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## Platinum-Iridium Carbon Monoxide Sensor

Various heat of oxidation and doped metal oxides types of catalytic sensors have been used in gas detectors, but in general they suffer from interference caused by water vapour. These changes in humidity can produce spurious signals which have in the past been overcome by the use of high power heaters.

In order to solve the humidity-effect problem that occurs with catalytic carbon monoxide sensors and to eliminate the requirement for heaters, researchers at the Chalk River Laboratories of AECL Research, in co-operation with Asahi Electronics Inc., Ontario, Canada, have developed and tested several new bimetallic platinum group metal catalysts, (K. Marcinkowska, M. P. McGauley and E. A. Symons,

*Sens. Activators B*, 1991, 5, (1-4), 91-96).

The optimised catalyst contained a total of 10 weight per cent of platinum and iridium which was supported on porous, inertly hydrophobic polystyrene-divinylbenzene granules contained in nylon mesh thimbles.

This new carbon monoxide sensor was found to be independent of humidity and even after testing for 10 months, no affect on the carbon monoxide oxidation activity of the catalyst was detected despite exposure to carbon monoxide concentrations of up to 250 ppm.

The sensor requires no heater as the catalyst is active at ambient temperatures down to around -10°C. This has facilitated production of a portable, battery-powered detector.