Gmelin handbook of inorganic chemistry. 8th edition. *Organolead compounds, Part 1. Tetramethyllead*. Springer-Verlag, Berlin etc. 1987. xii + 194 pages. DM896. ISBN 3-540-83560-6.

This is the first volume in the new Gmelin series on organolead compounds, which is expected to run to four or five volumes. Fittingly, since the considerable industrial importance of tetramethyl- and tetraethyl-lead has stimulated much of the research on organolead compounds, and since tetramethyllead is the simplest organolead derivative, the volume is devoted very largely to that compound. However, the first 52 pages consists of references to textbooks, reviews, or reports dealing with general aspects of organolead chemistry (alone or in relation to the chemistry of other Group 14 compounds), including analytical methods, toxicity, biocidal activity, uses, and environmental aspects. Then follows a brief outline (3 pages) dealing with general properties of tetraorganoplumbanes of the type PbR_4 and giving references to their chemistry and uses, and this leads into a comprehensive account of all aspects of the chemistry of tetramethyllead.

This detailed account is divided into the following sections: formation, preparation (including that on an industrial scale), purification, and analysis (totalling, with references, 41 pages); structure, spectra, and bond dissociation energy (20 pages); physical properties (6 pages); chemical reactions (33 pages); electrochemical behaviour (1 page); solubility (3 pages); physiological properties and toxicity (8 pages); radiation chemistry (2 pages); uses (9 pages); environmental aspects (13 pages); coordination compounds (1 page). The coverage is complete up to the end of 1986, and there are some 1987 references.

The overall impression is one of excellence, and the author, Dr. F. Huber, is to be congratulated, and thanked for his service to organometallic chemistry. The writing is concise but admirably clear, and the English (unlike that in some earlier Gmelin volumes) is good; there are a few minor errors (e.g. linear dependence *with* concentration instead of *on*), but overall the style and grammar are better than in most papers in the primary chemical journals published in English.

We must hope that the remaining volumes on lead come up to this high standard.

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Chemical research faculties, 1988, American Chemical Society, Washington, 1988, ca. 750 pages. $159.95 (in USA or Canada) or $191.95 (elsewhere), ISBN 0-8412-1017-9.

This is the second edition of an excellent reference work prepared and published by the American Chemical Society. It is a companion volume to the highly regarded Directory of Graduate Research, and consists mainly of a list of about 11500 members of faculty of departments of chemistry, chemical engineering, biochemistry, pharmaceutical/medicinal chemistry, polymer science, or toxicology in 107 countries outside the USA and Canada. For each person are given that the year of birth, academic qualifications, research interests, and up to two recent publications. There is also a statistical summary, listing for each department the numbers of full-time faculty, postdoctoral fellows, postgraduate students, and masters' and