

Book reviews

Scandium Its Occurrence, Chemistry, Physics, Metallurgy, Biology and Technology; by C.T. Horovitz (Editor), K.A. Gschneidner Jr., G.A. Melson, D.H. Youngblood and H.H. Schock, Academic Press, London, 1975, 598 pages, £16.00, \$42.25.

This substantial monograph deals comprehensively with scandium and its derivatives. The topics are discussed in fifteen chapters as follows: 1, Discovery and History; 2, Distribution in Nature; 3, Geochemistry and Mineralogy; 4, Derivation, Extraction, and Preparation; 5, Physical Metallurgy; 6, Chemical Properties; 7, Scandium Isotopes; 8, Inorganic Compounds; 9, Alloys and Intermetallic Compounds; 10, Organic Compounds; 11, Analytical Chemistry; 12, Technology, Applications and Economy; 13, Occurrence in Living Systems; 14, Biological Significance; 15, Toxicology. Of these, the first two, the last three, and Chapter 11 are by the editor and the others are by H.H. Schock (Chapter 3), K.A. Gschneidner Jr. [Chapters 4, 5, 8, 9, and (with D.H. Youngblood) Chapter 12], D.H. Youngblood [Chapters 7 and 12 (with K.A. Gschneidner Jr.)] and G.A. Melson (Chapter 10). Organometallicists will principally be interested in Chapter 10.

Activity in the area of compounds containing bonds between carbon and the Group IIIA elements is of fairly recent origin, with the exception of studies initiated by Wilkinson et al. in the middle fifties on cyclopentadienyl derivatives. Compounds which have now been well characterised include $(\eta^5\text{-C}_5\text{H}_5)_3\text{Sc}$, $[(\eta^5\text{-C}_5\text{H}_5)_2\text{ScCl}]_2$, $[\text{ScAr}]_4^-$, Ph_3Sc , and $\text{R}_3\text{Sc} \cdot 2\text{THF}$ (R = e.g. Me_3CCH_2); all these are briefly mentioned (four pages). Other organic compounds of scandium discussed include coordination complexes, e.g. $\text{ScCl}_3 \cdot 2\text{L}$, as well as metal amides such as $\text{Sc}[\text{N}(\text{Si}(\text{CH}_3)_3)_2]_3$, alkoxides, and carboxylates. The literature appears to be thoroughly covered in this chapter and includes references to material published in 1973.

School of Molecular Sciences
University of Sussex
Brighton BN1 9QJ (Great Britain)

M.F. LAPPERT

Catalysis: Heterogeneous and Homogeneous; edited by B. Delmon and G. Jannes, Elsevier Scientific Publishing Company, Amsterdam and New York, 1975, xxvi + 550 pages, \$45.95, Dfl. 110.00.

This book presents the manuscripts of papers delivered at the International Symposium on the Relations between Heterogeneous and Homogeneous Catalytic Phenomena, held in Brussels, October, 23—25, 1974.