California Environmental Protection Agency
NEWS RELEASE
Air Resources Board

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More premature deaths than previously thought from particles in vehicle exhaust
New research reveals significant new information

SACRAMENTO - The California Air Resources Board was presented with research today showing long-term exposures to fine particle pollution pose a greater health threat than previously estimated.

Annually, 14,000 to 24,000 premature deaths are estimated to be associated with exposures to PM2.5, a mix of microscopic particles less than 2.5 microns in size. A majority of these deaths occur in highly populated areas around the state, including the South Coast, San Joaquin Valley and San Francisco Bay air basins.

"Particle pollution is a silent killer," said ARB Chairman Mary D. Nichols. "We must work even harder to cut these life-shortening emissions by further addressing pollution sources head-on."

Particulate matter (PM) is a complex blend of substances ranging from dry solid fragments, solid-cores fragments with liquid coatings, and small droplets of liquid. These particles vary in shape, size and chemical composition, and may include metals, soot, soil and dust.

At the request of the board in 2006, ARB researchers carefully reviewed all scientific studies on the subject and consulted with health scientists. While exposures to particulate matter have long been known as a serious health threat, new information suggests that the pollutant is even more toxic than previously thought.

Hospitalizations, emergency room visits and doctor visits for respiratory illnesses or heart disease have been associated with PM2.5 exposure. Other studies suggest that PM2.5 exposure may influence asthma symptoms and acute and chronic bronchitis. Children, the elderly and people with pre-existing chronic disease are most at risk of experiencing adverse health effects from PM2.5 exposure. Even small increases in PM2.5 exposures may increase health risks.

Major contributors to PM2.5 include trucks, passenger cars, off-road equipment, electric power generation and industrial processes, residential wood burning, and forest and agricultural burning. All combustion processes generally produce PM2.5.

While the new data reveals a greater threat from PM2.5, the state's previous efforts to reduce emissions throughout the state have been successful. The ARB in coordination with the 35 air districts throughout the state continues to develop and implement strategies of aggressive air pollution control. These measures have been so effective for the last two decades that PM exposures have been reduced in California's major populated areas. Since the official year-round monitoring of ambient PM2.5 began in 1999, concentrations have decreased 30 percent across California, most notably in the South Coast and the San Joaquin Valley regions.

Additionally, in 2000 ARB adopted an aggressive risk reduction plan that targets all diesel PM sources in California. As part of the plan, cleaner diesel fuels and new diesel engines (both on-road and off-road) have been developed. In concert with regulations aimed at requiring cleaner new engines, other regulations have been adopted to address diesel engines already on the road, including those in waste collection vehicles, transit fleet, school buses, stationary engines, transport refrigeration units and portable engines. Later this year, ARB will consider rules to significantly cut diesel particulate emissions from private truck fleets.

For more information, see: http://www.arb.ca.gov/research/health/pm-mort/pm-mort.htm .

The Air Resources Board is a department of the California Environmental Protection Agency. ARB's mission is to promote and protect public health, welfare, and ecological resources through effective reduction of air pollutants while recognizing and considering effects on the economy. The ARB oversees all air pollution control efforts in California to attain and maintain health based air quality standards.

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