



Ozone is a form of oxygen with three atoms, instead of the usual two atoms. It is a photochemical oxidant and, at ground level, is the main component of smog. Ozone is not emitted directly into the air but is formed through chemical reactions between natural and man-made emissions of volatile organic compounds (VOCs) and oxides of Nitrogen in the presence of sunlight. These gaseous compounds mix like a thin soup in the ambient, or outdoor, air, and when they interact with sunlight, ozone is formed. Sources of these pollutants include automobiles, gas-powered motors, refineries, chemical manufacturing plants, solvents used in dry cleaners and paint shops, and wherever natural gas, gasoline, diesel fuel, kerosene, and oil are combusted.

Ozone pollution is the periodic increase in the concentration of ozone in the ambient air, the natural air that surrounds us. It is mainly a daytime problem during summer months because warm temperatures play a role in its formation. When temperatures are high, sunshine is strong, and winds are weak, ozone can accumulate to unhealthy levels.

Ground-level ozone is the most prevalent air pollutant in Texas and the nation. Ozone is often one of several pollutants that make up "smog," which you may recognize as the reddish-brown haze that forms when air quality is particularly poor. However, because ozone itself is colorless, the air can look clear even when high ozone concentrations are present.

The biggest concern with high ozone concentration is the damage it causes to human health, vegetation, and to many common materials we use. High concentrations of ozone can cause shortness of breath, coughing, wheezing, headaches, nausea, eye and throat irritation, and lung damage. People who suffer from lung diseases like bronchitis, pneumonia, emphysema, asthma, and colds have even more trouble breathing when the air is polluted. These effects can be worse in anyone who spends significant periods of time exercising or working outdoors.

Children often play outside for long periods during the summer. Their lungs are still developing, and they breathe more rapidly and inhale more air pollution per pound of body weight than adults. On days when ozone levels are high, these factors put children at increased risk for respiratory problems.

Adults breathe more than 10,000 times each day. During exercise or strenuous work, we breathe more often and draw air more deeply into the lungs. When we exercise heavily, we may increase our intake of air by as much as 10 times our level at rest.

When ozone levels are predicted to reach unhealthy levels an ozone alert is issued. These alerts are to caution citizens to limit their time outdoors as well as remind them to take actions to help reduce their emissions that contribute to ground-level ozone. Simple actions everyone can take include: limit driving, combine errands, carpool or ride the bus, avoid idling, postpone refueling your vehicle or mowing the lawn until after 6:00 p.m. and tuning up your vehicle. Every effort counts!

If you live in Central Texas you can sign up for ozone alerts via email through the CLEAN AIR Force website at www.cleanairforce.org.