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Springer Handbook of Condensed Matter and Materials Data provides a concise compilation of data and functional relationships from the fields of solid-state physics and materials in this 1200 page volume. The data, encapsulated in 914 tables and 1025 illustrations, have been selected and extracted primarily from the extensive high-quality data collection Landolt-Börnstein and also from other systematic data sources and recent publications of physical and technical property data. Many chapters are authored by Landolt-Börnstein editors, including the prominent Springer Handbook editors, W. Martienssen and H. Warlimont themselves. The Handbook is designed to be useful as a desktop reference for fast and easy retrieval of essential and reliable data in the lab or office. References to more extensive data sources are also provided in the book and by interlinking to the relevant sources on the enclosed CD-ROM. Physicists, chemists and engineers engaged in fields of solid-state sciences and materials technologies in research, development and application will appreciate the ready access to the key information coherently organized within this wide-ranging Handbook. From the reviews: "...this is the most complete compilation I have ever seen... When I received the book, I immediately searched for data I never found elsewhere..., and I found them rapidly... No doubt that this book will soon be in every library and on the desk of most solid state scientists and engineers. It will never be at rest." -Physicalia Magazine

This book evolved through the efforts of several organizations and the dedication of many individuals. In 1987, we received a request to propose a workshop topic for the Fifth International Theriological Congress (ITC) to be held in August 1989 in Rome, Italy. After looking up the meaning of the word "theriological" in the dictionary and discovering that it pertains to mammalian behavior, we decided a symposium on sensory abilities of whales and dolphins would be an interesting topic. The ITC convenes only every five years and has the distinction of being very well attended by scientists from around the world. We thought that hosting a workshop in conjunction with the ITC would attract a variety of international scientists that rarely have the opportunity to interact. Fortunately for all involved, our prediction was correct. The first two days of the workshop, 23-24 August 1989, were held in conjunction with ITC and the nearly 1,000 attending scientists were able to view our posters and listen to lectures. The third day was limited to only about 65 invited scientists who were divided into topical working groups chaired by a rapporteur.

A unique collection of thirty experiments ranging from ancient astronomy to cosmology, each containing one or more challenges for the reader. The progression here is from the Earth outward through the solar system to the stellar and galactic realm. Topics include the shape of the sky; Stonehenge as a stone-age abacus; determining the size of the Earth; the distance of the moon, stars and planets; planetary mass, density, temperature and atmosphere; the speed of light; the nature of the quiet and active sun; photometry and spectroscopy; star clusters and variable stars; and fundamental properties of stars.

Traditional uses of spices : an overview / Ajaikumar B. Kunnumakkara ... [et al.] -- Black pepper (*Piper nigrum*) and its bioactive compound, piperine / Krishnapura Srinivasan -- Cardamom (*Elettaria cardamomum*) and its active constituent, 1,8-cineole / Archana Sengupta and Shamee Bhattacharjee -- Molecular targets and health benefits of cinnamon / Kiran Panickar ... [et al.] -- Cloves (eugenol) / Yoshinori Kadoma ... [et al.] -- Coriander / Sanjeev Shukla and Sanjay Gupta -- Fenugreek (diosgenin) / Jayadev Raju and Chinthalapally V. Rao -- Diallyl sulfide from garlic / Girija Kuttan and Punathil Thejass -- Ginger (6-gingerol) / Nidhi Nigam, Jasmine George, and Yogeshwer Shukla -- Kalonji (thymoquinone) / Ahmed O. Kaseb and Abdel-Hafez A. Selim -- Kokum (garcinol) / Manoj K. Pandey, Ajaikumar B. Kunnumakkara, and Bharat B. Aggarwal -- Capsaicin : a hot spice in the chemoprevention of cancer / Joydeb Kumar Kundu and Young-Joon Surh -- Rosemary (rosmarinic acid) / Jongsung Lee ... [et al.] -- Mint and its constituents / Ajaikumar B. Kunnumakkara ... [et al.] -- Turmeric (curcumin) / Jen-Kun Lin and Shoei-Yn Lin Shiau.

Annotation Derek T. O'Hagan and a team of expert vaccinologists and pharmacologists thoroughly describe the preparation, characterization, and evaluation of a wide range of alternative vaccine adjuvants for use in preclinical studies. Each chapter carefully reviews a single adjuvant, and suggests why a specific adjuvant might be preferred for a given antigen, depending on what type of immune response is desired. Alternate adjuvant choices are also presented so that researchers can choose those most efficacious for their specific purpose. Comprehensive and highly practical, *Vaccine Adjuvants: Preparation Methods and Research Protocols* provides an effective guide to making and using vaccine adjuvants. By closely following directions from the book, today's researchers will be able optimally to induce specific immune responses against different types of antigens and to selectively manipulate the immune response in a favorable way.

Annotation New edition of a reference that presents the values of properties typical for the most common alloy processing conditions, thus providing a starting point in the search for a suitable material that will allow, with proper use, all the necessary design limitations to be met (strength, toughness, corrosion resistance and electronic properties, etc.) The data is arranged alphabetically and contains information on the manufacturer, the properties of the alloy, and in some cases its use. The volume includes 32 tables that present such information as densities, chemical elements and symbols, physical constants, conversion factors, specification requirements, and compositions of various alloys and metals. Also contains a section on manufacturer listings with contact information. Edited by Frick, a professional engineering consultant. Annotation c. Book News, Inc., Portland, OR (booknews.com).

Morning is a time to embrace renewed opportunity, fresh perspective, and an overall sense of rejuvenation. *Morning Reflections* is a collection of powerful and inspirational reading that is dedicated to helping you begin each new day in a positive way. Christian and inspirational author and poet Karen Jean Matsko Hood has woven together poems, prayers, and Biblical verses to fill your soul and spirit with peace and understanding. Just like a hearty morning meal strengthens your physical body, it is equally important to center your emotions and nourish your spirit with the sure footing that can only come from a personal connection with

the Creator. Morning Reflections offers enlightenment and wisdom through blending encouraging prose and Scripture passages. This truly insightful new book of reflections makes for a perfect bedside companion or as a topic of conversation over the coffee table. This book is a wonderful gift to friends and family for daily morning prayer and appreciation of Christ's teachings. It is also for those with whom we are given the opportunity to share and experience it.

There can be few elements with a biochemistry as coherent as that of sulfur. This important element is crucial to myriad aspects of metabolism, catalysis, and structure. The plurality of functions in which sulfur is involved derives squarely from the numerous oxidation states in which it may exist, some having great stability, some being capable of ready redox interconversions, and yet others having great instability. As a result, the flux of sulfur from the geosphere through the various kingdoms of life leaves few biochemical processes unaffected. Although there are large gaps in the fabric of our basic knowledge of sulfur biochemistry, it is sufficiently framed to allow a unified and organized story, a story which many of the best-known names in biochemistry have helped to write. It has been both a task and a privilege to try and summarize this story, one that is enormous, complex, fast moving, still developing and, above all, exciting. I suppose that no monographer of such a vast subject could be satisfied with his efforts. It is unfortunately probable that in attempting this task I have made as many errors as a Stilton cheese has blue streaks, and as many omissions as a Swiss cheese has holes. Perfection is not to be achieved in a monograph. Inasmuch as I have succeeded, the credit belongs to those whose efforts gave us the knowledge we have. Where I have failed, the fault is only mine. A detailed look at the technology of wind generated power includes a comparison of various system designs, advice on assembling a wind power system, and an analysis of wind power availability in each state

Collection of the monthly climatological reports of the United States by state or region with monthly and annual national summaries.

The subsistence agriculture of the pre-chemical era efficiently sustained the nitrogen status of soils by maintaining a balance between N loss and N gain from biological nitrogen fixation (BNF): the microbial conversion of atmospheric N to a form usable by plants. This was possible with less intensive cropping, adaptation of rational crop rotations and intercropping schemes, and the use of legumes as green manure. Modern agriculture concentrates on maximum output, however, overlooking input efficiency; It is not sustainable. Intensive monocropping, with no or inadequate crop rotations or green manuring, together with the excessive use of chemical N fertilizers, results in an imbalance between N gain and N loss. The losses are often larger than the gains, and soil N status declines. The challenge is to sustain soil N fertility in many different tropical and temperate farming systems operating at high productivity levels. This requires judicious integration of BNF components, maintaining a good balance between N losses and gains. In this book, papers on BNF in crop forage and tree legumes are augmented with discussions of integrated farming systems involving BNF, soil and N management, and recycling of legume residues. BNF by non-legumes are discussed, and attempts to transform cereals into nodulating plants are critically reviewed. Advances in the development of novel methodologies to understand symbiotic relations and to assess N<sub>2</sub> fixation in the field are described, and means are presented to enhance BNF through plant and soil management or breeding and selection. Problems encountered in exploiting BNF under field conditions are examined, as are promising approaches to improving BNF exploitation.

This book focuses on malignant melanoma, discussing the current state of scientific knowledge and providing insights into the underlying basic mechanisms, the molecular changes, genetics and genomics. Human Melanoma is a dangerous type of skin cancer affecting an increasing population, and a better understanding of its development will help in finding sophisticated targeted therapies. The second revised edition features the latest research findings and offers updates on the latest advances and potential novel melanoma therapies. It is a valuable resource for researchers and clinicians working in the fields of melanoma, cancer research and therapy as well as dermatology.

"Presents the contributions made, conclusions reached and the consensus statement agreed upon at a workshop on safe management of shellfish and harvest waters held 30 November - 2 December 2004 in Kuala Lumpur, Malaysia"--Pref.

Legend Since August Novelty Notebook Daily dairy / journal / notebook to write in, for creative writing, for creating list, for scheduling, Organizing and Recording your thoughts. Makes a perfect august birthday gift idea or anniversary present for any special person in your life. Show everyone your value kindness in the world with this legend notebook. Perfectly sized at 6" x 9" 120 pages Softcover Bookbinding Flexible Paperback

This book illustrates the currently available strategies for managing phytonematodes. It discusses the latest findings on plant-pathogen-microbiome interactions and their impacts on ecosystems, and provides extensive information on the application of microorganisms in the sustainable management of phytonematodes. This is followed by an in-depth discussion of the application of potential strains of biocontrol fungi, endophytes and actinomycetes to enhance plants' ability to fend off phytonematode attacks, leading to improved plant health. In conclusion, the book addresses new aspects like the biofabrication of nanoparticles and their application in plant disease management, and presents an extensive list for further reading.

Climatological Data

A survey of computational methods for understanding, generating, and manipulating human language, which offers a synthesis of classical representations and algorithms with contemporary machine learning techniques. This textbook provides a technical perspective on natural language processing—methods for building computer software that understands, generates, and manipulates human language. It emphasizes contemporary data-driven approaches, focusing on techniques from supervised and unsupervised machine learning. The first section establishes a foundation in machine learning by building a set of tools that will be used throughout the book and applying them to word-based textual analysis. The second section introduces structured representations of language, including sequences, trees, and graphs. The third section explores different approaches to the representation and analysis of linguistic meaning, ranging from formal logic to neural word embeddings. The final section offers chapter-length treatments of three transformative applications of natural language processing: information extraction, machine translation, and text generation. End-of-chapter exercises include both paper-and-pencil analysis and software implementation. The text synthesizes and distills a broad and diverse research literature, linking contemporary machine learning techniques with the field's linguistic and computational foundations. It is suitable for use in advanced undergraduate and graduate-level courses and as a reference for software engineers and data scientists. Readers should have a background in computer programming and college-level mathematics. After mastering the material presented, students will have the technical skill to build and analyze novel natural language processing systems and to understand the latest research in the field.

This book provides an overview of polyolefine production, including several recent breakthrough innovations in the fields of

catalysis, process technology, and materials design. The industrial development of polymers is an extraordinary example of multidisciplinary cooperation, involving experts from different fields. An understanding of structure-property and processing relationships leads to the design of materials with innovative performance profiles. A comprehensive description of the connection between innovative material performance and multimodal polymer design, which incorporates both flexibility and constraints of multimodal processes and catalyst needs, is provided. This book provides a summary of the polymerization process, from the atomistic level to the macroscale, process components, including catalysts, and their influence on final polymer performance. This reference merges academic research and industrial knowledge to fill the gaps between academic research and industrial processes.

- Connects innovative material performance to the flexibility of multimodal polymer design processes;
- Provides a comprehensive description of the polymerization process from the atomic level to the macroscale;
- Presents a polyhedral view of multimodal polymer production, including structure, property, and processing relationships, and the development of new materials.

**Biology of Termites, a Modern Synthesis** brings together the major advances in termite biology, phylogenetics, social evolution and biogeography. In this new volume, David Bignell, Yves Roisin and Nathan Lo have brought together leading experts on termite taxonomy, behaviour, genetics, caste differentiation, physiology, microbiology, mound architecture, biogeography and control. Very strong evolutionary and developmental themes run through the individual chapters, fed by new data streams from molecular sequencing, and for the first time it is possible to compare the social organisation of termites with that of the social Hymenoptera, focusing on caste determination, population genetics, cooperative behaviour, nest hygiene and symbioses with microorganisms. New chapters have been added on termite pheromones, termites as pests of agriculture and on destructive invasive species.

For fifty years, Hydrosilylation has been one of the most fundamental and elegant methods for the laboratory and industrial synthesis of organosilicon and silicon related compounds. Despite the intensive research and continued interest generated by organosilicon compounds, no comprehensive book incorporating its various aspects has been published this century. The aim of this book is to comprehensively review the advances of hydrosilylation processes since 1990.

The survey of the literature published over the last two decades enables the authors to discuss the most recent aspects of hydrosilylation advances (catalytic and synthetic) and to elucidate the reaction mechanism for the given catalyst used and the reaction utilization. New catalytic pathways under optimum conditions necessary for efficient synthesis of organosilicon compounds are presented. This monograph shows the extensive development in the application of hydrosilylation in organic and asymmetric syntheses and in polymer and material science.

Sorption technique was employed to remove heavy metals from gold mining effluent using natural and plant materials for sustainability. An assessment of the effluent quality of a gold mining company in Ghana indicated that arsenic, copper and cyanide were the major pollutants in the process effluent. Arsenic and copper were successfully removed from the effluent by the studied materials. The research showed that the down-flow fixed-bed treatment configuration is an ideal system for the simultaneous removal of copper and arsenic from low concentration gold mining effluent, in addition to other heavy metals present in very low concentrations.

Collection of the monthly climatological reports of the United States by state or region, with monthly and annual national summaries.

Does exposure to environmental toxicants inhibit our ability to have healthy children who develop normally? Biologic markers—indicators that can tell us when environmental factors have caused a change at the cellular or biochemical level that might affect reproductive ability—are a promising tool for research aimed at answering that important question. **Biologic Markers in Reproductive Toxicology** examines the potential of these markers in environmental health studies; clarifies definitions, underlying concepts, and possible applications; and shows the benefits to be gained from their use in reproductive and neurodevelopmental research.

In recent years, there has been a dramatic increase in grain-based fuel ethanol production in North America and around the world. Whether such production will result in a net energy gain or whether this is sustainable in the long term is under debate, but undoubtedly millions of tons of non-fermented residues are now produced annually for global trade in the form of distillers dried grains with solubles (DDGS). Consequently, in a short period of time a tremendous amount of research has been conducted to determine the suitability of ethanol coproducts for various end uses. **Distillers Grains: Production, Properties and Utilization** is the first book of its kind to provide in-depth, and up-to-date coverage of Historical and current status of the fuel ethanol industry in the U.S. Processing methods, scientific principles, and innovations for making fuel ethanol using grains as feedstock Physical and chemical properties of DDGS, assay methodologies for compositional analyses, and mycotoxin occurrence in DDGS Changes during processing (from grains to DDGS) and analysis of factors causing variations in compositional, nutritional, and physical values Various traditional, new, and emerging uses for DDGS (including feed for cattle, swine, poultry, fish, and other animals, feedstocks for cellulosic ethanol, biodiesel, and other bioenergy production, and substrates for food and industrial uses) Appealing to all who have an interest in fuel ethanol production, distillers grains, and their uses, this comprehensive reference sharpens the readers' understanding of distillers grains and will promote better utilization of ethanol coproducts. Animal and food scientists, feed and food technologists, ethanol plant managers and technicians, nutritionists, academic and governmental professionals, and college students will find the book most useful.

This document is a collection of slang terms used by various subcultures of computer hackers. Though some technical material is included for background and flavor, it is not a technical dictionary; what we describe here is the language hackers use among themselves for fun, social communication, and technical debate.

Microbes are ubiquitous in nature. Among microbes, fungal communities play an important role in agriculture, the environment, and medicine. Vast fungal diversity has been associated with plant systems, namely epiphytic fungi, endophytic fungi, and rhizospheric fungi. These fungi associated with plant systems play an important role in plant growth, crop yield, and soil health. Rhizospheric fungi, present in rhizospheric zones, get their nutrients from root exudates released by plant root systems, which help with their growth, development, and microbe activity. Endophytic fungi typically enter plant hosts through naturally occurring wounds that are the result of plant growth, through root hairs, or at

epidermal junctions. Phyllospheric fungi may survive or proliferate on leaves depending on material influences in leaf diffuseness or exudates. The diverse nature of these fungal communities is a key component of soil-plant systems, where they are engaged in a network of interactions endophytically, phyllospherically, as well as in the rhizosphere, and thus have emerged as a promising tool for sustainable agriculture. These fungal communities promote plant growth directly and indirectly by using plant growth promoting (PGP) attributes. These PGP fungi can be used as biofertilizers and biocontrol agents in place of chemical fertilizers and pesticides for a more eco-friendly method of promoting sustainable agriculture and environments. This first volume of a two-volume set covers the biodiversity of plant-associated fungal communities and their role in plant growth promotion, the mitigation of abiotic stress, and soil fertility for sustainable agriculture. This book should be useful to those working in the biological sciences, especially for microbiologists, microbial biotechnologists, biochemists, and researchers and scientists of fungal biotechnology.

This is the first book to describe the synthesis and characterization of the materials used in polymer-supported synthesis. The authors cover not only the classical polymers and their use in homogeneous, heterogeneous and micellar catalysis, but also such new developments as "enzyme-labile linkers", illustrating how to simplify the purification process and avoid waste. The result is a wealth of useful information -- for beginners and experts alike - in one handy reference, removing the need for difficult and time-consuming research among the literature. Safety of Meat and Processed Meat provides the reader with the recent developments in the safety of meat and processed meat, from the abattoir along the processing chain to the final product. To achieve this goal, the editor uses five approaches. The first part deals with the main biological contaminants like pathogen microorganisms, specially E. coli and L. monocytogenes, toxins and biogenic amines that can be present either in meat or its derived products. The second part focuses on main technologies for meat decontamination as well as developments like active packaging or bioprotective cultures to extend the shelf life. The third part presents non-biological contaminants and residues in meat and meat products including nitrosamines, PAH, veterinary drugs and environmental compounds. The fourth part discusses current methodologies for the detection of microorganisms, its toxins, veterinary drugs, environmental contaminants and GMOs, and the final part deals with predictive models, risk assessment, regulations on meat safety, consumer perception, and other recent trends in the field. This book is written by distinguished international contributors with excellent experience and reputation. In addition, brings together advances in different safety approaches.

This book addresses the emerging trend of smart grids in power systems. It discusses the advent of smart grids and selected technical implications; further, by combining the perspectives of researchers from Europe and South America, the book captures the status quo of and approaches to smart grids in a wide range of countries. It describes the basic concepts, enabling readers to understand the theoretical aspects behind smart grid formation, while also examining current challenges and philosophical discussions. Like the industrial revolution and the birth of the Internet, smart grids are certain to change the way people use electricity. In this regard, a new term – the "prosumer" – is used to describe consumers who may sometimes also be energy producers. This is particularly appealing if we bear in mind that most of the distributed power generation in smart grids does not involve carbon emissions. At first glance, the option of generating their own power could move consumers to leave their current energy provider. Yet the authors argue that doing so is not a wise choice: utilities will play a central role in this new scenario and should not be ignored.

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