

*Gmelin Handbook of Inorganic Chemistry, Be — Organoberyllium Compounds. Part 1.* Springer-Verlag, Berlin etc., 1987. xiv + 442 pages. DM 1189. ISBN 3-540-93556-8.

This volume of Gmelin is written by an exceptionally distinguished author, Hubert Schmidbaur, and so its high quality can be taken for granted. It deals with organoberyllium compounds containing at least one Be–C bond to an organic group. (Carbides and cyanides are excluded.)

The author in his preface makes the interesting point that, in contrast to all other Gmelin volumes on organometallic compounds, this one deals with an area of research that has virtually come to a complete standstill. This is attributed to a fear, probably exaggerated, of the toxicity of beryllium compounds. The book is dedicated to Professor G. Coates, “the pioneer of organometallic chemistry, to whom we owe the short and only period of expansion this field has ever enjoyed”.

The account divided into three main sections, the first dealing with compounds containing ligands bonded by one carbon atom (tetra- and tri-organoberyllates, and mono- and di-organoberyllium compounds and their adducts), the second with compounds containing ligands bonded by two or three carbon atoms (beryllo-carboranes), and the third with compounds containing ligands bonded by five carbon atoms (cyclopentadienyl compounds). Methods of preparation, physical properties, and reactions are clearly and concisely summarized. The results of theoretical calculations on model organoberyllium compounds are also summarized. The literature coverage extends to mid-1987.

The availability of this excellent account may provide a stimulus to further studies of organoberyllium compounds. The appearance of this review has unfortunately been accidentally delayed, but Gmelin volumes never go out of date, being supplemented instead by further volumes. It will be interesting to see how long it will be before another volume on organoberyllium compounds is thought to be appropriate.

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