

Sweeteners: Alternative

Amy L. Nelson (Ed.); Eagan Press, St. Paul, MN, USA, 1999, 98 pages, ISBN 1-891127-11-X (£59)

Sweeteners uses have largely increased in the past 20 years. Nowadays they occupy a large portion of commercial space on supermarket shelves worldwide. These products are available mainly for people who are diabetic or who are looking for low calorie materials. Alternative sweeteners are produced to be used in several products ranging from cookies to soft drinks, in order to satisfy the consumers. Where conventional sugars such as glucose, fructose and sucrose are to be replaced by highly sweet alternatives, the fact that such alternatives often do not have the bulk that the conventional carbohydrates do, on account of their higher sweetening intensity per unit weight, must be borne in mind.

The book *Sweeteners Alternative* provides a range of chapters that describe an overview of approval processes, history of the synthetic and naturally occurring sweeteners, properties of high-intensity sweeteners, properties of sugar alcohols, and confectionery, bakery and other grain-based applications. This book also gives an up-to-date, clearly written and presented compendium equally of value as an essential reference tool. It can be highly recommended for scientists in all branches of the food industry and particularly the carbohydrate and carbohydrate replacement areas, as well as for students in the chemistry and biochemistry schools dealing with foods.

Eduardo H.M. Melo
John F. Kennedy

*Chembiotech Laboratories, University of Birmingham
Research Park, Vincent Drive,
Birmingham B15 2SQ, UK*

0144-8617/01/\$ - see front matter © 2001 Elsevier Science Ltd. All rights reserved.

PII: S0144-8617(00)00222-8

Emulsifiers: Practical Guides for the Food Industry

Clyde E. Stauffer (Ed.); Eagan Press, St. Paul, MN, USA, 1999, ISBN 1-891127-02-0, 102 pages, (£59)

In the last few years the emulsifiers has been well applied in the food industry, improving such aspect as form and taste. Technically speaking, emulsifiers and surfactants are one and the same ("surfactant = surface-active agent"), but the word "emulsifier" has been used much more for food applications than the other processes. The production of those emulsifiers has been carried in chemical and microbial ways, the key molecular characteristics of a surfactant being that is amphiphilic. The lipophilic (or hydrophilic) part of

the molecule is more related to the non polar environment, and the hydrophobic part prefers to be in the aqueous (polar) part of the environment. These proprieties have been applied in order to improve the properties of bakery, dairy, dressing, sauces and beverages products. The modern need to develop, maintain and improve food technology still demands the understanding of complexities present in the formulation processes, and these are often overlooked. The quality of literature in the emulsifier field is very variable, but almost of the publications concern the physico-chemical studies of emulsifiers and their production. Thus there was a need for a general publication that would help a broad readership to understanding the basics of foods ingredients, application, and processes.

This book *Emulsifiers* introduces readers to the subject with seven chapters on different aspect of emulsifiers. Subsequent chapters describe emulsion, molecular organization, and application on food, bakery, dairy and nondairy, dressing and sauces and beverages. Practical troubleshooting advice for broad readership and technologists in all branches of the application is prominently featured. There are very short sets of references in each chapter, but the book has a glossary listing useful information on terms related to emulsifier.

Emulsifiers provides an up-to-date, clearly written and presented compendium, for broad readership. It is highly recommended for students for their initiation in the area of human nutrition and food processing.

José L. Lima Filho

John F. Kennedy

*Chembiotech Laboratories, University of Birmingham
Research Park, Vincent Drive,
Birmingham B15 2SQ, UK*

0144-8617/01/\$ - see front matter © 2001 Elsevier Science Ltd. All rights reserved.

PII: S0144-8617(00)00223-X

Scientific Unit Conversion. A Practical Guide to Metrication, 2nd ed.

F. Cardarelli; Springer, Berlin, 1999, xvi + 488 pages, ISBN 1-852-33043-0, £24.50

Books on the conversion of scientific units into their SI equivalents are rare in scientific literature. There are several specialised treatises on the subject as applied to certain areas of science and technology, which contain sections on the subject, supported by conversion tables. However, these tables are anything but exhaustive, and it is often necessary to consult sources in several very different areas in order to obtain the desired information. *Scientific Unit Conversion. A Practical Guide to Metrication* aims to ensure rapid and

accurate conversion of scientific units to their SI equivalent. The new edition, which has been significantly expanded, revised and updated, provides accurate metric equivalents and conversion factors for more of 10,000 scientific units with detailed descriptions of over 2000.

Beginning with a brief history of the metric system, including the organisation and a complete description of SI units (Chapter 2), the book goes on to describe alternative modern systems still in use (e.g. UK imperial, US, centimetre–gram–second, foot–pound–second) as well as ancient and obsolete systems (Chapter 3). Chapter 4 is an exhaustive set of conversion tables. Units, in alphabetical order, are fully described as name, symbol, physical quantity, dimension, conversion factor, notes and definitions. Fundamental mathematical and physical constants are also provided (Chapter 5). Appendices contain a list of national and international standardisation organisations, French–English lexicon for units and physical quantities, Greek alphabet and Roman numerals, large numbers rules, numerical representation of date and time, acceleration due to gravity at any latitude and elevation, international temperature scales, and old and alchemical symbols. A detailed bibliography completes the book.

This pocket-sized and user-friendly guide covers the full gamut of science, technology, medicine and economics, dealing with British, US, conventional metric, historic and SI units. It will therefore be useful for researchers, scientists, engineers and technologists, economists, doctors, pharmacists, and patent lawyers, as well as for teachers and students.

M.G. Garaita

J.F. Kennedy

*Chembiotech Laboratories, The University of Birmingham
Research Park, Vincent Drive,
Birmingham B15 2SQ, UK*

0144-8617/01/\$ - see front matter © 2001 Elsevier Science Ltd. All rights reserved.

PII: S0144-8617(00)00233-2

Breakfast Cereals and How They are Made; 2nd ed.

R.B. Fast, E.F. Caldwell (Eds.): American Association of Cereal Chemist, Inc., St. Paul, Minnesota, 2000, 562 pages, ISBN 1-891-12715-2, Euro 103.41

Breakfast cereals not only fit today's lifestyles but also provide a myriad of choices for meeting today's recommendations to increase the whole-grain, complex carbohydrate, and fibre components of the diet for people of all ages and medical conditions, all income levels, and all levels of cooking skill. A comprehensive view of the subject was first put together in the original edition of *Breakfast Cereals and How They are Made* in 1990. However, many new exciting

developments in breakfast cereals have arisen in the intervening years. Nutritional knowledge has increased, computer control has advanced substantially, and environmental management has become a critical part of the manufacturing picture.

The second edition of *Breakfast Cereals and How They are Made* has been significantly updated and revised. Information on contemporary topics such as new developments in equipment and technology, the expansion of computer control within the industry, advances in nutritional knowledge, and environmental issues in breakfast cereal manufacturing have been included. SI units of measurements are used throughout the book as well as those common in North America. The book first introduces the principal cereal grains, and then an overview of the techniques used in turning them into ready-to-eat products. Ready-to-cook cereals are highlighted in another chapter. The major unit operations of most processes by which ready-to-eat breakfast cereals are produced and equipment used in these processing steps are reviewed over the next five chapters. The remaining chapters cover packing, fortification, preservation, nutrition, quality assurance, computer control, and environmental management. An enlarged list of manufacturers of processing and packing equipment and an expanded and updated list of additional references complete the book.

The in-depth information presented in *Breakfast Cereals and How They are Made, 2nd ed.* will be invaluable for professionals in all branches of the cereal industry.

J.F. Kennedy

M.G. Garaita

*Birmingham Carbohydrate & Protein Technology Group,
Chembiotech Laboratories, The University of Birmingham,
Research Park,
Birmingham B15 2SQ, UK*

0144-8617/01/\$ - see front matter © 2001 Elsevier Science Ltd. All rights reserved.

PII: S0144-8617(00)00234-4

The Molecular and Supramolecular Chemistry of Carbohydrates. Chemical Introduction to the Glycosciences

S. David; Oxford Science Publications, Oxford, 1998, vii + 320 pages, ISBN 0-19-850047-5, £55.00

The increased appreciation of the roles of carbohydrates in the biological and pharmaceutical sciences has resulted in a revival of interest in carbohydrate chemistry. The involvement of oligosaccharides in many recognition phenomena, the growing demand for chiral synthesis, and the role of conformation in carbohydrate