

Book review

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HOUBEN-WEYL METHODEN DER ORGANISCHEN CHEMIE, 4th Edition, Volume 13, Part 8, METALLORGANISCHE VERBINDUNGEN: As, Sb, Bi, H. Kropf, volume editor, S. Samaan, volume author, Georg Thieme-Verlag, Stuttgart, 1978, xxxii + 703 pages, DM 480.

The newest addition to the Houben-Weyl Volume 13 organometallic series brings a thorough, well-referenced and up-to-date (through 1976) discussion of the preparation and the chemical transformations of the organic compounds of arsenic, antimony and bismuth. These have a venerable history, and, in fact, "Cadet's fuming arsenical liquid" was the first recorded organometallic preparation. In the early years of this century much interest focussed on organoarsenicals and, later, the organic compounds of the other Group V elements, in applications as medicinal agents. Salvarsan and Neosalvarsan, Ehrlich's "magic bullets," brought the long-sought drugs with which syphilis could be fought with good success. Almost immediately afterward, however, in World War I, organoarsenicals showed up in less laudatory applications as rather nasty chemical warfare agents. Research in the organic chemistry of the Group V elements has continued over the years and continues at a modest pace today. Thus there is a large body of information on the organic derivatives of arsenic, antimony and bismuth. The literature of the organoarsenic, -antimony and -bismuth chemistry has been culled very thoroughly in the present volume to bring the reader what is known about their preparation, their physical and spectroscopic properties, their chemistry and their applications. Although some individual compounds and their melting or boiling points are listed in various sections, a complete listing of all known organic derivatives of arsenic, antimony and bismuth is not provided, and the reader must turn elsewhere\* for such information.

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\* Dub's "Organometallic Compounds," Vol. III (1968) and its 1972 Supplement, which cover As, Sb and Bi compounds, and the recently published Gmelin volume on organobismuth compounds.

Following usual Houben-Weyl practise, the discussions are interspersed with detailed literature recipes for the preparation of specific, representative compounds and for carrying out their various reactions. Other examples are given in less detail in tabular form. The abundance of formulas and equations is a great help to the reader.

The organization of the book is clear: first according to element, and, within these three main divisions, according to oxidation state (III and V). Further subdivision is according to compound class. The very detailed table of contents and the subject and author indexes are most helpful. Because of the large variety of compound types, nomenclature can become complex, and this is dealt with in an introductory section. Very useful also is the bibliography of reviews which precedes the indexes.

This is another fine Houben-Weyl volume, one which is a valuable addition to the review literature of organometallic chemistry. To the readership-at-large it would be more valuable still if it had been written in English.

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