NEW BOOKS

Edited by C.W. Hoerr

NEWS ITEM—ANTIOXYGENESIS, by N.A. Khan (P.C.S.I.R. Laboratories Rajshahi, East Pakistan, 184 p.)

This bulletin is a collection of eight papers totalling 184 pages in which the author reviews his interpretations of autoxidation and the effect of antioxidants in fats and oils, various fatty food products, and some types of non-food products.

C.W. HOERR
Glidden-Durkee Div. of SCM Corp.
Dwight P. Joyce Research Center
Strongsville, Ohio 44136

THE CHEMISTRY OF THE NITRO AND NITROSO GROUPS, Part I, Edited by Henry Feuer (Interscience Publishers, 684 p., 1969, $29.95).

This book is divided into nine chapters: 1, Theoretical Aspects of the C-NO and C-NO_2 Bonds (76 p.); 2, Spectroscopy of the Nitro Group; 3, Spectroscopy of the Nitroso Group (26 p.); 4, Photochemistry of the Nitro and Nitroso Groups (48 p.); 5, Methods of Formulation of the Nitroso Group and its Reactions (84 p.); 6, Methods of Formation of the Nitro Group in Aliphatic and Alicylic Systems (46 p.); 7, Nitronic Acids and Esters (136 p.); 8, Activating Effects of the Nitro Group in Nucleophilic Aromatic Substitutions (124 p.); and 9, Methods of Formation of the Nitramino Group, its Properties and Reactions (70 p.). Each chapter is preceded by a detailed table of contents with an author and subject index.

Fifth in a series of works "planned to cover in each volume all aspects of all of the important functional groups in organic chemistry," this work maintains in most respects the high standards set by the other volumes in this series. This book is written to fulfill the needs of those interested in the mechanistic and synthetic aspects of organic chemistry and does so very well. However, this book may be criticized for its lack of reaction yield data in many of the sections devoted to preparations. Also, it does not seem adequate to devote 46 pages to the formation of nitro groups when this topic has been the subject of several works including "Nitration of Hydrocarbons and Other Organic Compounds," A. V. Topchiev, Pergamon Press, 1959, a reference overlooked in this chapter.

Notwithstanding the defects, this volume should be welcomed by most chemists.

A.J. CASTRO
Armour Industrial Chemical Co.
8401 W. 47th St.
McCook, Illinois 60525

BASIC THERMODYNAMICS, by A.S. Morton and P.J. Beckett (Philosophical Library Inc., New York, 300 p., 1970, $15.00).

This book is intended as an introduction to the subject for beginners and as a review for anyone interested in the transformations of energy in a variety of practical applications. The subject is systematically presented in clear, readily understandable language with only a minimum of mathematical background necessary to development of the subject matter. Each chapter is liberally sprinkled with examples which illustrate the application of the principles to practical problems. Simple experiments which can be conducted with a minimum of readily available equipment are included for better understanding of the subject.

The first chapter introduces the concepts of pressure and temperature and discusses the gas laws and elementary gas kinetics. Chapter 2 is a lucid presentation of the concept of energy in its various forms, and Chapter 3 discusses the concept of entropy and introduces elementary quantum theory. Chapter 4 discusses chemical applications of thermodynamics in determining the feasibility of chemical reactions and reviews the concepts of free energy and activity as a basis for determining equilibrium constants. Chapters 5 and 6 discuss engineering applications to gases and to vapors, respectively, through applying thermodynamic principles in explaining the operation of reciprocating internal combustion engines, compressors, motors and turbines, steam installations and refrigeration systems.

Seven appendices provide valuable information correlating the units used in the various systems of measurement, additional basic equations, useful pertinent thermochemical data, and a comprehensive bibliography for further detailed information. The index is adequate to locate subject material.

Despite numerous larger and weightier treatises on thermodynamics, this small (4¾ × 7¼ in.) book is an excellent, concise and lucid discussion of a subject of interest to all members of the Society who are involved in any way with the transformation of energy in the course of their work.

C.W. HOERR
Glidden-Durkee Div. of SCM Corp.
Dwight P. Joyce Research Center
Strongsville, Ohio 44136

THE STORY OF MARGARINE, by S.F. Riepma (Public Affairs Press, Washington, D.C., 157 p., 1970, $6.00).

This book is an interesting and informative review of the historical development of margarine since its introduction 100 years ago. It is written in an easily understandable narrative style with a minimum of technical details.

The introduction in Chapter 1 identifies the product, discusses its characteristics, and describes the various types manufactured in this country. Chapter 2 discusses margarine as a promising new agricultural base in that all the ingredients used in its manufacture produce an ever-increasing source of income to the farming community. Chapter 3 discusses the manufacture of margarine in non-technical terms, describing briefly the processing methods involved, the selection of oils for the type of desired product, and the characteristics and purposes of the other ingredients. Chapter 4 is concerned with distribution, marketing, consumer acceptance and annual consumption statistics relative to butter over the years. Chapter 5 deals with the nutritional role of margarine; this is by far the most technical part of the book in that it discusses fat compositions and calorie values, lists representative fatty acid contents, and comments on fortification with vitamins and other nutrients. Chapter 6 discusses briefly the legal aspects of margarine with reference to federal standards, special laws and specific rules of federal agencies, mentions various state laws that supplement the federal regulations, and cites the principal court decisions bearing on the subject. Chapter 7 reviews the turbulent history of margarine since Mege-Mouriez in 1869 won the French emperor's prize for inventing a practical butter substitute, through the many years of battling prohibitory laws, restrictive regulations and dietary prejudices, to present acceptance as one of our staple food products.

Four appendices add considerable factual detail regarding legal aspects, world production of margarine, leading U.S. margarine manufacturers, and major suppliers of oils, ingredients and processing equipment. Each chapter is thoroughly documented with pertinent references. The index is adequate for locating specific information.

Although the author intended that this book serve primarily to inform home economists, dieticians, physicians and consumers, it contains material of specific interest to all members of the AOCS. Even though essentially non-technical in nature, it is a necessary addition to all fat and oil libraries.

C.W. HOERR
Glidden-Durkee Div. of SCM Corp.
Dwight P. Joyce Research Center
Strongsville, Ohio 44136