



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;

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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;

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