and their control; toxicity; allowable limits on exposures for air, water and solid waste disposal; product use; references.

Three short introductory chapters include sections on the definition of a pesticide, general pollution problems in manufacturing, pesticide formulation and use and the general aspects of toxic materials control and restrictions on pesticide exposure and use. The third chapter deals with environmentally acceptable alternatives to conventional pesticide use.

GARY F. BENNETT

Biodegradation Techniques for Industrial Organic Wastes, by D.J. De Renzo (Ed.), Noyes Data Corporation, Park Ridge, New Yersey, 1980, $28.

This book is based on a report of SCS Engineers prepared for the US Environmental Programme. It mainly describes treatment systems already well established for the removal of potential hazardous organics (Biocidal, Mutagenic, Carcinogenic, Bioaccumulative) from water in order to meet the requirements of Section 212 Resource Recovery Act 1970 of the E.P.A. Much of the book describes the results of operating selected plant with special reference to oxygenation and anaerobic digestion, nutrients, biological properties and their control, temperature etc.

Special attention is also paid to the treatment of thirty-five selected organics such as phenols and aromatic, heterocyclic and polycyclic hydrocarbons which occur as wastes widely in the petrochemical and process industries. Some lists include these with references to their analysis and biodegradability. A quite wide range of toxic elements is thus covered together with much practical experience of rates of degradation in the selected plant with some prediction for design and operating conditions for new plant.

A large proportion of the text is devoted to site studies which include design features related to location, and economics. These will be of great value to consultant civil engineers in the effluent treatment industry. The descriptions of the biological characteristics of the plant are rather cryptic and it must be assumed that the authors expect their readers to be well versed in microbial physiology and biochemistry. With only one exception (Flouren) all the chemicals were known to be biodegraded: little advice is given on how to test those new chemicals for biodegradability.

The brief discussion of innovation in the effluent treatment touches on important immediate development but is not very innovative in approach. In all, this book must be considered as a valuable addition to the field, especially to designers and operators and should find a place in civil and chemical engineering libraries as well as in those of water treatment and environmental organisations.

D.E. HUGHES