

pathways and policy scenarios. Now the FEEI model is accessible on-line (www.feeimodel.org), and has been used in several research institutes in the world.

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Breakthrough in the Ambient Catalytic Destruction of Formaldehyde

Indoor air quality is a major factor influencing the human health. Formaldehyde (HCHO) is a hazardous and dominant common indoor air pollutant in China. How to effectively and economically eliminate the indoor air HCHO is of great interest and challenge to researchers.

The Research Group of Environmental Catalysis, led by Professor Hong He in Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, has been devoted to the development of new methods and technologies for indoor air purification for years. Funded by the National Nature Science Foundation of China, a breakthrough development was achieved in the ambient catalytic destruction of formaldehyde. The research group developed a novel Pt based catalyst after screening a considerable number of various catalytic materials and preparation methods. They discovered that the Pt species on the mentioned catalyst is in an atomically dispersion, with dramatic capacity for activating molecular oxygen in air at room temperature to catalyze HCHO oxidation into H₂O and CO₂ without decrease in activity over long period operation. The related results have been applied for patents and published in the following journals: *Catalysis Communications* 6, 211 (2005); *Applied Catalysis B* 65, 37 (2006); *Catalysis Today* 126, 345 (2007). In addition, with the support from the National 863 Program of China, this group has successfully applied this basic research achievement into practical applications. The new Air Cleaners equipped with novel catalyst have been developed and put into Chinese market; and already become the most selling Air Cleaner in China. Their work is an outstanding contribution in the improvement of indoor air quality and has benefitted the Chinese people.

Based on those achievements, Professor Hong He and other partners won the “China National Award for Technological Invention (2nd class)” in 2011.