

Book review

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GMELIN HANDBOOK OF INORGANIC CHEMISTRY, 8th Edition, Main Series. MANGANESE, Part C5, COMPOUNDS OF MANGANESE WITH CHLORINE, BROMINE AND IODINE, H. Katscher, volume editor-in-chief, 1978, xxii + 343 pages, DM 771, \$ 385.50.

IRIDIUM, Supplement Volume 2, COMPOUNDS. K. Swars, volume editor, 1978, xxiv + 267 pages, DM 693, \$ 346.50

Gmelin Institut für Anorganische Chemie der Max Planck Gesellschaft zur Förderung der Wissenschaften and Springer-Verlag, Berlin/Heidelberg/New York.

We have here two new volumes of the Gmelin Handbook which are devoted to inorganic transition metal compounds.

The volume on chlorides, bromides and iodides of manganese covers the simple binary halides of manganese (mostly of Mn(II)), their hydrates and halide complexes, and manganese salts with halogen-containing oxyanions such as perchlorate and iodate. This is a Gmelin volume for the inorganic chemist. It deals with the preparation of the compounds, their physical, crystallographic, mechanical, thermal, magnetic, electrical, optical and electrochemical properties, as well as with their aqueous and nonaqueous solutions and their chemical transformations. The book is in German, but as usual, English translations of the table of contents, the preface, chapter titles and section headings are provided. Literature coverage appears to be exhaustive and up-to-date, through the end of 1977. A useful feature is the short "Review in English" which precedes each chapter.

The iridium volume will be of greater interest to the organometallic chemist since it is devoted in the main to the coordination chemistry of iridium. This book will be especially welcomed by the inorganic/organometallic readership-at-large since most of the book is in English, thanks to the participation of volume author, W.P. Griffith.

C.J. Raub and E. Raub have written (in German) the short sections which deal with the simpler inorganic chemistry

of iridium (iridium and hydrogen, oxygen, carbon, silicon, phosphorus and arsenic), while Griffith covers the halogen and chalcogen derivatives, as well as the coordination chemistry of iridium. The latter topic has received much attention in recent years in view of its connections with organometallic chemistry and catalysis. The arrangement and classification scheme used in dealing with the coordination compounds of iridium is explained in the preface (English and German versions) by Griffith. Included in the coverage are neutral and cationic iridium hydride, halide, carboxylate, etc., complexes which contain oxygen-, nitrogen-, sulfur-, selenium-, carbon-, phosphorus-, arsenic-, and antimony-donor ligands. The only carbon-donor ligand to be found is cyanide ion: iridium carbonyls, alkyls and aryls are reserved for a separate volume on organoiridium compounds. The book ends with a short section on compounds of iridium with other metals, principally mercury and tin. As in the manganese volume, the reporting is thorough: preparation, physical and spectroscopic properties, thermodynamic and magnetic properties and reactions. The literature has been covered through 1975, but some later references are included.

Both of these books are valuable additions to the Gmelin series and each is a "must" for chemistry libraries.

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