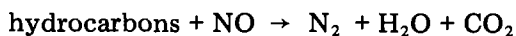
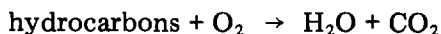


Book review

Catalysis, Science and Technology, Vol. 5: edited by J.R. Anderson and M. Boudart, Springer Verlag, Berlin and Heidelberg, 1984, pp. 280 + viii, DM 132. ISBN 3-540-12665-1.

This series is, for the organometallic chemist, somewhat like the curate's egg, in that it is good in those parts (generally the science rather than the technology sections) which have organometallic content. This volume contains four chapters, on Catalytic Steam Reforming (J.R. Rostrup-Nielson), Automobile Catalytic Converters (K. Taylor), Infrared Spectroscopy in Catalytic Research (J.B. Peri), and X-ray Techniques in Catalysis (P. Gallezot). Of these, the first and second are principally technology and non-organometallic chemistry. For example, reactions such as the following are used as a basis for discussion of catalytic converters.



The chapter dealing with infrared spectroscopy is concerned primarily with the surfaces of heterogeneous catalysts. It concentrates on techniques, including Fourier transform techniques. The use of olefins as probes for acid sites is briefly discussed, but not in much detail. Most of the material concerns species such as CO, CO₂ and NH₃. Organometallic species, as in the methanol process, are alluded to only cursorily.

The last chapter also discusses characterisation of catalyst surfaces, this time principally by various variants of X-ray diffraction. The use of such techniques to identify surface species is mentioned in a few cases. In general, however, such discussions are beyond the scope of this book. In fact, there are, for example, few EXAFS data on metal-adsorbate species. However, this is an area of growth, and anyone requiring general reviews of X-ray and infrared techniques in the study of surfaces could well start here. For more detailed discussion, reference to the substantial bibliographies will be necessary.

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