

## **Cloth to recover organic HAPs**

In the United States, researchers at the University of Illinois Urbana-Champaign (UIUC) have developed a vapour recovery system to capture and recycle organic hazardous air pollutants (HAPs). A bench-scale model under study can remove organic vapours from both dry and humid air. Using an activated carbon fibre cloth (ACFC), pollutants like methyl ethyl ketone are adsorbed from the gas stream. The cloth's pores are less than 20 angstroms in width, which allows for high adsorption capability at very low concentrations, and can be electrically regenerated.

When a gas stream passes through a vessel containing the ACFC, pollutants adsorb on to the cloth. This saturated cloth can be regenerated at a low cost by passing electricity to heat only the cloth and the adsorbed material, instead of the entire vessel and ancillary equipment as in steam regeneration. The desorbed HAPs are transported from the hot carbon to the cold vessel walls where they condense out as a liquid and run down to the bottom of the adsorber.

Apart from organic pollutants, even inorganic vapours can be captured. The system can remove alkanes, ketones, aromatics and chlorinated organic compounds. It has potential applications in micro-electronics, food manufacturing, petrochemical, painting, degreasing and dry cleaning industries. *Contact: Website: <http://www.cee.ce.uiuc.edu/Home.html>; Or Website: <http://www.cecer.army.mil/td/tips/index.cfm>.*