

*Handbook of Aerosol Technology* by Paul A. Saunders, (2nd edn.), Van Nostrand Reinhold, N.Y., £ 20.65.

When reading a book review, it is often helpful for the reader to know a little about the reviewer. In this case he is an atmospheric chemist who has a working knowledge of surface chemistry, learnt whilst working for a major food and detergent manufacturer. Viewed from both these standpoints this is an excellent book and as suggested on the flyleaf, it constitutes essential reading for managers, production personnel, toxicologists and legislators.

Aerosols are generally thought of as a suspension of liquid droplets or solid particles in a gas, producing mists or smokes. This book, however, is concerned with much more than just this and gives, for example, precise instructions for dispensing a saleable product contained in a can onto a desired surface. The text deals with both fundamentals and practical details. Thus, in the section on homogeneous systems, it describes the gas laws, and explains in a clear manner the complex phase diagrams that result from various mixtures of substances, necessarily contained in the aerosol can. Other properties, such as solvency, density and flammability are dealt with in the same fundamental manner, as are droplet size characteristics of aerosol sprays. At the same time, much detail is given on individual aspects of a seemingly simple aerosol spray can assembly. Here are presented the design principles of containers, valves and actuators and instructions for filling a can with products. The section on multi-phase systems begins by describing in an elegant manner the main features of such systems, including the nature of surface forces, surface tension, micelle formation, etc. It then deals in detail with emulsions, foams and powders.

The book is a handbook in the true sense, with separate chapters on individual topics that are largely self-contained. It contains a wealth of data in many tables which are of immediate use to the specialist. This resulted in the first edition becoming something of a bible with people interested in the formulation of new products. Each chapter is wellreferenced, particularly the one dealing with toxicity, which contains no fewer than 300 individual references.

A theme running through the whole of the second edition is the impact of the fluorocarbon—ozone controversy. This is reflected in the presentation of new data on many types of alternative fluorocarbon propellants, and in two new chapters dealing in some detail with the substance of the controversy itself and with enumerating research programs designed to understand the true impact of the chlorine released from the propellant molecules. The chapter entitled "Fluorocarbons in the Atmosphere" chronicles the development of this remarkable affair and describes in concise terms the scientific reasoning behind the ozone depletion theory. Often one finds that information in books is out of date by the time they are published, particularly in areas such as the atmospheric sciences where innovations appear week-by-week. It is to the credit of this book though, that the scientific content is absolutely the "state of the art".

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