

Major Air Pollutants

Pollutant	Description	Sources	Effects	Release
Carbon Monoxide (CO)	CO is an odorless, colorless, and poisonous gas produced by the incomplete burning of fossil fuels (gasoline, oil, natural gas).	Cars, trucks, buses, small engines, and some industrial processes are major sources. Wood stoves, cigarette smoke, and forest fires are also sources of CO.	CO interferes with the blood's ability to carry oxygen, slowing reflexes and causing drowsiness. In high concentrations, CO can cause death. Headaches and stress on the heart can result from exposure to CO.	Direct
Nitrogen Oxides (NO_x)	Nitrogen and oxygen combine during combustion (burning) to form nitrogen oxides. Many nitrogen oxides are colorless and odorless gases.	NO _x come from burning fuels in motor vehicles, power plants, industrial boilers and other industrial, commercial, and residential sources that burn fuels.	NO _x can make the body vulnerable to respiratory infections, lung disease, and possibly cancer. NO _x contributes to the brownish haze seen over congested areas and to acid rain. NO _x easily dissolves in water and forms acids which can cause metal corrosion and fading/deterioration of fabrics.	Direct
Sulfur Dioxide (SO₂)	SO ₂ is a gas produced by chemical interactions between sulfur and oxygen.	SO ₂ comes largely from burning fossil fuels (gasoline, oil, natural gas). It is released from petroleum refineries, paper mills, chemical and coal-burning power plants.	SO ₂ easily dissolves in water and forms an acid which contributes to acid rain. Lakes, forests, metals, and stone can be damaged by acid rain.	Direct
Volatile Organic Compounds (VOCs)	VOCs are organic (contain carbon) compounds that vaporize easily. Gasoline, benzene, toluene, and xylene are examples of VOCs.	VOCs are emitted as gases (fumes). Sources of VOCs include burning fuels, solvents, cleaning supplies, paints, and glues. Cars are a major source of VOCs.	VOCs contribute to smog formation and can cause serious health problems such as cancer. They may also harm plants.	Direct

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<p>Particulate Matter (PM) also known as Particle Pollution</p>	<p>Particulate matter is a term used to describe very small solids. Smoke, ash, soot, dust, lead, and other particles from burning fuels are examples of some of the compounds that make up particulate matter.</p>	<p>Some particles are directly emitted from cars, trucks, buses, factories, construction sites, tilled fields, unpaved roads, and burning wood. Other particles are indirectly formed when gases from burning fuels react with sunlight and water vapor.</p>	<p>Particulate matter can reduce visibility and cause a variety of respiratory problems. Particulate matter has also been linked to cancer. It can also corrode metal; erode building and sculptures, and soil fabrics.</p>	<p>Direct and formed in the air</p>
<p>Lead</p>	<p>Lead is a metal found naturally in the environment as well as in manufactured products. Small solid particles of lead can become suspended in the air. Lead can then be deposited on soil and in water.</p>	<p>The major source of lead is metal processing with the highest levels of lead generally found near land smelters. Other sources include waste incinerators, utilities, and lead-acid battery manufacturers.</p>	<p>Exposure to lead can cause blood, organ and neurological damage in humans and animals. Lead can also slow down the growth rate in plants.</p>	<p>Direct</p>
<p>Ozone (O₃)</p>	<p>Ozone (O₃) is a gas not usually emitted directly into the air. Ground level ozone is created by a chemical reaction between NO_x and VOCs in the presence of heat and sunlight.</p>	<p>Motor vehicle exhaust, industrial emissions, gasoline vapors, and chemical solvents are some of the major sources of NO_x and VOCs.</p>	<p>Ozone can irritate lung airways and cause wheezing and coughing. Repeated exposure can cause permanent lung damage. Ozone damages leaves of trees and other plants. It decreases the ability of plants to produce and store food, and reduces crop yield.</p>	<p>Formed in the air</p>