Dyeing to be Read

High Performance Pigments. Edited by *Hugh M. Smith*. Wiley-VCH, Weinheim 2002. 435 pp., hardcover € 159.00.—ISBN 3-527-30204-2

Anyone seeking up-to-date information about the physical-chemical principles of high performance pigments and their special technical properties will find that this book gives an excellent survey of all relevant aspects. Previous treatments of the broad field of pigments have usually recognized a clear distinction between organic and inorganic materials. Two important monographs on the subject are *Industrial Organic Pigments*, by Willi Herbst and Klaus Hunger, and *Industrial Inorganic Pigments*, by Gunter Buxbaum, both published by Wiley-VCH. In the book reviewed here the wide-ranging subject of pigments is approached from a different and new perspective, with the emphasis on pigments for exceptionally demanding applications that require special properties. Both inorganic and organic pigments are discussed.

The publication of this book follows a series of international conferences under the title "High Performance Pigments" that took place in Chicago, Miami, Barcelona, and Berlin during the last few years. All of these (except that in Berlin) were led by Hugh M. Smith, a renowned expert on the subject with several decades of relevant industrial experience, who is also the editor of the book.

Up to now there has been no universally accepted definition of "high performance" pigments, and much discussion, philosophizing, and argument about possible definitions took place during the above conferences. One definition, proposed by Hugh Smith himself, is that they are organic or inorganic particulate pigments, which are colored, black, or white, pearlescent, have a pearl-like surface sheen, and may be luminescent or fluorescent, with properties that fulfill the highest possible requirements for the intended use. Another suggestion comes from Fritz Brenzikofer who led the Berlin conference. In contrast to Smith's technically oriented definition, Brenzikofer's is firmly based on the pigments market. According to this, a high performance pigment is the correct pigment for a special application, which satisfies precisely defined quality criteria and is produced at optimum cost.

As authors for this book, Hugh Smith has succeeded in recruiting experts in a wide range of specialist areas. All have long experience in the pigments industry, and give thoroughly competent accounts of the latest developments in their fields.

Six chapters are devoted to inorganic pigments, beginning with an introductory overview by Gunter Buxbaum. Some recent developments are covered for the first time, such as the new class of cerium-based pigments. A long and detailed chapter is devoted to the rapidly growing field of effect pigments. These include pigments with angle-dependent color effects, and functional pigments with special electrically conducting, magnetic, IR-reflective, or laser-sensitive properties. The chapter on "Crystal Design" describes how the suitability of pigments for different technological applications is affected by their crystalline properties, so that by tailoring these properties one can optimize a pigment for a specific application.

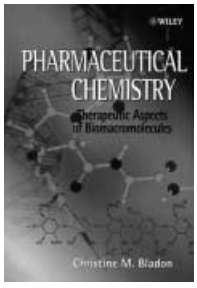
A further 12 chapters describe the different classes of organic pigments, introduced by an article discussing the world market for these products. A knowledge and understanding of the regulations that govern the registration of new pigments is increasingly important, since this aspect has a decisive influence on the economic success of a new product. Two chapters are devoted to this topic, with emphasis on the USA and Europe, respectively. The book concludes with chapters on the analysis of pigments and on toxicological aspects.

The Color Index International (CI) system is used throughout the book to identify pigments. The detailed list of contents and the subject index enable the reader to easily find information on topics of interest such as individual pigments or classes of pigments.

The reader should not expect to find every conceivable application of high performance pigments described in minute detail here, and that would hardly be possible in the space of a single book. Nevertheless, the book gives a very good survey of the current technical situation in this field, and also provides many literature references for the reader who wishes to delve more deeply into specific aspects.

Gerald Fuchs-Pohl
Merck KGaA
Darmstadt (Germany)

Pharmaceutical Chemistry. Therapeutic Aspects of Biomacromolecules. By *Christine M. Bladon.* John Wiley & Sons, New York 2002. xii + 221 pp., softcover £ 24.95.—ISBN 0-471-49637-5



This book evolved from a course given to undergraduate pharmaceutical chemistry students focusing on the therapeutic aspects of biopolymers. Although directed towards pharmaceutical chemistry students, it would also be useful

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