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# PCB to study dioxin presence in city

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Thiruvananthapuram: The pollution control board (PCB) has begun a detailed analysis to find out the presence of dioxin in the ambient air in the city, a first-of-its-kind study in the city fuelled by soaring health concerns arising from open burning of waste, especially plastic. PCB, which lacks essential technical expertise to undertake the study, has tied up with CSIR - National Institute for Interdisciplinary Science and Technology (NIIST) for the project.

"Ever since waste management ran out of order and public dumping became a common practice in the city, burning of waste in open places has emitted dioxins and furans at alarming levels. These toxic chemicals produce fatal health consequences and we have not studied the actual levels of dioxin in the city till date," said a PCB official. The approach paper published by Suchitwa Mission towards sustainable waste management quotes a report by United States Environmental Protection Agency and others to cite that burning trash in the open produces many pollutants, mostly dioxins and furans.

"Many dangerous health conditions can be caused by inhaling or ingesting even small amounts of these pollutants. Children, the elderly, or people with pre-existing respiratory conditions can be vulnerable to some of these pollutants," the report says.

The PCB official said that unlike point source emissions, which comes from single sources, dioxins are resulted from fugitive emissions which are unintended and spread in an irregular pattern. Ajit Haridas, chief scientist, NIIST, who leads the study said that the amount of dioxins produced due to open burning is 3,000-4,000 times higher than those produced in a controlled incinerator.

"Equipment for sampling, analysis and measurements have been imported. We are constructing an open air burning facility in

our campus so as to gauge the levels of dioxin being released into the air. Once the product/emission factor is determined, the dioxin presence resulted from burning of a particular quantity of waste in the city can be found out. We are planning to compile the report within five months," said Haridas.

The medical experts point out that there has been a steady rise in respiratory diseases in the city, especially among kids. "We would need a detailed study to establish a clear connection between burning of waste and increasing incidence of respiratory diseases. However, it is undeniable that respiratory diseases of chronic and harmless nature have increased in the city which can be attributed to burning of plastic in open places," said district medical officer Dr K Venugopal.

Dioxins and furans are classified as persistent organic pollutants (POPs) which are carbon based. They possess a particular combination of physical and chemical properties such that once they are released into the environment, they remain intact for exceptionally long periods of time.