

Particle Pollution

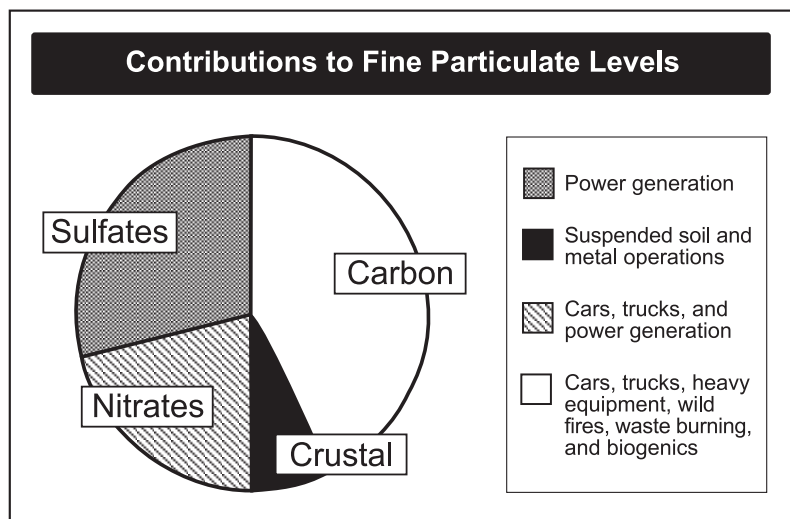
Sources

Particulate matter includes both “primary” PM, which is directly emitted into the air, and “secondary” PM, which forms indirectly from fuel combustion and other sources. Generally, coarse PM is made up of primary particles, while fine PM is dominated by secondary particles.

Primary PM consists of carbon (soot)—emitted from cars, trucks, heavy equipment, forest fires, and burning waste—and crustal material from unpaved roads, stone crushing, construction sites, and metallurgical operations.

Secondary PM forms in the atmosphere from gases. Some of these reactions require sunlight and/or water vapor. Secondary PM includes:

- Sulfates formed from sulfur dioxide emissions from power plants and industrial facilities.
- Nitrates formed from nitrogen oxide emissions from cars, trucks, and power plants.
- Carbon formed from reactive organic gas emissions from cars, trucks, industrial facilities, forest fires, and biogenic sources such as trees.
- Ammonia from sources such as fertilizer and animal feed operations contributes to the formation of sulfates and nitrates that exist in the atmosphere as ammonium sulfate and ammonium nitrate.



Transport

In the atmosphere, coarse and fine particles behave in different ways. Larger coarse particles may settle out from the air more rapidly than fine particles and usually will be found relatively close to their emission sources. Fine particles, however, can be transported long distances by wind and weather and can be found in the air thousands of miles from where they were formed.

Everyday Tips to Reduce Particle Pollution

- Conserve electricity. Consider setting your thermostat a little higher in the summer and lower in winter. Participate in local energy conservation programs. Look for the ENERGY STAR label when buying home or office equipment.
- Keep car, boat, and other engines properly tuned and avoid engines that smoke.
- Car pool, use public transportation, bike, or walk when possible.
- Combine errands to reduce "cold starts" of your car and avoid extended idling.
- If you use a wood-burning stove or fireplace insert, make sure it meets EPA design specifications. Burn only dry, seasoned wood and consider using gas logs instead of wood.
- Mulch or compost leaves and yard waste.

Source: U.S. Environmental Protection Agency. Office of Air and Radiation.
Retrieved June 20, 2005, from <http://www.epa.gov/oar/>.