

Book reviews

Gmelin handbook of inorganic chemistry, 8th edit., *Th — Thorium, Supplement Volume E: Coordination Compounds*, Springer-Verlag, Berlin, Heidelberg, New York, Tokyo, 1985, xviii + 322 pages, DM 988, ISBN 3-540-93515-0.

This is the fourth volume which the Gmelin Institute has published concerning the chemistry of thorium (System No. 44): the main volume was published in 1955, Supplement Volume C1 (1978) described the compounds of thorium with the noble gases, hydrogen and oxygen, and Supplement Volume C2 (1976) covered the ternary and polynary oxides of thorium. Thus, the current volume is the first to be of direct relevance to coordination and organometallic chemists, and is both well-timed and comprehensive (up to the end of 1983). The first chapter (K.W. Bagnall, 208 pages) describes the classical coordination compounds of thorium, and includes complexes with, inter alia, ammonia, amines, hydroxylamine, hydrazines, pyridines, diimines, phosphines, ketones, pyridine and diimine *N*-oxides, phosphine and arsine oxides, tributyl phosphate, sulphoxides, 1,3-diketonates, tropolonates, 8-quinolinates, *N*-nitroso-*N*-phenylhydroxylamine derivatives, dithiocarbamates, Schiff bases, and phthalocyanine. The second chapter (B. Kanellakopulos, 57 pages) describes the organometallic compounds of thorium, classified into sections according to the principal organic ligand, viz. allyls, cyclopentadienyls, substituted cyclopentadienyls, indenyls, alkylated indenyls, cyclooctatetraenes, substituted cyclooctatetraenes and benzocyclooctatetraenes. The value of this outstanding volume is further enhanced by the inclusion of a 53 page ligand formula index, which allows instant access to the compounds of the ligands of interest.

Thorium possesses a fascinating coordination chemistry, and many of the important complexes have been crystallographically characterised: the illustrations in this volume are of the expected high standard. Moreover, the time is right for an up-to-date overview of the now burgeoning field of thorium organometallic chemistry. This volume is essential to anyone working in thorium chemistry, and is wholeheartedly recommended. It is written in an authoritative manner, well produced, and type-set. The information is readily accessible via the invaluable index, and this one volume represents a complete coverage of the field.

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