

one disubstituted benzene plus a cyclopentadienyl – there are 283 compounds in this class. Reactions are also discussed briefly, and the references (numbering 141) are gathered together at the end of the section. Compounds with a trisubstituted benzene and a cyclopentadienyl (88 in all) come next, similarly treated. The logical presentation then carries on through hexa-substituted benzenes to larger rings using six carbon atoms to bond to iron, and all with an additional C₅ ligand. Finally, compounds with two six-carbon-donor ligands are categorised.

As usual, there is an extensive empirical formula index and a full ligand formula index, which enable rapid identification of the discussion of any particular compounds.

The authors and the editor are to be congratulated on another invaluable addition to the Gmelin corpus. These volumes are unlikely ever to be surpassed.

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Gmelin Handbook of Inorganic and Organometallic Chemistry, 8th Edition, Organogermanium Compounds, Part 5, Compounds with Germanium–Oxygen Bonds, F. Glockling, Springer-Verlag, Berlin, 1993, pp. xv + 546. DM 3150
ISBN 3-540-93660-2

This is a further excellent volume in the series on organogermanium compounds written by Professor Glockling. It is focused on mononuclear compounds containing Ge–O bonds, but compounds containing more than one germanium atom are considered when chemical logic demands it. Thus the first chapter is concerned with the species R₃GeOH (where the R groups may be all the same or differ), (R₃Ge)₂O, R₃GeOR¹ (R = alkyl or substituted alkyl, or aryl), R₃GeOOR¹, R₃GeOX in which X is not linked to oxygen through carbon (*e.g.* X = SO₂Cl, SO₂Me, N=CHPh, NO₂, POPh₂, SiMe₃, SnEt₃, Li), and relevant anionic five-coordinate germanium compounds. The subsequent chapters deal mainly with the corresponding R₂Ge and RGe derivatives (*e.g.* R₂Ge(OR¹)₂, RGe(OR¹)₃, [(RGeO)₂O]_n), but there are also briefer sections on compounds containing Ge–H or Ge–Hal or Ge–Transition Metal bonds along with Ge–O bonds, and on peroxides (*e.g.* R₃GeOOR¹) organogermanium-oxygen radicals (*e.g.* Me₃GeOCPh₂, Me₃GeON-

(O)Ph), organogermynes with a Ge–O bond, and complexes between Ge–O compounds and Lewis bases. The literature was searched systematically up to the end of 1990 but there are some more recent entries.

The volume also contains (a) a very useful list of reviews of organogermanium compounds that appeared in 1986–1990; (b) an empirical formula index, and a ligand formula index. The account is very well organized, with much clearly-presented information packed into each page. Professor Glockling is to be congratulated on his work, and thanked by all those active in or interested in organogermanium chemistry, who will look forward to the appearance of the remaining volumes in the series.

As is usual with Gmelin volumes, this one is expensive (*ca.* £1260 or US\$1875 at the time this review was written), but in the right surroundings such purchases well repay their cost.

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Gmelin Handbook of Inorganic and Organometallic Chemistry, 8th Edition, In Organoindium Compounds, Part 1 J. Weidlein and W. Petz, Springer-Verlag, Berlin, 1991, pp. xiii + 442. DM 2400
ISBN 3-540-93641-6

The organometallic chemistry of indium has received so little attention over the years that this one volume suffices to deal with all the organoindium compounds reported up to Spring 1991 (and a few reported later). However, there has been some increase in activity in such compounds in recent years because of their actual or potential use in the production of semi-conducting films by vapour deposition.

Some 72 pages are devoted to the chemistry of InMe₃ – its preparation, physical properties, reactions, applications and its adducts, and a further 16 pages provide a similar treatment of InEt₃. Other InR₃ (or InR₂R) species, with R = alkyl, substituted-alkyl, cycloalkyl, alkenyl, cycloalkenyl, or aryl, then take up a total of 43 pages. Most of the remainder of the volume is devoted to compounds containing, in addition to at least one In–C bond, bonds from In to halogen, oxygen (including hydroxides, carboxylates, and peroxides), sulphur, nitrogen, phosphorus, arsenic, antimony, boron, or a transition metal. Only one page is needed