

*Gmelin Handbook of Inorganic Chemistry*. 8th Edition, *Mn Manganese, Part C9. Compounds of Manganese with Phosphorus, Arsenic, Antimony*, G. Czack, E. Koch-Bienemann, P. Kuhn, S. Ruprecht, F. Schröder, U. Trobisch-Raussendorf, and S. Waschke, volume authors, H. Katscher, chief editor, System number 56, Gmelin Institut für Anorganische Chemie der Max-Planck-Gesellschaft zur Förderung der Wissenschaften and Springer-Verlag, Berlin/Heidelberg/New York, 1983, xxii + 456 pages, DM 1260.

The C series for manganese is concerned with compounds of the element and the present work, C9, deals with derivatives of P, As, and Sb. This volume is of indirect relevance to practitioners of organometallic chemistry. The subject matter concerns phosphides, phosphates, arsenides, arsenates, and antimonides of manganese. The major part deals with manganese phosphates.

The literature is covered up to the end of 1980, and the account is in English.

*School of Chemistry & Molecular Sciences,  
University of Sussex,  
Brighton BN1 9QJ (Great Britain)*

MICHAEL F. LAPPERT

*Gmelin Handbook of Inorganic Chemistry*. 8th Edition, *B Boron Compounds, 2nd Supplement Volume 2. Boron and Halogens, Chalcogens, Carboranes, Formula Index for 2nd Suppl. Vol. 2*. K. Beeker, A. Meller, and T. Onak, volume authors, K. Niedenzu, editor, System number 13. Gmelin Institut für Anorganische Chemie der Max-Planck-Gesellschaft zur Förderung der Wissenschaften and Springer-Verlag, Berlin/Heidelberg/New York, 1982, xix + 376 pages, DM 1185.

The number of volumes of Gmelin devoted to boron is now very considerable. The Main Volume appeared as a slim text with the closing date of 1925, and was followed by a somewhat larger supplement, bringing the literature to 1949. The so-called "New Supplement", in 20-volumes, brought the literature to the mid-1970's. This was followed by "Boron Compounds", First Supplement Volume (3 parts) up to the end of 1977. Now we have Part 2 of the Second Supplement Volume. It deals with the following: 1) compounds of the halogens (by A. Meller), 154 pages; 2) compounds of the chalcogens (by K. Beeker), 67 pages; and 3) carboranes (by T. Onak), 112 pages; together with 4) a substantial formula index. The literature is covered to the end of 1980, and the volume is written in English.

This text will be of considerable value to practitioners of organoboron chemistry. For example, included are compounds of formulae  $RBCl_2$ ,  $R_2BCl$ , and  $RB(Cl)NR'_2$ , as well as heteroaromatics containing sulphur and boron. The field of carboranes, of course, continues to flourish.

Inevitably, if one is carrying out a literature survey, there is some disadvantage at having to consult so many volumes. For instance, if one examines the section entitled "Tetrachloroborate Ion", one would find that the salt in which the cation is  $[NEt_4]^+$  was prepared during the period in question by a reaction of the corresponding chloride with  $BCl_3$  in  $CH_2Cl_2$ . While this is certainly correct, it is obviously a very minor modification of the preparation in 1957 of the first such compound, in which the cation was  $pyH^+$ , made in identical fashion.

Two of the authors are active in this field and, altogether, the work is written with great authority.

*School of Chemistry & Molecular Sciences,  
University of Sussex,  
Brighton BN1 9QJ (Great Britain)*

MICHAEL F. LAPPERT

*Gmelin Handbook of Inorganic Chemistry. 8th Edition, Mn Manganese, Part D3. Coordination Compounds 3*, K. Koeber and D. Schneider, volume authors, E. Schleitzer-Rust, chief editor, System number 56, Gmelin Institut für Anorganische Chemie der Max-Planck-Gesellschaft zur Förderung der Wissenschaften and Springer-Verlag, Berlin/Heidelberg/New York, 1983, xiii + 341 pages, DM 1160.

The D series for manganese is concerned with coordination compounds. The preceding volumes, D1 and D2, dealt largely with oxygen-centred ligands (D1) or, additionally, pseudohalides (D2). The present work deals with complexes having ammonia, amines, hydrazines, hydroxylamines, or certain heterocyclic compounds as ligands (D4 will deal with more complex heterocycles).

The oxidation states involved are those of  $Mn^{2+}$  (predominant),  $Mn^{3+}$ , and  $Mn^{4+}$ . There is also a small number of mixed  $Mn^{III}/Mn^{IV}$  compounds. The oxidation state +2 represents high spin  $d^5$  systems.

Organometallic compounds are specifically excluded from this volume.

The literature is covered to the end of 1980 and the work is in English.

*School of Chemistry & Molecular Sciences,  
University of Sussex,  
Brighton BN1 9QJ (Great Britain)*

MICHAEL F. LAPPERT

*Gmelin Handbook of Inorganic Chemistry. 8th Edition, U - Uranium, Supplement Volume D4. Cation Exchange and Chromatography of Uranium*, H.O. Haug, Y. Marcus, J. Schön, and S. Specht, volume authors, R. Keim, Y. Marcus, and C. Keller, editors, System number 55, Gmelin Institut für Anorganische Chemie der Max-Planck-Gesellschaft zur Förderung der Wissenschaften and Springer-Verlag, Berlin/Heidelberg/New York, 1983, vxiii + 319 pages, DM 993.

This volume is unlikely to have any direct relevance to practitioners of organometallic chemistry. It describes uranium cation exchange behaviour. In contrast to anion exchange chromatography (see the preceding volume, Uranium D3), the procedures described here are not used on a technical scale and the cation technique has considerably less application than anion exchange. However several alternative procedures allow for simple, rapid, and quantitative separation of uranium from accompanying elements, especially in chloride and nitrate media.

The literature coverage is up to the end of 1980 and the volume is written in English.

*School of Chemistry & Molecular Sciences,  
University of Sussex,  
Brighton BN1 9QJ (Great Britain)*

MICHAEL F. LAPPERT