to the recommended pressure.
- Use environmentally safe paints and cleaning products whenever possible.
- Follow manufacturers' recommendations to use and properly seal cleaners, paints, and other chemicals so smog-forming chemicals can't evaporate.

### On Air Quality Action Days, you should also:

- Refuel cars and trucks after dusk, when emissions are less likely to produce ozone.
- Delay using gasoline-powered lawn and garden equipment until air quality is healthy again.
- Delay using household, workshop, and garden chemicals until air quality is healthy again.



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For more information, visit [www.airnow.gov](http://www.airnow.gov)