

Elenco has recently started a programme aimed at the construction of a 40 kW fuel cell unit, to be used by the Belgian Geological Service. At the same time, tests with the Volkswagen van and with smaller fuel cell units will continue.

The construction of a production facility concurrently with the evaluation and testing of the fuel cell is probably unique, and will, it is hoped result in rapid commercialisation of the system once it has been fully demonstrated.

### References

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- 3 National Fuel Cell Seminar Program and Abstracts, Orlando, Florida, U.S.A., 13-16 Nov. 1983, seminar co-ordinated by Courtesy Associates Inc., 1629 K Street, Washington, DC, 20006; see also *Platinum Metals Rev.*, 1984, **28**, (1), 19
- 4 K. F. Langley, "Fuel Cells: An appraisal of current research and future prospects", Dept. of Energy ETSU R12, Her Majesty's Stationery Office, London, 1983
- 5 H. Van den Broeck, "Hydrogen Fuel Cell Powered Electric Vehicles", in "Fuel Cells", ed. G. E. Gallagher-Daggitt, Proc. SERC Appraisal Meet., The Royal Soc., London, 8 March 1982; Rutherford Appleton Lab., 1982; RL-82-055
- 6 K. S. Hardy and J. M. Langendoen, "Advanced Electric and Hybrid Vehicle Subsystem Assessment", SAE Tech. Paper 830349
- 7 H. Van den Broeck, "Fuel Cells as Power Sources for Electric Vehicles", given at a seminar on 4 Nov. 1982 for the 100th anniversary of the Holec Company, Brussels
- 8 D. S. Cameron, *Platinum Metals Rev.*, 1978, **22**, (2), 38

## Recent Achievements in Catalysis

**Catalysis Volume 6**, EDITED BY G. C. BOND AND G. WEBB, Royal Society of Chemistry, London, 1983, 234 pages, £26 to members, £43 to non-members

Among the Specialist Periodical Reports published by the Royal Society of Chemistry, this volume reviews the recent literature published up to mid-1982 in a field that has become of increasing importance to the chemical industry. As the editors emphasise, it is more and more appreciated that new and better catalysts, often one or other of the platinum metals, can reduce the energy input into chemical processes, improve product yields, minimise by-products and thus lead to a reduction in processing costs. The seven reviews here include "Oscillatory Phenomena in Heterogeneous Catalysed Oxidation Reactions" from C. N. Kenney and his colleagues at Cambridge, "Strong Metal-Support Interactions" by Geoffrey Bond of Brunel and Robbie Burch of Reading University, and "The Catalytic Hydrogenation of Organic Compounds" by M. D. Birkett, A. T. Kuhn and G. C. Bond in which the authors explore the connection between catalysis and electrochemistry. Further reviews come from three workers at the Istituto di Chimica-Fisica in Turin; from Gwendoline Berndt of the Edinburgh School of Agriculture who reports on recent developments in radiotracer methods for catalytic investigations; from B. A. Murrer and M. J. H. Russell of Johnson Matthey on recent achievements in

hydroformylation and lastly from E. K. Poels and Vladimir Ponc of the University of Leiden a major article on the production of oxygenated species from synthesis gas.

### Tantalum-Iridium Films

A requirement for electronic devices capable of operating at elevated temperatures for extended times has identified a need for a thermally robust metal-semiconductor contact which is not subject to the diffusion that would otherwise degrade its electrical characteristics. Even at relatively low temperatures grain boundaries act as effective diffusion channels for the conventionally used metals, so amorphous metal films have been used to provide a barrier between the primary metallisation and the semiconductor.

Now a letter from the GEC Research Laboratories (M. J. Kelly, A. G. Todd, M. J. Sisson and D. K. Wickenden, *Electron. Lett.*, 1983, **19**, (13), 474-475) describes the relative enhancement of the thermal stability of Schottky barriers on both silicon and gallium arsenide that can be achieved by the use of suitable amorphous thin films, and reports that tantalum-iridium has proved to be superior in all respects to any other material used to date.