Journal of Medicinal and Pharmaceutical Chemistry

VOL. 2, No. 1 (1960)

Book Review

The Chemistry of Industrial Toxicology, by Hervey B. Elkins. Second Edition. John Wiley & Sons, Inc., New York, 1959. 15 × 24 cm. 452 pp. $11.50.

This comprehensive treatment of the problems involved in industrial use of hazardous chemicals has now appeared in a second edition, incorporating much new material. By its nature industrial toxicology is an everchanging field, not only in respect to the many new chemicals being introduced into commercial processes, but also because previous estimates of the toxicity of materials already in use must frequently be re-evaluated as effects originally overlooked or underestimated show up with the passage of time. The nine years since the first edition of this book appeared have been notable for many such changes, as may be shown by the fact that over one-third of the 555 references in the second edition are from this period. This makes the second edition a desirable purchase for those who have found the first edition useful.

The first part of the book consists of individual treatments of chemicals used in industry whose toxicity has been evaluated; under each is given in outline form the atomic or molecular weight, melting and boiling points, harmful effects, degree of harm, maximum allowable concentrations and methods of evaluating concentrations, followed by a discussion which ranges from one sentence to several pages, depending upon the importance of the chemical. The individual elements are taken up first, including under each those compounds in which the element itself is largely responsible for toxicity. This is followed by a section on inorganic compounds whose toxicities are not inherent in any of their constituent atoms but in the molecule as a whole. The listing of organic compounds is by their important functional groups, e.g., olefins, ketones, halogenated hydrocarbons, etc., and includes such relatively recent innovations as organosilicon and organophosphorus compounds. This part of the book is concluded by a chapter on radio-active isotopes.

A discussion of preventive measures and a brief survey of industrial processes giving rise to hazards, comprise the next two chapters, and then the concept of maximum allowable concentrations is taken up; a list of maximum allowable concentrations for industrial chemicals is included in this chapter.

The final part of the book is devoted to analytical methods used for determining concentrations of hazardous chemicals, both in the environment and in the body. The procedures are given in sufficient detail so that workers in the field can, in most cases, use them without referring to the original papers.

This book is intended for industrial chemists concerned with the problems of safe use of chemicals which may have toxic properties, and it should be of most value to them. Since the medical and pharmacological information is in most cases given only very briefly, workers in these fields probably would not make great use of it. It is likewise not recommended for laboratory workers, since the problems of industrial toxicology bear little relevance to laboratory conditions.

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