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| 1. Record Nr. | UNINA9910458724903321 |
| Titolo | Handbook on the toxicology of metals // Gunnar F. Nordberg, Bruce A. Fowler, Monica Nordberg, editors |
| Pubbl/distr/stampa | London, England : , : Academic Press, , 2015 ©2015 |
| ISBN | 0-12-397339-2 |
| Edizione | [Fourth edition.] |
| Descrizione fisica | 1 online resource (1544 p.) |
| Disciplina | 615.9/253 |
| Soggetti | Metals - Toxicology Electronic books. |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Note generali | Includes index. |
| Nota di contenuto | e9780444594532v1; Front Cover; Handbook on the Toxicology of Metals; Copyright; Preface; Short Contents; Full Contents; List of Contributors; List of Reviewers; Volume I -General Considerations; Chapter 1 -Toxicology of Metals: Overview, Definitions, Concepts, and Trends; 1 METAL EXPOSURES AND GLOBAL BURDEN OF DISEASE; 2 INTERNATIONAL HISTORICAL PERSPECTIVES ON RISKS OF HEALTH EFFECTS OF METALS; 3 METAL POISONING AND OTHER HUMAN HEALTH EFFECTS; 4 HUMAN EXPOSURES TO METALLIC COMPOUNDS, RISK ASSESSMENT, AND PREVENTION; References Chapter 2 - General Chemistry, Sampling, Analytical Methods, and Speciation*1 DEFINITION OF METALS; 2 THE PERIODIC TABLE; 3 COMPOUNDS OF METALLIC ELEMENTS; 4 SOLUBILITY; 5 PROPERTIES OF METAL IONS; 6 OTHER ASPECTS OF METAL CHEMISTRY OF BIOLOGICAL AND TOXICOLOGICAL INTEREST; 7 METALLOMICS, TOTAL ELEMENT ANALYSIS, AND ELEMENTAL SPECIATION; 8 SAMPLING AND SAMPLE PREPARATION; 9 SEPARATION TECHNIQUES; 10 DETECTION METHODS; 11 CALIBRATION; 12 REFERENCE MATERIALS; 13 QUALITY ASSURANCE; 14 CONCLUSIONS; References; Chapter 3 - Routes of Exposure, Dose, and Toxicokinetics of Metals*; 1 INTRODUCTION 2 EXPOSURE3 DEPOSITION AND ABSORPTION; 4 TRANSPORT, BIOTRANSFORMATION, AND DISTRIBUTION; 5 PATHWAYS AND MECHANISMS OF EXCRETION; 6 TOXICOKINETIC MODELS AND THEIR |

USE IN ESTABLISHING DOSE-RESPONSE AND DOSE-EFFECT RELATIONSHIPS; 7 USE OF INDICATOR MEDIA FOR ESTIMATING EXPOSURE OR CRITICAL ORGAN CONCENTRATION; References; Chapter 4 - Toxicity of Metal and Metal Oxide Nanoparticles; 1 METAL AND METAL OXIDE NANOPARTICLES; 2 PRINCIPLES OF NANOPARTICLE-INDUCED TOXICITY; 3 PHYSICOCHEMICAL CHARACTERIZATION; 4 METHODS FOR TOXICITY TESTING OF NANOPARTICLES; 5 GOLD NANOPARTICLES; 6 SILVER NANOPARTICLES 7 PLATINUM AND PALLADIUM NANOPARTICLES 8 ALUMINUM AND ALUMINUM OXIDE NANOPARTICLES; 9 COPPER AND COPPER OXIDE NANOPARTICLES; 10 NICKEL AND NICKEL OXIDE NANOPARTICLES; 11 IRON OXIDE NANOPARTICLES; 12 TITANIUM DIOXIDE NANOPARTICLES; 13 ZINC OXIDE NANOPARTICLES; 14 CERIUM OXIDE NANOPARTICLES; 15 SILICON DIOXIDE OR SILICA NANOPARTICLES; 16 SEMICONDUCTOR NANOCRYSTALS; 17 CONCLUDING REMARKS; References; Chapter 5 - Toxicity of Metals Released from Implanted Medical Devices; 1 BACKGROUND; 2 TOXICOLOGICAL ISSUES ASSOCIATED WITH METAL RELEASE FROM SPECIFIC TYPES OF IMPLANTED MEDICAL DEVICES 3 CHALLENGES AND FUTURE DIRECTIONSReferences; Chapter 6 - Toxic Metals in Food; 1 INTRODUCTION; 2 CADMIUM; 3 LEAD; 4 MERCURY; 5 ARSENIC; 6 HEALTH-BASED GUIDANCE VALUES AND BENCHMARK DOSE (LOWER CONFIDENCE LIMIT) FOR CADMIUM, MERCURY, LEAD, AND ARSENIC; 7 FOOD CONTAMINATION FROM PACKAGING; 8 CONCLUSION; References; Chapter 7 - Exposure Assessment, Forward and Reverse Dosimetry*; 1 INTRODUCTION; 2 GENERAL PRINCIPLES; 3 PHYSIOLOGICALLY BASED PHARMACOKINETIC MODELING; 4 BIOMONITORING AND ITS INTERPRETATION; 5 HUMAN PBPK TOOL KIT DEVELOPMENT: THE GENERAL APPROACH; 6 CONCLUSIONS; References Chapter 8 - Biological Monitoring and Biomarkers

Sommario/riassunto

Handbook on the Toxicology of Metals, Fourth Edition bridges the gap between established knowledgebase and new advances in metal toxicology to provide one essential reference for all those involved in the field. This book provides comprehensive coverage of basic toxicological data, emphasizing toxic effects primarily in humans, but also those of animals and biological systems in vitro. The fourth edition also contains several new chapters on important topics such as nanotoxicology, metals in prosthetics and dental implants, gene-environment interaction, neurotoxicology, metals in food, renal,
