

Book review

Gmelin Handbook of Inorganic Chemistry, 8th Edition, *Main Series, System No. 14, Carbon, Part D3, Carbon—Halogen Compounds*, D. Koschel, editor, Gmelin Institut für Anorganische Chemie und Grenzgebiete der Max-Planck-Gesellschaft zur Förderung der Wissenschaften, Springer-Verlag, Berlin/Heidelberg/New York, 1976, xxviii + 294 pp., DM 619, \$ 253.80.

The present book is a continuation of the Gmelin coverage of carbon—halogen compounds*. The following classes of halogen-containing carbon compounds (not all of which involve C—X bonds) are included in this volume: XCO radicals and ions; carbonyl halides, COX_2 ; halogen-containing ureas, $\text{X}_2\text{NC}(\text{O})\text{NH}_2$, $(\text{X}_2\text{N})_2\text{CO}$, etc.; carbamic acid halides, $\text{H}_2\text{NC}(\text{O})\text{X}$; halogen isocyanates, XNCO , and their cyclic oligomers, $(\text{XNCO})_2$ and $(\text{XNCO})_3$; cyanogen halides, XCN , and isocyanogen halides, XNC ; cyanuric halides, $(\text{XCN})_3$; the F_2CN radical; halogenated cyanamides, F_2NCN , ClNHCN , etc.

As with all Gmelin volumes dealing with carbon and its compounds, the approach here is from the inorganic/physical chemistry side since the organic aspects of the compounds covered are handled adequately in the Beilstein handbook and other organic compendia. Thus, in the case of phosgene, for example, we find sections devoted to problems of handling and toxicity; preparation; structure and molecular physical properties; crystallography; mechanical, thermodynamic and thermochemical properties; magnetic, electrical and spectroscopic properties. The chemical reactivity of phosgene also is discussed, but the coverage is of limited scope: pyrolysis, photolysis, radiolysis, isotope exchange, reactions with elements and with various inorganic substrates. The organic reactions of phosgene, however, are discussed in only one page in summary form and only reactions with hydrocarbons, alcohols and amines are covered. Much the same kind of coverage is given the other carbon—halogen compounds in this book.

The present volume is written in German, but English translations of the table of contents, the preface and chapter and section headings are provided. Literature coverage is complete through mid-1974, but some later references were included. An index is absent and presumably will not be provided until Section D is concluded. This collection of the known physicochemical and inorganic information about simple carbon compounds fills a gap that the organic review literature has left open and the Gmelin Institute is to be commended for its enlightened approach to the subject of "inorganic chemistry". The Gmelin treatment of carbon and its compounds will be of value mostly to physical and inorganic chemists, but the organic chemist also will find vital information in these volumes.

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*For a review of the previous Gmelin volume on this subject see *J. Organometal. Chem.*, 81 (1974) C43.