

Spreading of Lenses on Water; Biliquid Foams; Polyaphrons; Applications of Polyaphrons; Invert Aphrons; Unusual Forms of Aphrons.

The Greek-derived word "aphrons" is used by the author to describe those systems which are known in general scientific usage as "concentrated emulsions". The work of *Princen* and *Lissant* and their colleagues has unfortunately been ignored, which is especially regrettable in view of the fact that modern theories on the flow behavior of foam systems originate from this group.

While the book's treatment of theoretical aspects is rather elementary, and even incomplete, the reader nevertheless finds here an extensive and hitherto unique compendium of interesting observations which the author, as an expert on this topic, has collected together. This constitutes the real worth of the book, despite some other serious shortcomings.

Gerhard Platz

Institut für Physikalische Chemie
der Universität Bayreuth (FRG)

Dispersing Powders in Liquids. By *R. D. Nelson*. Elsevier, Amsterdam 1988. xviii, 246 pp., bound, US \$ 84.25.— ISBN 0-444-43004-0

This book is published as Volume 7 in the series "Handbook of Powder Technology" and comprises 245 pages, divided into eight well-arranged chapters. These describe the fundamental characteristics that play a role in the dispersion of inorganic materials in powder form. Unfortunately, certain materials of technical importance, for example synthetic silicas and carbon blacks, are not dealt with here. This is rather a pity, since these substances have very high specific surface areas which generally render them difficult to disperse. The reviewer also feels that the book lacks two chapters which would be of relevance for practical purposes—one about dispersers and one on the correct choice of mill base compositions. In the appendices the list of "liquids" includes only chemically pure solvents, but not, for instance, a selection of liquid binders, which are of technical importance in different fields of industry. This book is therefore not so much intended for experimentalists and technologists, but is more suited to the needs of readers with educational objectives, particularly since it deals with numerous basic physical principles. In this context, it is encouraging that the HLB value is also considered here; the fact that this value was established phenomenologically has often led to it being overlooked in scientific articles.

All in all, this small book is an ideal reference source for anyone who is not familiar with the problems relating to the surface science of materials in powder form.

Horst Ferch

Degussa, Hanau (FRG)

A Guide to Materials Characterization and Chemical Analysis. Edited by *J. P. Sibilia*. VCH Verlagsgesellschaft, Weinheim 1988. x, 318 pp., bound, DM 75.00.— ISBN 3-527-26867-7

This book represents a survey of state-of-the-art techniques for modern materials characterization and analysis. The book covers approximately 75 techniques that are used in characterization of chemicals, polymers, ceramics, metals and composites. The first chapter provides an introduction to how one might utilize the techniques that follow in practical problem-solving applications. Each of the following chapters describes one or more techniques, with the presentation organized according to the use of the technique, sample preparation, underlying physical and chemical principles, applications, and limitations. Due to the breadth of coverage, only a limited amount of space is devoted to each technique. However, this is adequate to introduce the technique; several references are listed after each section, providing in-depth detailed information for the reader who is interested in a more rigorous treatment.

This is a valuable book for materials laboratories and general industrial laboratories where characterization and analysis of many different substances may require several different techniques. It serves as a good review for established scientists as well as a useful resource for beginners.

J. Wayne Rabalais

Department of Chemistry
University of Houston (USA)

DECHEMA Corrosion Handbook, Vol. 2. Edited by *D. Behrens*. VCH Verlagsgesellschaft, Weinheim 1988. x, 340 pp., bound, DM 775.00.— ISBN 3-527-26653-4

The DECHEMA Corrosion Handbook—a series of at least twelve volumes is planned—is a completely new English edition of the DECHEMA Werkstoff-Tabelle.

The second volume (340 pages) describes the corrosion properties of metallic, non-metallic inorganic, and organic materials in corrosive media of aliphatic aldehydes, ammonia and ammonium hydroxide, sodium hydroxide and the underground corrosion in soil. The largest parts of this volume are devoted to sodium hydroxide (154 pages) and soil (90 pages).

Some errors of the first volume which had earlier been criticized by the reviewer have been corrected in Volume 2. As an example, some electrochemical reference systems are now mentioned in the introductory part of some chapters, but in addition to these many others are mentioned in the detailed descriptions of the corrosion behavior of the different materials. In subsequent volumes a list of all these reference systems should be included in the introduction, citing also their potentials versus the Standard Hydrogen Electrode.

In general, the clearly arranged layout of the first volume is continued in the second volume. Much valuable in-