

Book Reviews

***Modern Aspects of Emulsion Science*; B.P. Binks (Ed.); The Royal Society of Chemistry, London, 1999, XII + 430 pages, ISBN 0-85404-439-6 £79.00**

An emulsion may be defined as a heterogeneous system of two immiscible liquid phases, where one of the phases is dispersed in the other as droplets.

Modern Aspects of Emulsion Science published by The Royal Society of Chemistry presents a comprehensive description of both the scientific principles and latest advances in the area of surface and colloid science.

The book begins with a recent review of emulsions. To make an emulsion, oil, water, surfactant and energy are needed. The most important aspects of emulsion formation are detailed in chapters two and three. Various factors affect the stability of an emulsion. Flocculation and creaming, rheology, phase inversion, coalescence, lifetime and molecular diffusion are discussed respectively in the following six chapters.

Emulsions are much more complex than suspensions of solid particles due to their fluidity and deformability. Chapter ten summarises the recent efforts to define and calculate the pair energy between two droplets, including the effect of their deformation.

Gel emulsions are highly concentrated emulsions which form either water or oil rich regions of water/surfactant/oil systems. The formation and structural aspects of gel emulsions are reviewed in chapter eleven. The book concludes with a description of the various applications of emulsions.

This is an extremely informative and detailed volume. It would be a useful source of reference for anyone connected with this field and would be invaluable as part of a scientific or university library.

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***Dictionary of Carbohydrates*; P.M. Collins (Ed.); Chapman & Hall, London, 1998, xv + 937 pages, ISBN 0-412-38670-4, £395.00, also available on CD-ROM,**

ISBN 0-412-80350-X, £395.00 (Book and CD-ROM package: £495.00)

The '*Dictionary of Carbohydrates*' is a subset of the Chapman & Hall Chemical Database, and is available as either a single volume dictionary or as a database on CD-ROM. The *Dictionary* presents descriptive and numerical data on chemical, physical and biological properties of compounds; systematic and common names of compounds; literature references; structure diagrams and their associated connection tables, based upon primary literature that has been evaluated up to mid-1996. The *Dictionary* contains some 20 000 compounds grouped together in approximately 3800 entries, an entry containing stereoisomers and derivatives of a parent compound. The compounds covered in the *Dictionary* are largely monosaccharides and their derivatives, and disaccharides (mostly unmodified). Additionally there are entries covering oligosaccharides, polysaccharides and glycosides. The polysaccharides detailed consist predominantly of homopolysaccharides, e.g. starch and cellulose and not complex heteropolysaccharides such as those of bacterial origin. For each compound the full systematic IUPAC name is given, together with melting points and boiling points, optical rotations, densities and refractive indexes, where available.

The CD-ROM version contains all of the information in cross-referenced form and is fully text and substructure searchable and contains easy to use drawing software. Search indexes can be used to search quickly and easily throughout the entire database. Results can be rapidly transferred between text and substructure searching. Another useful feature is the ability to search using the '*type of compound*' index in which carbohydrates are classified under one or more of over 100 headings according to structural type. This facility complements searching by substructure allowing easy access to carbohydrates of a certain type whether they are listed as main entries or as derivatives. The minimum system requirements for using the CD-ROM are an IBM compatible PC with 486 processor, 8 Mb RAM, 20 Mb hard disk space, a VGA colour monitor, Windows™ 3.1 or 95. Adobe Acrobat v. 3 (or later version) is also required, however this is included on the CD-ROM.

In summary, both the dictionary and CD-ROM database provide the researcher with access to an abundance of important information that cannot be located in any other single source. We therefore highly recommend these