

*Gmelin Handbuch der Anorganischen Chemie*, 8th edition, *Zinn. Teil C2. Verbindungen mit Schwefel, Selen, Tellur, Polonium, Bor, Kohlenstoff, Silicium, Phosphor, Arsen, Antimon und Wismut*, Gmelin-Institut für Anorganische Chemie und Grenzgebiete der Max-Planck-Gesellschaft zur Förderung der Wissenschaften, H. Bitterer, editor-in-chief, Springer Verlag, Berlin/Heidelberg/New York, 1975, xvi + 300 pages, DM 477, \$195.60.

This new Gmelin volume covers compounds of tin with the Group V and VI elements and with carbon, silicon and boron. (Part C1 covered tin compounds with hydrogen, oxygen, nitrogen and the halogens; two more volumes will complete the inorganic tin compound series). Two-thirds of the present volume is devoted to the divalent and tetravalent compounds of tin with sulfur, selenium and tellurium (principally the binary species,  $\text{SnY}$  and  $\text{SnY}_2$ ). Most of the information presented concerns their physical, thermal, mechanical and electrical properties, although preparative reactions and chemical transformations are included as well. The types of compounds discussed cover a broad range. For instance, in the chapter on tin-phosphorus compounds are presented data on the Sn-P phase diagram, covalent Sn-P and Sn-O-P compounds, adducts of tin halides with various phosphorus halides and salts such as  $[\text{NOP}_2\text{Cl}_4]_2$   $[\text{SnCl}_6]$ .

The tin-carbon compounds included in this volume are strictly of the "inorganic" type: carbonates, formates, acetates, oxalates, lactates, malonates, maleates, tartrates, citrates, cyanides and thiocyanates. A few compounds which we would class as organometallic nevertheless have found their way into the present volume because they contain  $\text{Sn}(\text{MR}_n)_4$  systems:  $\text{Sn}(\text{BPh}_2)_4$ ,  $\text{Sn}(\text{PPh}_2)_4$  and  $\text{Sn}(\text{SiMe}_3)_4$ . The matrix isolation of a tin carbonyl also is mentioned.

English translations of the preface and chapter and section headings are provided as usual, and a brief but useful 1-2 paragraph summary in English as well as in German precedes each tin-element chapter. The many references cited with typical Gmelin thoroughness are complete through the end of 1972, but some 1973 and even 1974 references are given as well.

This Gmelin volume will be useful and of interest mainly to the inorganic and solid state chemist. However, as announced in the preface, eight Gmelin volumes on organotin compounds are planned and the first of these is scheduled to appear in 1975.

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*Organometallics in Organic Synthesis*; by J.M. Swan and D.St.C. Black, Chapman and Hall, London, 1974, 158 pages, £2.40.

"The use of organometallic compounds in organic synthesis" is a favourite stand-by essay for undergraduates. This short book provides a wealth of information relevant to such an essay, the material being organised somewhat differently from that found in organic chemistry texts to which students would usually refer. Part I (30 pages) entitled "Some Aspects of Organometallic Chemistry" serves as a useful introduction surveying the role