California scientists link tiny particles in car exhaust to heart disease

By Tony Barboza

LOCAL L.A. Now

A new study by California scientists has linked chronic exposure to microscopic air pollutants in vehicle exhaust to deaths from heart disease.

contact the reporter

Ultrafine particles, common traffic pollutants, linked to heart disease deaths in California, study finds.

A new study by California scientists has linked chronic exposure to microscopic air pollutants in vehicle exhaust to deaths from heart disease. The finding bolsters evidence that ultrafine particles, which are not regulated by state or federal environmental agencies, are a key contributor to health problems among people living near traffic.

8

California drought could end with storms known as atmospheric rivers

Scientists analyzed health data from 2001 to 2007 on a cohort of more than 100,000 middle-aged women across California who had worked as school teachers or administrators. They used a computer model to estimate the levels of ultrafine particles the women breathed.

The authors said their study, recently published in the journal Environmental Health Perspectives, is the first to examine the effects of long-term exposure to ultrafine particles. The pollutants are about one-thousandth the width of

a human hair and are released during combustion by car, truck and airplane engines, kitchen stoves, fireplaces and other sources.

29

The analysis found a stronger association between ultrafine particles and early deaths from heart disease than for fine particles, which are 25 times larger and regulated by state and federal emissions rules.

The study identified some components of ultrafine particle pollution, including soot-laden exhaust from diesel engines and specks of copper from vehicle brake pads, that were more strongly associated with heart disease deaths than others.

The findings are the latest to raise concerns about health effects from ultrafine particles, which are so small they can pass through the lungs and into the bloodstream, critical organs and brain. Past research has suggested ultrafine particles as a potential cause of health problems associated with living near traffic, where residents breathe more polluted air, but it remains an area of active study.

Major roadways were among the most ubiquitous of hundreds of sources of ultrafine particle pollution examined in the study. Other contributors included oil refineries, off-road construction equipment, cook stoves, seaports and fires.

The analysis by scientists at California's Office of Environmental Health Hazard Assessment, the Cancer Prevention Institute of California, the City of Hope National Medical Center and UC Davis, found a link between the pollutants and heart disease deaths even after controlling for more than two dozen other risk factors, including smoking, drinking and exercise.

While some heart disease risks are genetic or cannot easily be changed, "air pollution is something we can deal with," said Bart Ostro, an air quality researcher with OEHHA and UC Davis and lead author of the study. "It's something we can reduce with the proper standards in place."

For more air quality and environment news, follow me @tonybarboza

tony.barboza@latimes.com