

Book review

Dimethyl Sulphoxide; edited by D. Martin and H.G. Hauthal; translated by E.S. Halberstadt. Van Nostrand Reinhold Co. Ltd., London, 1975, XV + 500 pages, £ 20.

The dramatic increase in the use of dimethyl sulphoxide over the last decade reflects a growing awareness of the importance of solvent effects in chemistry. Not only is it a good solvent for a wide range of compounds, but the rates of many reactions can be dramatically increased by changing from a protic solvent to dimethyl sulphoxide. Furthermore, studies of solutions of, e.g., the dimethyl anion in dimethyl sulphoxide, have led to the discovery of new synthetic methods. All these developments are properly reflected in this English translation, the original German book having first appeared in 1971.

Chapters on the preparation (1), purification and analysis (2) and physical properties (3) of dimethyl sulphoxide are followed by accounts of solvation and association in dimethyl sulphoxide (4), and its use as a component of single- and multi-phase systems (5). Applications in the measurement of weak acidities, in electrochemistry (including conductivity and polarography) and in chromatography are discussed in Chapter 6.

Organic chemists will be particularly interested in Chapters 7 and 8, where the uses of dimethyl sulphoxide as a medium for a large number of chemical reactions and also as a reactant, are well brought out. In Chapters 9 and 10 the preparation and reactions of the dimethyl anion and the dimethylsulphonium ylides respectively are discussed. Technical applications are dealt with in Chapter 11 with the final Chapter being devoted to the use of dimethyl sulphoxide in medicine and pharmacology.

The publishers are to be congratulated for making the book available to a wider readership and Dr. Halberstadt for an excellent translation. Anybody contemplating the use of dimethyl sulphoxide as a reaction medium or reactant would do well to consult this book. It is a pity that prospective purchasers may be discouraged by the rather high price.

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