PRINCIPLES OF TOXICOLOGY
PRINCIPLES OF TOXICOLOGY
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SECOND EDITION

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CONTENTS

PREFACE xv

ACKNOWLEDGMENTS xvii

I CONCEPTUAL ASPECTS 1

1 General Principles of Toxicology 3
   Robert C. James, Stephen M. Roberts, and Phillip L. Williams
   1.1 Basic Definitions and Terminology 3
   1.2 What Toxicologists Study 5
   1.3 The Importance of Dose and the Dose–Response Relationship 7
   1.4 How Dose–Response Data Can Be Used 17
   1.5 Avoiding Incorrect Conclusions from Dose–Response Data 19
   1.6 Factors Influencing Dose–Response Curves 21
   1.7 Descriptive Toxicology: Testing Adverse Effects of Chemicals and Generating Dose–Response Data 26
   1.8 Extrapolation of Animal Test Data to Human Exposure 28
   1.9 Summary 32
   References and Suggested Reading 32

2 Absorption, Distribution, and Elimination of Toxic Agents 35
   Ellen J. O’Flaherty
   2.1 Toxicology and the Safety and Health Professions 35
   2.2 Transfer across Membrane Barriers 37
   2.3 Absorption 41
   2.4 Disposition: Distribution and Elimination 45
   2.5 Summary 53
   References and Suggested Reading 54

3 Biotransformation: A Balance between Bioactivation and Detoxification 57
   Michael R. Franklin and Garold S. Yost
   3.1 Sites of Biotransformation 62
   3.2 Biotransformation Reactions 65
   3.3 Summary 85
   Suggested Reading 86
CONTENTS

4 Hematotoxicity: Chemically Induced Toxicity of the Blood 87

**Robert A. Budinsky Jr.**

4.1 Hematotoxicity: Basic Concepts and Background 87
4.2 Basic Hematopoiesis: The Formation of Blood Cells and their Differentiation 88
4.3 The Myeloid Series: Erythrocytes, Platelets, Granulocytes (Neutrophils), Macrophages, Eosinophils, and Basophils 91
4.4 The Lymphoid Series: Lymphocytes (B and T Cells) 94
4.5 Direct Toxicological Effects on the RBC: Impairment of Oxygen Transport and Destruction of the Red Blood Cell 95
4.6 Chemicals that Impair Oxygen Transport 97
4.7 Inorganic Nitrates/Nitrites and Chlorate Salts 99
4.8 Methemoglobin Leading to Hemolytic Anemia: Aromatic Amines and Aromatic Nitro Compounds 100
4.9 Autoimmune Hemolytic Anemia 101
4.10 Bone Marrow Suppression and Leukemias and Lymphomas 102
4.11 Chemical Leukemogenesis 104
4.12 Toxicities that Indirectly Involve the Red Blood Cell 105
4.13 Cyanide (CN) Poisoning 105
4.14 Hydrogen Sulfide (H₂S) Poisoning 105
4.15 Antidotes for Hydrogen Sulfide and Cyanide Poisoning 107
4.16 Miscellaneous Toxicities Expressed in the Blood 108
4.17 Summary 108
   References and Suggested Reading 108

5 Hepatotoxicity: Toxic Effects on the Liver 111

**Stephen M. Roberts, Robert C. James, and Michael R. Franklin**

5.1 The Physiologic and Morphologic Bases of Liver Injury 111
5.2 Types of Liver Injury 116
5.3 Evaluation of Liver Injury 124
   References and Suggested Reading 127

6 Nephrotoxicity: Toxic Responses of the Kidney 129

**Paul J. Middendorf and Phillip L. Williams**

6.1 Basic Kidney Structures and Functions 129
6.2 Functional Measurements to Evaluate Kidney Injury 135
6.3 Adverse Effects of Chemicals on the Kidney 137
6.4 Summary 142
   References and Suggested Reading 143

7 Neurotoxicity: Toxic Responses of the Nervous System 145

**Steven G. Donkin and Phillip L. Williams**

7.1 Mechanisms of Neuronal Transmission 146
7.2 Agents that Act on the Neuron 149
7.3 Agents that Act on the Synapse 151
7.4 Interactions of Industrial Chemical with Other Substances 151
7.5 General Population Exposure to Environmental Neurotoxicants 152
7.6 Evaluation of Injury to the Nervous System 152
7.7 Summary 154
    References and Suggested Reading 155

8 Dermal and Ocular Toxicology: Toxic Effects of the Skin and Eyes 157
    William R. Salminen and Stephen M. Roberts
8.1 Skin Histology 157
8.2 Functions 158
8.3 Contact Dermatitis 160
8.4 Summary 167
    References and Suggested Reading 168

9 Pulmonotoxicity: Toxic Effects in the Lung 169
    Cham E. Dallas
9.1 Lung Anatomy and Physiology 169
9.2 Mechanisms of Industrially Related Pulmonary Diseases 181
9.3 Summary 185
    References and Suggested Reading 186

10 Immunotoxicity: Toxic Effects on the Immune System 189
    Stephen M. Roberts and Louis Adams
10.1 Overview of Immunotoxicity 189
10.2 Biology of the Immune Response 189
10.3 Types of Immune Reactions and Disorders 194
10.4 Clinical Tests for Detecting Immunotoxicity 195
10.5 Tests for Detecting Immunotoxicity in Animal Models 197
10.6 Specific Chemicals that Adversely Affect the Immune System 199
10.7 Multiple-Chemical Sensitivity 203
10.8 Summary 205
    References and Suggested Reading 205

PART II SPECIFIC AREAS OF CONCERN 207

11 Reproductive Toxicology 209
    Robert P. DeMott and Christopher J. Borgert
11.1 Male Reproductive Toxicology 210
11.2 Female Reproductive Toxicology 218
11.3 Developmental Toxicology 224
11.4 Current Research Concerns 232
11.5 Summary 236
    References and Suggested Reading 236
12 Mutagenesis and Genetic Toxicology  
Christopher M. Teaf and Paul J. Middendorf

12.1 Induction and Potential Consequences of Genetic Change  239
12.2 Genetic Fundamentals and Evaluation of Genetic Change  241
12.3 Nonmammalian Mutagenicity Tests  251
12.4 Mammalian Mutagenicity Tests  253
12.5 Occupational Significance of Mutagens  257
12.6 Summary  261

References and Suggested Reading  263

13 Chemical Carcinogenesis  
Robert C. James and Christopher J. Saranko

13.1 The Terminology of Cancer  266
13.3 Carcinogenesis by Chemicals  268
13.4 Molecular Aspects of Carcinogenesis  280
13.5 Testing Chemicals for Carcinogenic Activity  289
13.6 Interpretation Issues Raised by Conditions of the Test Procedure  292
13.7 Empirical Measures of Reliability of the Extrapolation  299
13.8 Occupational Carcinogens  301
13.9 Cancer and Our Environment: Factors that Modulate Our Risks to Occupational Hazards  304
13.10 Cancer Trends and Their Impact on Evaluation of Cancer Causation  319
13.11 Summary  321

References and Suggested Reading  323

14 Properties and Effects of Metals  
Steven G. Donkin, Danny L. Ohlson, and Christopher M. Teaf

14.1 Classification of Metals  325
14.2 Speciation of Metals  327
14.3 Pharmacokinetics of Metals  328
14.4 Toxicity of Metals  331
14.5 Sources of Metal Exposure  334
14.6 Toxicology of Selected Metals  336
14.7 Summary  343

References and Suggested Reading  343

15 Properties and Effects of Pesticides  
Janice K. Britt

15.1 Organophosphate and Carbamate Insecticides  346
15.2 Organochlorine Insecticides  352
15.3 Insecticides of Biological Origin  353
16 Properties and Effects of Organic Solvents

Christopher M. Teaf

16.1 Exposure Potential
16.2 Basic Principles
16.3 Toxic Properties of Representative Aliphatic Organic Solvents
16.4 Toxic Properties of Representative Alicyclic Solvents
16.5 Toxic Properties of Representative Aromatic Hydrocarbon Solvents
16.6 Toxic Properties of Representative Alcohols
16.7 Toxic Properties of Representative Phenols
16.8 Toxic Properties of Representative Aldehydes
16.9 Toxic Properties of Representative Ketones
16.10 Toxic Properties of Representative Carboxylic Acids
16.11 Toxic Properties of Representative Esters
16.12 Toxic Properties of Representative Ethers
16.13 Toxic Properties of Representative Halogenated Alkanes
16.14 Toxic Properties of Representative Nitrogen-Substituted Solvents
16.15 Toxic Properties of Representative Aliphatic and Aromatic Nitro Compounds
16.16 Toxic Properties of Representative Nitriles (Alkyl Cyanides)
16.17 Toxic Properties of the Pyridine Series
16.18 Sulfur-Substituted Solvents
16.19 Summary

References and Suggested Reading

17 Properties and Effects of Natural Toxins and Venoms

William R. Kem

17.1 Poisons, Toxins, and Venoms
17.2 Molecular and Functional Diversity of Natural Toxins and Venoms
17.3 Natural Roles of Toxins and Venoms
17.4 Major Sites and Mechanisms of Toxic Action
17.5 Toxins in Unicellular Organisms
17.6 Toxins of Higher Plants
17.7 Animal Venoms and Toxins
17.8 Toxin and Venom Therapy
17.9 Summary

Acknowledgments

References and Suggested Reading
III  APPLICATIONS  435

18  Risk Assessment  437

Robert C. James, D. Alan Warren, Christine Halmes, and Stephen M. Roberts

18.1  Risk Assessment Basics  437
18.3  Exposure Assessment: Exposure Pathways and Resulting Dosages  445
18.4  Dose–Response Assessment  449
18.5  Risk Characterization  460
18.6  Probabilistic Versus Deterministic Risk Assessments  462
18.7  Evaluating Risk from Chemical Mixtures  464
18.8  Comparative Risk Analysis  468
18.9  Risk Communication  472
18.10 Summary  474

References and Suggested Reading  475

19  Example of Risk Assessment Applications  479

Alan C. Nye, Glenn C. Millner, Jay Gandy, and Phillip T. Goad

19.1. Tiered Approach to Risk Assessment  479
19.2. Risk Assessment Examples  480
19.3. Lead Exposure and Women of Child-bearing Age  481
19.4. Petroleum Hydrocarbons: Assessing Exposure and Risk to Mixtures  483
19.5. Risk Assessment for Arsenic  486
19.6. Reevaluation of the Carcinogenic Risks of Inhaled Antimony Trioxide  490
19.7. Summary  496

References and Suggested Reading  497

20  Occupational and Environmental Health  499

Fredric Gerr, Edward Galaid, and Howard Frumkin

20.1  Definition and Scope of the Problem  499
20.2  Characteristics of Occupational Illness  502
20.3  Goals of Occupational and Environmental Medicine  502
20.4  Human Resources Important to Occupational Health Practice  503
20.5  Activities of the Occupational Health Provider  503
20.6  Ethical Considerations  507
20.7  Summary and Conclusion  508

References and Suggested Reading  509

21  Epidemiologic Issues in Occupational and Environmental Health  511

Lora E. Fleming and Judy A. Bean

21.1  A Brief History of Epidemiology  511
21.2  Epidemiologic Causation  512
21.3  Types of Epidemiologic Studies: Advantages and Disadvantages  513
21.4  Exposure Issues  514
21.5  Disease and Human Health Effects Issues  515
PREFACE

Purpose of This Book

Principles of Toxicology: Environmental and Industrial Applications presents compactly and efficiently the scientific basis to toxicology as it applies to the workplace and the environment. The book covers the diverse chemical hazards encountered in the modern work and natural environment and provides a practical understanding of these hazards for those concerned with protecting the health of humans and ecosystems.

Intended Audience

This book represents an update and expansion on a previous, very successful text entitled Industrial Toxicology: Safety and Health Applications in the Workplace. It retains the emphasis on applied aspects of toxicology, while extending its scope beyond the industrial setting to include environmental toxicology. The book was written for those health professionals who need toxicological information and assistance beyond that of an introductory text in general toxicology, yet more practical than that in advanced scientific works on toxicology. In particular, we have in mind industrial hygienists, occupational physicians, safety engineers, environmental health practitioners, occupational health nurses, safety directors, and environmental scientists.

Organization of the Book

This volume consists of three parts. Part I establishes the scientific basis to toxicology, which is then applied through the rest of the book. This part discusses concepts such as absorption, distribution, and elimination of toxic agents from the body. Chapters 4–10 discuss the effects of toxic agents on specific physiological organs or systems, including the blood, liver, kidneys, nerves, skin, lungs, and the immune system.

Part II addresses specific areas of concern in the occupational and environmental—both toxic agents and their manifestations. Chapters 11–13 examine areas of great research interest—reproductive toxicology, mutagenesis, and carcinogenesis. Chapters 14–17 examine toxic effects of metals, pesticides, organic solvents, and natural toxins and venoms.

Part III is devoted to specific applications of the toxicological principles from both the environmental and occupational settings. Chapters 18 and 19 cover risk assessment and provide specific case studies that allow the reader to visualize the application of risk assessment process. Chapters 20 and 21 discuss occupational medicine and epidemiologic issues. The final chapter is devoted to hazard control.

Features

The following features from Principles of Toxicology: Environmental and Industrial Applications will be especially useful to our readers:

- The book is compact and practical, and the information is structured for easy use by the health professional in both industry and government.
The approach is scientific, but applied, rather than theoretical. In this it differs from more general works in toxicology, which fail to emphasize the information pertinent to the industrial environment.

The book consistently stresses evaluation and control of toxic hazards.

Numerous illustrations and figures clarify and summarize key points.

Case histories and examples demonstrate the application of toxicological principles.

Chapters include annotated bibliographies to provide the reader with additional useful information.

A comprehensive glossary of toxicological terms is included.

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