

School classroom air may be more polluted with ultrafine particles than outdoor air

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The air in some school classrooms may contain higher levels of certain toxic pollutants than polluted outdoor air. Credit: Jupiter Images

The air in some school classrooms may contain higher levels of extremely small particles of pollutants — easily inhaled deep into the lungs — than polluted outdoor air, scientists in Australia and Germany are reporting in an article in ACS' semi-monthly journal *Environmental Science & Technology*.

Lidia Morawska and colleagues note increasing concern in recent years over the health effects of airborne ultrafine particles. Evidence suggests that they can be toxic when inhaled into the lungs. Much of the scientific research, however, has focused on outdoor sources of these invisible particles, particularly vehicle emissions. Little research has been done, however, on indoor sources, and even less on ultrafine particles in school

classrooms.

In an effort to fill those gaps in knowledge, the scientists studied levels of ultrafine [particles](#) in 3 elementary school classrooms in Brisbane, Australia. They found that on numerous occasions ultrafine particle levels in the classrooms were significantly higher than outdoors. The highest levels occurred during art activities such as gluing, painting and drawing when indoor levels were several times higher than outdoor levels. There also were significant increases in ultrafine particle levels when detergents were used for cleaning.

More information: "Ultrafine Particles in Indoor Air of a School: Possible Role of Secondary Organic Aerosols", pubs.acs.org/doi/full/10.1021/es902471a

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