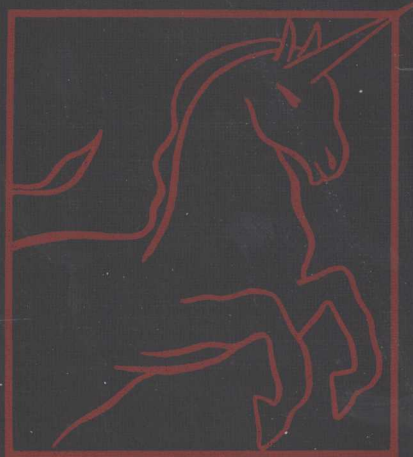

Information Resources in Toxicology

Second Edition

Philip Wexler



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Philip Wexler

Toxicology Information Program
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*For Prinz,
a long-haired
miniature Dachshund*

Preface

And even in our times it is said, venomous animals poison the water after the setting of the sun, so that the good animals cannot drink of it, but in the morning after the sunrise, comes the unicorn and dips his horn into the stream driving away the poison from it . . . this I have seen for myself.

John of Hesse

Since the first edition of this book five years ago, the field of toxicology has continued to grow unabated. This younger sibling of the more established sciences is crossing more and more disciplinary boundaries while gradually refining its scientific basis. Much fundamental research is still necessary. The excitement of toxicology is based, in large measure, on the difficulty of making predictions about the response of biological systems to exogenous agents. Its challenge is to balance technological and product innovation with the guarantee for a reasonably safe and healthy environment.

This book considers toxicology primarily from the perspective of the harmful effects of chemicals on biological systems. "Harmful," of course, is a highly problematic word. "Harmful" may be on a clinical, pathological, or biochemical level. It may change over time in relation to advances in analytical instrumentation. The Congress, regulatory agencies at all levels of govern-

ment, the courts, and the public all have their own ideas about what such words as "harmful," "hazardous," "poisonous," "toxic," and "adverse" mean. I will leave debate over these fine distinctions to others and consider all the terms as roughly synonymous for the purposes of this book.

Nonchemical concerns of toxicology relate to the effects of certain physical agents (e.g., radiation) and complex biotoxins (e.g., snake venoms, aflatoxins) on biological systems. Chemical, physical, and biological agents may act not only upon living organisms but upon atmospheric, terrestrial, and aquatic environments. Certain subjects are just beginning to gain a foothold in the realm of the toxicological sciences. Biotechnology, an explosively fertile field in its own right, meets toxicology when studies of the adverse effects of genetically engineered microorganisms are considered. The animal rights movement has made its presence strongly felt, and therefore alternatives to animal testing must be seriously examined by responsible toxicologists. The sophistication of new computer systems is allowing studies in such areas as structure-activity relationships. Indeed, computers in general are aiding experiments in direct measurement and analysis, as well as data capture, manipulation, and retrieval.

Areas of toxicology that this book has not stressed are management of hazardous wastes, aspects of pollution control, and engineering/equipment considerations. Abuse of drugs, alcohol, and tobacco, while also within the broad scope of toxicology, have generally not been treated here.

This book of "information resources" is addressed to anyone who has a need to know where to look for toxicology information. A library cataloger may describe it as an annotated bibliography and directory. I prefer to think of it as a sourcebook, a kind of "Whole Toxicology Catalog." The current edition is an expanded and updated version of the first. The scope has been widened as indicated above, and there has been a finer subdivision of categories within toxicology. This remains a selective list with no attempt made to cover exhaustively all available materials. A selective list always assumes a certain presumptuousness on the author's part in judging some books more deserving than others. I have further risked charges of audacity by highlighting the books that I deem especially noteworthy with an asterisk (*). I have no concrete criteria for these judgments other than my personal opinion in examining the texts. Nonasterisked books may be just as, or more, valuable for certain applications and no slight is intended toward any of the authors. All quoted passages within annotations are taken from the item cited or from promotional literature. Book prefaces and the "Information for Authors" section of periodicals were typical sources for such quotations. This edition includes many new books and new editions of older works. Thus, there has been a considerable increase in scope, size, and currency.

The other major change is the international coverage of the current edition. The inclusion of countries outside the English-speaking world was necessary to make this a thorough compendium. Unfortunately, I was unable to obtain contributions from all of the countries I would have liked to include, and I regret these omissions. Contributed chapters on the history of toxicology and on regulatory information

were supplied. Also included are a variety of supplemental lists and directories, such as the directory of mutagenicity testing laboratories in the United States.

The organization of the book, an issue I struggled with in the first edition, continued to plague me here. The widely disparate nature of the form of material (book, series, monographic series, handbook, book in parts, etc.) and the interdisciplinary nature of the field itself have made it difficult to impose a wholly coherent and justifiable order on the work. It has not been easy to reconcile the following two seemingly contradictory facts: (a) organization of a combined directory/bibliography is critical in providing efficient access to the information contained therein; and (b) there is no perfect way to organize such a book. In the end, I hope the organization selected, along with the indexes and cross-references will prove at least reasonable and convenient to use. The very best way to access information in a book of this nature is to create an online searchable computer version which should definitely be considered if future editions are contemplated. The other frustration an online version would eliminate is the difficulty of keeping up with new and changing information. As the manuscript for this book leaves my hands and makes its way to publication, over months, new toxicology resources will come to light.

I am indebted to many individuals for their assistance with this book. Certainly a sourcebook of this magnitude would not have been possible without all the fine contributions by my U.S. and international colleagues. Dr. Jose Alberto Castro, of Argentina, was particularly helpful in directing me to other international contributors and sharing with me his keen insight into toxicological information in developing countries. I would like to extend special thanks to Drs. Henry Kissman and George Cosmides for their many helpful suggestions and to Mr. Bruno Vasta for his encouragement of this project. I am equally grateful to Mrs. Aurora K. Reich for her continued interest and guidance. The valu-

able advice and good spirits of Elsevier's Yale Altman cannot be underestimated as important factors in the successful completion of this book. Christine Hastings, the book's Desk Editor, miraculously transformed the dishabille of my manuscript into an elegantly tailored book. Finally, I am thankful to my friends, parents, Yetty and Will, and my wife, Susan, for more than I can express.

DISCLAIMER

I wrote this book in my capacity as a private citizen, not a government employee. The views expressed are strictly my own. No official support or endorsement by the U.S. National Library of Medicine or any other agency of the U.S. Federal Government was provided or should be inferred.

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List of Acronyms

-
- | | |
|--|--|
| AACT American Academy of Clinical Toxicology | ASPET American Society for Pharmacology and Experimental Therapeutics |
| AAFC American Academy of Forensic Sciences | ATS Academy of Toxicological Sciences |
| AAPCC American Association of Poison Control Centers | ATSDR Agency for Toxic Substances and Disease Registry |
| AAPCO Association of American Pesticide Control Officials | BIBRA British Industrial Biological Research Association |
| AAVCT American Academy of Veterinary and Comparative Toxicology | CAA Clean Air Act |
| ABMT American Board of Medical Toxicology | CAER Community Awareness and Emergency Response |
| ABT American Board of Toxicology | CAS Chemical Abstracts Service |
| ABVT American Board of Veterinary Toxicology | CBAC Chemical-Biological Activities |
| ACGIH American Conference of Governmental Industrial Hygienists | CCEHRP Committee to Coordinate Environmental Health and Related Programs |
| ACS American Chemical Society | CCHW Citizens Clearinghouse for Hazardous Wastes |
| ACSCEQ Associate Committee on Scientific Criteria for Environmental Quality | CCIS Computerized Clinical Information Systems |
| ACT American College of Toxicology | CCRIS Chemical Carcinogenesis Research Information System |
| AGT Association of Government Toxicologists | CCTTE Chemicals Currently Being Tested for Toxic Effects |
| AIHA American Industrial Hygiene Association | CDC Centers for Disease Control |
| ANPR Advanced Notice of Proposed Rulemaking | CEC Commission of the European Communities |
| AOMA American Occupational Medical Association | CEQ Council on Environmental Quality |
| | CERCLA Comprehensive Environmental Response, Compensation and Liability Act |

- CESARS** Chemical Evaluation Search and Retrieval System
- CHEMLINE** Chemical Dictionary Online
- CHEMNAME** CA Chemical Name Dictionary
- CHEMTREC** Chemical Transportation Emergency Center
- CHRIS** Chemical Hazard Response Information System
- CIIT** Chemical Industry Institute of Toxicology
- CIS** Chemical Information System
- CLS** Commission on Life Sciences
- CMA** Chemical Manufacturers Association
- COH** Center for Occupational Hazards
- CPSA** Consumer Product Safety Act
- CPSC** Consumer Product Safety Commission
- CRC** Chemical Referral Center
- CRGS** Chemical Regulations and Guidelines Systems
- CSIN** Chemical Substances Information Network
- CTFA** Cosmetic, Toiletry, and Fragrance Association
- CWA** Clean Water Act
- DHHS** Department of Health and Human Services
- DIF** Drug Information Fulltext
- DIRLINE** Directory of Information Resources Online
- DOE** Department of Energy
- DOT** Department of Transportation
- DRACON** Drug Abuse Communications Network
- ECDIN** Environmental Chemicals Data and Information Network
- ECIC** Environmental Carcinogenesis Information Center
- EDF** Environmental Defense Fund
- EEC** European Economic Community
- ELI** Environmental Law Institute
- EMIC** Environmental Mutagen Information Center
- EMS** Environmental Mutagen Society
- EPA** Environmental Protection Agency
- EPRI** Electric Power Research Institute
- ETIC** Environmental Teratology Information Center
- EUROTOX** European Committee for the Protection of the Population Against the Hazards of Chronic Toxicity
- FAO** Food and Agriculture Organization of the United Nations
- FASEB** Federation of Associated Societies for Experimental Biology
- FBI** Federal Bureau of Investigation
- FDA** Food and Drug Administration
- FFDCA** Federal Food, Drug, and Cosmetic Act
- FHSA** Federal Hazardous Substances Act
- FIFRA** Federal Insecticide, Fungicide and Rodenticide Act
- FOIA** Freedom of Information Act
- FSTA** Food Science and Technology Abstracts
- GTA** Genetic Toxicology Association
- HAYES** Hayes File on Pesticides
- HMCRI** Hazardous Materials Control Research Institute
- HMIS** Hazardous Materials Information System
- HMTA** Hazardous Materials Transportation Act
- HMTC** Hazardous Materials Technical Center
- HSDB** Hazardous Substances Data Bank
- IAEA** International Atomic Energy Agency
- IARC** International Agency for Research on Cancer
- ICOH** International Commission on Occupational Health
- ICRDB** International Cancer Research Data Bank
- ICRP** International Commission on Radiological Protection
- IHS** Information Handling Services
- ILO** International Labour Office
- ILSI-NF** International Life Sciences Institute-Nutrition Foundation

IMO International Maritime Organization	NRDC Natural Resources Defense Council
IPA International Pharmaceutical Abstracts	NTP National Toxicology Program
IPCS International Program on Chemical Safety	OECD Organisation for Economic Cooperation and Development
IRPTC International Register of Potentially Toxic Chemicals	OHMTADS Oil and Hazardous Materials Technical Assistance Data System
ISI Institute for Scientific Information	OHR Office of Health Research
IS RTP International Society of Regulatory Toxicology and Pharmacology	OHS Occupational Health Services
IST International Society of Toxicology	OSHA Occupational Safety and Health Administration
ITRI Inhalation Toxicology Research Institute	OTA Office of Technology Assessment
LADB Laboratory Animal Data Bank	PESTAB Pesticides Abstracts
LSRO Life Sciences Research Office	PMA Pharmaceutical Manufacturers Association
MEDLARS Medical Literature Analysis and Retrieval System	PPPA Poison Prevention Packaging Act
MESH Medical Subject Headings	PSAC President's Science Advisory Committee
MSDS Material safety data sheets	RCRA Resource Conservation and Recovery Act
NCATH National Campaign against Toxic Hazards	RPROJ Toxicology Research Projects
NCI National Cancer Institute	RTECS Registry of Toxic Effects of Chemical Substances
NCTR National Center for Toxicological Research	SANSS Structure and Nomenclature Search System
NEI National Eye Institute	SARA Superfund Amendments and Reorganization Act
NEISS National Electronic Injury Surveillance System	SDWA Safe Drinking Water Act
NEPA National Environmental Policy Act	SETAC Society of Environmental Toxicology and Chemistry
NIEHS National Institute of Environmental Health Sciences	SOEH Society for Occupational and Environmental Health
NIH National Institutes of Health	SOFT Society of Forensic Toxicologists
NIOSH National Institute for Occupational Safety and Health	SOT Society of Toxicology
NIOSHTIC NIOSH Technical Information Center	SPHERE Scientific Parameters for Health and the Environment, Retrieval and Estimation
NLM National Library of Medicine	SRP Scientific Review Panel
NOAA National Oceanic and Atmospheric Administration	STIC System for Tracking the Inventory of Chemicals
NPIRS National Pesticide Information Retrieval System	TD3 Toxicology Document and Data Depository
NPR Notice of Proposed Rulemaking	TDB Toxicology Data Bank
NPTN National Pesticide Telecommunications Network	TIC Toxicology Information Center
NRC National Research Center	TIRC Toxicology Information Response Center
NRC Nuclear Regulatory Commission	

xxiv List of Acronyms

TMIC Toxic Materials Information
Center File

TOXBIB Toxicology Bibliography

TOXLINE Toxicology Information
Online

TOXNET Toxicology Data Network

TSCA Toxic Substances Control
Act

TSCATS TSCA Test Submissions

USDA U.S. Department of Agri-
culture

WHO World Health Organization

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