

# NEW BOOKS

from The Royal Society  
of Chemistry

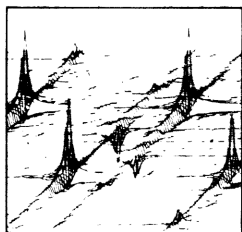
#### ORDERING

RSC Members should send their orders to  
The Royal Society of Chemistry  
The Membership Officer, 30 Russell Square  
London WC1B 5DT

Non RSC Members  
The Royal Society of Chemistry  
Distribution Centre, Blackhorse Road  
Letchworth, Herts SG6 1HN, England

### Specialist Periodical Reports

## Nuclear Magnetic Resonance Vol. 13



Senior Reporter:  
G. A. Webb

This volume reviews the literature published on the subject between June 1982 and May 1983

#### Brief Contents:

Theoretical and Physical Aspects of Nuclear Shielding  
Applications of Nuclear Shielding  
Theoretical Aspects of Spin-Spin Couplings  
Applications of Spin-Spin Couplings  
Nuclear Spin Relaxation in Fluids  
Solid State NMR  
Multiple Resonance  
Natural Macromolecules  
Synthetic Macromolecules  
Conformational Analysis  
Oriented Molecules  
Nuclear Magnetic Resonance in Heterogeneous Systems  
Nuclear Magnetic Resonance of Living Systems

"This volume and its predecessors are useful because references to papers on similar techniques or on similar systems are organised in a logical format. The interested reader can easily find references to papers of immediate interest as well as to papers on related topics. The editor and his reporters are to be commended for the manner in which they have organised their material . . ."

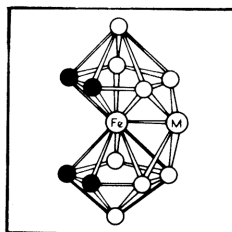
— G. R. Miller, *Jnl. American Chemical Society*, reviewing Vol. 11

Hardcover 415pp 0 85186 362 0  
Price £68.00 (\$122.00) RSC Members £38.00

ROYAL  
SOCIETY OF  
CHEMISTRY



## Organometallic Chemistry Vol. 12



Senior Reporters:  
E. W. Abel and  
F. G. A. Stone

This twelfth volume in the series reviews the literature published on the subject during 1982.

#### Brief Contents:

Group I: The Alkali and Coinage Metals  
Group II: The Alkaline Earths and Zinc and its Congeners  
Group III: Boron  
The Carbaboranes, including their Metal Complexes  
Aluminium, Gallium, Indium and Thallium  
Group IV: The Silicon Group  
Group V: Arsenic, Antimony and Bismuth  
Metal Carbonyls  
Organometallic Compounds Containing Metal-Metal Bonds  
Substitution Reactions of Metal and Organometal Carbonyls with Group V and VI Ligands  
Sigma-Bonded Organometallic Compounds of Transition Elements of Groups IIIA-VIIA  
Complexes Containing Metal-Carbon  $\sigma$ -Bonds of the Groups Iron, Cobalt and Nickel  
Metal-Hydrocarbon  $\pi$ -Complexes  
 $\pi$ -Cyclopentadienyl,  $\pi$ -Arene and Related Complexes  
Homogeneous Catalysis by Transition-metal Complexes  
Diffraction Studies of Organometallic Compounds

"This is basically a no-nonsense book, devoted to complete coverage with minimum supplementary comment. It achieves these goals admirably."

— J. H. Stocker, *Jnl. of American Chemical Society*, reviewing Vol. 10

Hardcover 516pp 0 85186 601 8  
Price £82.00 (\$147.00) RSC Members £41.00

# NEW BOOKS for...

## Industrial Chemists and Toxicologists...

from The Royal Society  
of Chemistry

### Molecular Aspects of Toxicology

By D.E. Hathway

Toxicology covers a wide field, which comprises chemical toxicology, cosmetics toxicology, environmental toxicology, food and drugs toxicology, industrial toxicology, pesticide toxicology, and the toxicology of atmospheric pollution, and which involves acute and long-term testing as well as special tests for carcinogenicity, irritation, mutagenicity and teratogenicity. In the testing phases, diagnoses are reached through the disciplines of chemical pathology, clinical medicine and pathology, and in the experimental one, explanation is sought through chemical/biochemical and pharmacological methods.

In such a fragmented field as toxicology with so many diverse practices and specialisms, it is hard to gain an idea of continuity.

This book attempts to unify the subject of toxicology and should be useful to chemists engaged in molecular biology and workers concerned with toxicology and cancer research in particular, as well as to pharmacologists and specialists in drug development and occupational hygiene and medicine in general.

#### Brief Contents:

##### Part I Toxicity of Foreign Compounds

Assessment of Toxic Risk; Structure-Activity Considerations; Measurement of a Carcinogenic Exposure;

##### Part II Relation between Dose and Effect and Time

Biological Action; Extension of Simple Theory to Toxicology;

##### Part III Metabolism

Metabolic Pathways for Industrial Chemicals and Pesticides; Kinetic Considerations;

##### Part IV Pharmacogenetics

Species Differences in Metabolism and Toxicity;

##### Part V Biochemical Lesions

Mode of Action Studies;

##### Part VI Chemical Carcinogenesis

Importance of Chemical Non-enzymic Reactions in Vivo; Possible Mechanisms of Carcinogenesis and their Biological Significance; Host Factors and Cellular Aspects; Tissue Specificity;

##### Part VII Toxicant Allergy

Antigen Formation and Immunobiological Effects Produced by Foreign Compounds;

Hardcover 319pp 0 85186 068 0

Price £27.50 (\$50.00) RSC Members £19.00

RSC Members should send orders to: The Royal Society of Chemistry, Membership Officer, 30 Russell Square, London WC1B 5DT. Non-RSC Members should send orders to: The Royal Society of Chemistry, Distribution Centre, Blackhorse Road, Letchworth, Herts SG6 1HN.

ROYAL  
SOCIETY OF  
CHEMISTRY

### Oxygen and the Conversion of Future Feedstocks

Oxygen and the Conversion of Future Feedstocks



Third BOC Priestley Conference

### 3rd BOC Priestley Conference

This publication contains the proceedings of the third BOC Priestley Conference held in September 1983.

This international meeting was sponsored by British Oxygen Company PLC (Gases Division) and organised by The Royal Society of Chemistry, and consisted of a scientific part, on the general theme of the role of oxygen in the conversion of present and future feedstocks, and an historical part, on the various aspects of Joseph Priestley's life and work.

#### Brief Contents:

Introductory Lecture: The Elegant Use of Oxygen; The Catalysis of Synthesis Gas Production; Development of the Shell Coal Gasification Process; Development of the Fixed Bed Slagging Gasifier; The Purification of Synthesis Gas; Transition-metal Peroxides as Reactive Intermediates in Heterolytic and Homolytic Liquid-phase Catalytic Oxidations; Heterogeneous Catalytic Oxidation: A Review of Principles and Practice; Ethylene and Ether from Ethanol; Novel Pathways to Enhance Selectivity in Fischer-Tropsch Chemistry; *In situ* Electron Microscopy Studies of Catalysed Gasification of Carbon; Ethylene Glycol from Synthesis Gas; Chemicals from Coal Gasification; Biomass as a Chemical Raw Material; Gas Separations by Manganese (II) Phosphine Complexes; Engines and Future Liquid Fuels; Concluding Remarks;

#### Historical Sessions

Priestley Lecture: The World's First Chemical Explosive in China and the West; Priestley and the Dissenting Academies; Priestley in Caricature; Priestley in America: 1794-1804; 'Fresh Warmth to our Friendship': Priestley and His Circle; From Chaos to Gas: Pneumatic Chemistry in the Eighteenth Century; The Professional Life of an Amateur Chemist: Joseph Priestley; 'A Sower Went Forth': Joseph Priestley and the Ministry of Reform; Priestley and the Manipulation of Gases;

Special Publication No. 48 (1984)

Softcover 504pp 0 85186 915 7

Price £18.00 (\$33.00)

RSC Members £13.50



The Royal Society of Chemistry, Burlington House Piccadilly London W1V 0BN

Printed in Great Britain by Richard Clay (The Chaucer Press), Ltd.,  
Bungay, Suffolk