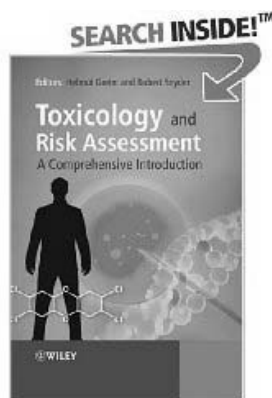


Book Review



Helmut Greim and Robert Snyder (Eds), **TOXICOLOGY AND RISK ASSESSMENT: A COMPREHENSIVE INTRODUCTION.**

First edition, ISBN-10:0470868937, John Wiley
& Sons Ltd. England 2008, 698 pages

In this new book there are presented the basic principles of toxic mechanisms and organ toxicity, hazard identification and risk assessment of toxicants. There are described the adverse effects of chemicals and methods for quantification of given response.

The two distinguished editors, Helmut Greim, Technische Universität München, Robert Snyder, State University New Jersey, begin the first chapter ***Introduction to the Discipline of Toxicology*** with the motto: "In all things there is a poison, and there is nothing without a poison. It depends only upon the dose whether a poison is poison or not" by Paracelsus. The reader becomes familiar with the risk assessment process and the toxicological evaluation of new and existing chemicals.

Section 2, ***Principles***, familiarizes the reader with the fundamental aspects of toxicokinetics, the mechanisms that lead to cytotoxicity, carcinogenicity and effects on reproduction. It is sub-divided

in 9 chapters: *Toxicokinetics*, author Johannes G. Filser; *Phase I Metabolism* and *Drug Metabolism*, authors Jeroen T. M. Buters, Leslie Schwarz and John B. Watkins, respectively; *Toxicogenetics*, author Lesley Stanley; *Cytotoxicity*, authors Leslie Schwarz and John B. Watkins; *Receptor-Mediated Mechanisms*, authors Jens Schlossmann and Franz Hofmann; *Mixtures and Combination of Chemicals*, authors Victor J. Feron and Diana Jonker; *Chemical Carcinogenesis: Genotoxic and Nongenotoxic Mechanisms*, authors Thomas Efferth and Bernd Kaina; *Reproductive Toxicology*, author Horst Spielmann; *Ecotoxicology: Not just Wildlife Toxicology*, authors Peter Calow and Valery E. Forbes.

Section 3, ***Organ Toxicology***, offers information on anatomy and physiology of the major organs, and the mechanisms of specific chemicals affecting these organs, and is sub-divided in 11 chapters: *The Gastrointestinal Tract*, author Michael

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Schwenk; *The Liver*, authors Leslie Schwarz and John B. Watkins; *The Respiratory System*, author Jürgen Pauluhn; *The Nervous System*, authors Gunter P. Eckert and Walter E. Müller; *Behavioral Neurotoxicology*, author Andreas Seeber; *The Skin*, authors Tibor A. Rozman, Myriam Straube and Karl K. Rozman; *The Kidney and Urinary Tract*, author Helmut Greim; *Toxicology of the Blood and Bone Marrow*, author Robert Snyder; *Immunotoxicology*, authors Carol R. Gardner and Debra L. Laskin; *The Eye*, author Ines M. Lanzl; *The Cardiovascular System*, author Helmut Greim.

Section 4, **Methods in Toxicology**, presents the commonly used methods for toxicity testing, both *in vivo* and *in vitro*, and is sub-divided in 9 chapters: *OECD Test Guidelines for Toxicity Tests in vivo*, author Rüdiger Bartsch; *Mutagenicity Tests in vivo*, author Ilse-Dore Adler; *In vitro Tests for Genotoxicity*, authors Uhlrich Andrae and Günter Speit; *Strategies for the Evaluation of Genotoxicity*, authors Stephan Madle, Peter Kasper, Ulrike Pabel and Günter Speit; *Biomonitoring*, author Michael G. Bird; *Epidemiology*, author Kurt Ulm; *Omics in Toxicology*, authors Laura Suter-Dicks and Thomas Singer; *Introduction to the Statistical Analysis of Experimental Data*, author György Csanady.

Section 5, **Risk Assessment/Risk Management**, reports on the concepts comprising identification, dose-response, exposure assessment and cellular responses to genotoxic agents. US and European regulations for chemicals are also presented. This

section is sub-divided in 2 chapters: *Mathematical Models for Risk Extrapolation*, author Jürgen Timm; *Regulations Regarding Chemicals and Radionuclides in the Environment, Workplace, Consumer Products Foods and Pharmaceuticals*, authors Dennis J. Paustenbach and Pearl Moy.

Section 6, **Toxicity of Selected Chemicals**, concentrates on the toxic mechanisms and effects of major groups of chemicals. It is sub-divided in 7 chapters: *Persistent Polyhalogenated Aromatic Hydrocarbons*, authors Kristian W. Fried and Karl K. Rozman; *Metals*, authors Karl Heinz Summer, Stefan Halbach, Herrmann Kappus and Helmut Greim; *Toxicology of Fibers and Particles*, author Paul J.A. Borm; *Xenoestrogens and Xenoantiandrogens*, authors Gisela H. Degen and J. William Owen; *Toxicology of Solvents*, authors Wolfgang Dekant and Marion W. Anders; *Noxious Gases*, author Ladislaus Szinicz; *Animal and Plant Toxins*, author Thomas Zilker. Each section of the book ends with a summary and a comprehensive bibliography.

The book content, with a high standard, is welcomed for scientists in academia, industry and government agencies and also for students in the field of toxicology, biochemistry, biology, medicine and chemistry, who are interested in the understanding of the principles of hazard identification and risk assessment.

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