

## Book review

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*Organoaluminium Compounds*; by T. Mole and E.A. Jeffery. C.S.I.R.O. Division of Applied Chemistry, Melbourne, Australia, Elsevier, 1972, Amsterdam, XIV + 456 pages, \$54.75.

This could be an important book if it were not so expensive. Although organoaluminium compounds are manufactured on a large scale for use as catalyst components in the petrochemical industry, there has hitherto been no book which gives a comprehensive account of their chemistry. Drs. Mole and Jeffery have produced an unusually clear and well-arranged summary of a formidable amount of literature. Their writing is refreshingly straightforward and unpretentious. Much information is compressed into tables and both formula and subject indices are adequate. For those quite new to the field, the first seven-page chapter gives an excellent thumbnail sketch of organoaluminium chemistry, with a clear indication of where particular aspects are developed in more detail in subsequent chapters. These deal with organoaluminium halides, hydrides, trialkyl- and triarylaluminiums (with a separate chapter on the important reactions with olefins), alkoxides, amides, unsaturated organoaluminium compounds, reactions with unsaturated species, halides and ethers, alkylation reactions with compounds of non-transition elements and reactions with compounds of transition metals.

The emphasis is on descriptive chemistry, preparations and reactions. Practical details are not given, and there is little discussion of the more theoretical aspects of structure and valence. (Why, for example, should trimethylaluminium adopt a dimeric structure unique among the trimethyl compounds of Group III?) Coverage of the literature up to 1971 seems to be extremely thorough and there are many references to material in patents. There are few misprints. The book will be of use to students (if libraries can afford it), and to research workers looking at organoaluminium compounds as potential reagents in organic, inorganic and polymer chemistry. It should stimulate the discovery of new reactions exploiting the powerful electrophilic aluminium and perhaps encourage further investigation of the interactions of organoaluminium compounds with transition metal derivatives. These interactions are crucially important in a number of industrial processes and yet at present they seem to be only poorly understood.

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