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# Scientists develop sensor 'nose' to sniff out toxins

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WASHINGTON: Scientists have developed a stamp sized sensor that can sniff out some poisonous gases and toxins and can show results simply by changing colour.

The sensor could be useful in detecting high exposures to toxic industrial chemicals that pose serious health risks at the workplace.

While physicists have radiation badges to protect them in the workplace, chemists and workers who handle chemicals do not have equivalent devices to monitor their exposure to potentially toxic chemicals.

Senior study author Kenneth S Suslick, chemistry professor at the University of Illinois at Urbana-Champaign (UI-UC) and colleagues have created what they refer to as an opto-electronic nose.

"It is an artificial nose for the detection of toxic industrial chemicals (TICs) that is simple, fast, inexpensive, and works by changing colour. "By comparing that pattern to a library of colour fingerprints, we can identify and quantify the TICs in a matter of seconds," said Suslick.

"This paper brings us one step closer to having a small wearable sensor that can detect multiple airborne toxins," said Linda Birnbaum, director of the National Institute of Environmental Health Sciences (NIEHS), that is supporting the project.

The researchers say older methods relied on sensors whose response originates from weak and highly non specific chemical interactions, whereas this new technology is more responsive to a diverse set of chemicals.

The study was published in the September issue of Nature Chemistry.

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