

Physical Properties Of Furfural Ifc Supplier In

Updated every five years, the series represents the optimal compromise between currency and a sufficient body of material for cohesive and comprehensive treatment in a monograph. Provides a quick yet thorough overview of the synthetic routines that have been used to access specific classes of therapeutic agents. Materials are organized by chemical class, and syntheses are taken back to available starting materials. Discusses disease state, rational for method of drug therapy, biological activities of each compound and preparation. Coverage also includes those generic pharmaceutical compounds not accorded clinical status. A glossary defines biological terms.

Neuroscientific research on emotion has developed dramatically over the past decade. The cognitive neuroscience of human emotion, which has emerged as the new and thriving area of 'affective neuroscience', is rapidly rendering existing overviews of the field obsolete. This handbook provides a comprehensive, up-to-date and authoritative survey of knowledge and topics investigated in this cutting-edge field. It covers a range of topics, from face and voice perception to pain and music, as well as social behaviors and decision making. The book considers and interrogates multiple research methods, among them brain imaging and physiology measurements, as well as methods used to evaluate behavior and genetics. Editors Jorge Armony and Patrik Vuilleumier have enlisted well-known and active researchers from more than twenty institutions across three continents, bringing geographic as well as methodological breadth to the collection. This timely volume will become a key reference work for researchers and students in the growing field of neuroscience.

Human Milk Biochemistry and Infant Formula Manufacturing Technology, Second Edition covers the history of bottle feeding, its advantages and disadvantages when compared with breast-feeding, human milk biochemistry, trends and new developments in infant formula formulation and manufacturing, and best practices in infant formula processing technology and quality control. The book also covers human milk proteomics as a new, separate chapter and provides additional information on infant formula clinical trial guidelines. In addition, the book includes information about the formulation and processing of premature and low birth weight infant formula. This book is sure to be a welcome resource for professionals in the food and infant formula industry, academics and graduate students in fields like nutrition, food sciences, or nursing, nutritionists and health professionals, government officials working in relevant departments, and finally, anyone interested in human milk and infant formula. Reviews both human milk biochemistry and infant formula processing technology for broad coverage Features a comprehensive review on the human milk protein profile using proteomics technology Contains information on infant formula processing technology Provides guidelines on infant formula clinical trials and related topics

least, the author wishes to thank his constantly helpful wife Maggie and his secretary Pat Weimer; the former for her patience, encouragement, and for acting as a sounding-board, and the latter who toiled endlessly, cheerfully, and most competently on the book's preparation. CONTENTS Preface / iii 1. INTRODUCTION / 1 Frequently Used Economic Studies / 2 Basic Economic Subjects / 3 Priorities / 3 Problems / 6 Appendixes / 6 References / 6 2. EQUIPMENT COST ESTIMATING / 8 Manufacturers' Quotations / 8 Estimating Charts / 10 Size Factoring Exponents / 11 Inflation Cost Indexes / 13 Installation Factor / 16 Module Factor / 18 Estimating Accuracy / 19 Estimating Example / 19 References / 21 3. PLANT COST ESTIMATES / 22 Accuracy and Costs of Estimates / 22 Cost Overruns / 25 Plant Cost Estimating Factors / 26 Equipment Installation / 28 Instrumentation / 30 v vi CONTENTS Piping / 30 Insulation / 30 Electrical / 30 Buildings / 32 Environmental Control / 32 Painting, Fire Protection, Safety Miscellaneous / 32 Yard Improvements / 32 Utilities / 32 Land / 33 Construction and Engineering Expense, Contractor's Fee, Contingency / 33 Total Multiplier / 34 Complete Plant Estimating Charts / 34 Cost per Ton of Product / 35 Capital Ratio (Turnover Ratio) / 35 Factoring Exponents / 37 Plant Modifications / 38 Other Components of Total Capital Investment / 38 Off-Site Facilities / 38 Distribution Facilities / 39 Research and Development, Engineering, Licensing / 40 Working Capital / 40

This book is concerned with the topical problems of mechanics of advanced composite materials whose mechanical properties are controlled by high-strength and high-stiffness continuous fibers embedded in polymeric, metal, or ceramic matrix. Although the idea of combining two or more components to produce materials with controlled properties has been known and used from time immemorial, modern composites were only developed several decades ago and have now found intensive application in different fields of engineering, particularly in aerospace structures for which high strength-to-weight and stiffness-to-weight ratios are required. There already exist numerous publications that cover anisotropic elasticity, mechanics of composite materials, design, analysis, fabrication, and application of composite structures but the difference between this book and the existing ones is that this is of a more specific nature. It covers specific features of material behaviour such as nonlinear elasticity, plasticity, creep, and structural nonlinearity and discusses in detail the problems of material micro- and macro-mechanics that are only slightly touched in existing books, e.g. stress diffusion in a unidirectional material with broken fibers, physical and statistical aspects of fiber strength, coupling effects in anisotropic and laminated materials, etc. The authors are designers of composite structures who were involved in practically all the main Soviet and then Russian projects in composite technology, and the permission of the Russian Composite Center - Central Institute of Special Machinery (CRISM) to use in this book the pictures of structures developed and fabricated in CRISM as part of the joint research and design project is much appreciated. Mechanics and Analysis of Composite Materials consists of eight chapters progressively covering all structural levels of composite materials from their components through elementary plies and layers to laminates.

The Prokaryotes is a comprehensive, multi-authored, peer reviewed reference work on Bacteria and Achaea. This fourth edition of The Prokaryotes is organized to cover all taxonomic diversity, using the family level to delineate chapters. Different from other resources, this new Springer product includes not only taxonomy, but also prokaryotic biology and technology of taxa in a broad context. Technological aspects highlight the usefulness of prokaryotes in processes and products, including biocontrol agents and as genetics tools. The content of the expanded fourth edition is divided into two parts: Part 1 contains review chapters dealing with the most important general concepts in molecular, applied and general prokaryote biology; Part 2 describes the known properties of specific taxonomic groups. Two completely new sections have been added to Part 1: bacterial communities and human bacteriology. The bacterial communities section reflects the growing realization that studies on pure cultures of bacteria have led to an incomplete picture of the microbial world for two fundamental reasons: the vast majority of

bacteria in soil, water and associated with biological tissues are currently not culturable, and that an understanding of microbial ecology requires knowledge on how different bacterial species interact with each other in their natural environment. The new section on human microbiology deals with bacteria associated with healthy humans and bacterial pathogenesis. Each of the major human diseases caused by bacteria is reviewed, from identifying the pathogens by classical clinical and non-culturing techniques to the biochemical mechanisms of the disease process. The 4th edition of *The Prokaryotes* is the most complete resource on the biology of prokaryotes. The following volumes are published consecutively within the 4th Edition: *Prokaryotic Biology and Symbiotic Associations* *Prokaryotic Communities and Ecophysiology* *Prokaryotic Physiology and Biochemistry* *Applied Bacteriology and Biotechnology* *Human Microbiology* *Actinobacteria* *Firmicutes* *Alphaproteobacteria* and *Betaproteobacteria* *Gammaproteobacteria* *Deltaproteobacteria* and *Epsilonproteobacteria* *Other Major Lineages of Bacteria and the Archaea*

This book is a comprehensive compilation of chapters on materials (both established and evolving) and material technologies that are important for aerospace systems. It considers aerospace materials in three Parts. Part I covers Metallic Materials (Mg, Al, Al-Li, Ti, aero steels, Ni, intermetallics, bronzes and Nb alloys); Part II deals with Composites (GLARE, PMCs, CMCs and Carbon based CMCs); and Part III considers Special Materials. This compilation has ensured that no important aerospace material system is ignored. Emphasis is laid in each chapter on the underlying scientific principles as well as basic and fundamental mechanisms leading to processing, characterization, property evaluation and applications. This book will be useful to students, researchers and professionals working in the domain of aerospace materials.

Based on a conference, this book is intended to promote a better understanding of the effects of adjuvants on pesticide penetration, translocation, photodegradation and stability, spray deposition and dissipation, and the fate of herbicides in the environment.

Recent Advances in Renewable Energy Technologies is a comprehensive reference covering critical research, laboratory and industry developments on renewable energy technological, production, conversion, storage, and management, including solar energy systems (thermal and photovoltaic), wind energy, hydropower, geothermal energy, bioenergy and hydrogen production, and large-scale development of renewable energy technologies and their impact on the global economy and power capacity. Technological advancements include resources assessment and deployment, materials performance improvement, system optimization and sizing, instrumentation and control, modeling and simulation, regulations, and policies. Each modular chapter examines recent advances in specific renewable energy systems, providing theoretical and applied aspects of system optimization, control and management and supports them with global case studies demonstrating practical applications and economical and environmental aspects through life cycle analysis. The book is of interest to engineering graduates, researchers, professors and industry professionals involved in the renewable energy sector and advanced engineering courses dealing with renewable energy, sources, thermal and electrical energy production and sustainability. Focuses on the progress and research trends in solar, wind, biomass, and hydropower and geothermal energy production and conversion. • Includes advanced techniques for the distribution, management, optimization, and storage of heat and energy using case studies.

Edible Oils Extraction, Processing, and Applications CRC Press

This book showcases the state of the art in the field of sensors and microsystems, revealing the impressive potential of novel methodologies and technologies. It covers a broad range of aspects, including: bio-, physical and chemical sensors; actuators; micro- and nano-structured materials; mechanisms of interaction and signal transduction; polymers and biomaterials; sensor electronics and instrumentation; analytical microsystems, recognition systems and signal analysis; and sensor networks, as well as manufacturing technologies, environmental, food and biomedical applications. The book gathers a selection of papers presented at the 20th AISEM National Conference on Sensors and Microsystems, held in Naples, Italy in February 2019, the event brought together researchers, end users, technology teams and policy makers.

This book evaluates and discusses the main sustainability challenges encountered in the production of biofuel and bio-products from oil palm biomass. It starts off with the emphasis on oil palm production, oil palm products recovery and oil palm wastes utilization. The simultaneous production of these bio-products for sustainable development is discussed. This is followed by the key factors defining the sustainability of biofuel and bio-product production from oil palm biomass. The environmental issues including ecological, life cycle assessment and environmental impact assessment of oil palm plantation, milling and refining for the production of biofuels and bio-products are presented. Socio-economic and thermodynamic analysis of the production processes are also evaluated using various sustainability assessment tools such as exergy. Lastly, methods of improving biofuel production systems for sustainable development are highlighted.

The introduction of high performance techniques to thin-layer chromatography has secured a future for TLC. The development of increasingly more sensitive detection reagents has meant that the detection of ever smaller substrate concentrations has become possible. The first part of this volume describes general methods, including prechromatographic derivatization, whilst the second part gives numerous applications listed according to the detection reagent employed. The authors describe the selected methods in detail and critically evaluate each reagent. Each reaction procedure is concluded with a tested example, useful as a guide to practical work. Detection limits and measurement conditions are also given, enabling a quantitative evaluation to be made. The literature references will be welcomed by those readers wishing to gain further insight into this field. All in all, this publication, which will be continued in later volumes, is far more than a collection of reagents - it is a laboratory handbook for the experimentalist. This book also gives numerous useful suggestions for applications in the field of high pressure liquid chromatography and electrophoresis.

For mechanical and chemical engineers working for engineering construction as well as process manufacturing companies with responsibility for plant layout, piping, and construction; and for engineering students. Based on the authors' collective 65 years of experience in the engineering construction industry, this profusely illustrated, comprehensive guidebook presents tried-and-true workable methods and rules of thumb for plant layout and piping design for the process industries. Content is organized and presented for quick-reference on- the-job or for systematic study of specific topics. **KEY TOPICS:** Presents general concepts and principles of plant layout -- from basic terminology and input requirements to deliverables; deals with specific pieces of equipment and their most efficient layout in the overall plant design configuration; addresses the plant layout requirements for the most common process unit equipment; and considers the

computerized tools that are now available to help plant layout and piping designers.

A concise assessment of the risks to human health and the environment posed by exposure to 2-furaldehyde. The chemical is produced commercially for industrial use in the production of resins, abrasive wheels and refractories, refining of lubrication oils, and solvent recovery. Although 2-furaldehyde is present in many food items as a natural product or contaminant, emphasis is placed on the more important risks to health that occur in occupational settings. Concerning presence in the environment, the highest reported emissions are from the wood pulp industry, which releases 2-furaldehyde predominantly in the vapor phase. The chemical has been found in water samples near industrial sites, in air, and in a range of food items. Data from animal studies indicate that 2-furaldehyde is readily absorbed via the inhalation and dermal exposure routes and rapidly excreted via the urine. In humans, studies show absorption of the chemical in vapor form via the lungs and skin and excretion via the urine. Studies of toxic effects in animals provide evidence of both carcinogenic and genotoxic effects. The principal neoplastic effects observed include increases in hepatocellular adenomas and hepatocellular carcinomas and an increased incidence of skin tumors. The assessment of health effects in humans concentrates on occupational exposures in the petrochemical distillation and food flavoring industries and during the manufacturing of resins, polymers, and abrasive wheels. Data from human studies were judged to be extremely limited and of poor quality. Based on findings from animal studies, the report concludes that a potential risk of carcinogenic and genotoxic effects exists in the occupational environment and that exposure levels should be reduced as low as possible, using currently available protective technology.

"Wood is suitable for use in multi-storey building construction with barely any restrictions. This is new and requires creative rethinking of tried and tested practices in wood construction: classical categories can be replaced by mixed construction methods as necessary within a project, which yields completely new possibilities in designing wood structures. The Manual provides architects, engineers and wood specialists with the essential expertise on the new systematic and construction methodology, from the design to prefabrication to the implementation on site. It lays the grounds for mutual understanding among everyone involved in the project, to facilitate the necessary cooperation in the integral planning and construction process." --Publisher.

Refinement in sequencing technologies and potential of genomic research resulted in meteoric growth of biological information such as sequences of DNA, RNA and protein requiring databases for efficient storage, management and retrieval of the biological information. Also, computational algorithms for analysis of these colossal data became a vital aspect of biological sciences. The work aims to show the process of turning bioscience innovation into companies and products, covering the basic science, the translation of science into technology. Due to rapid developments, there seems to be no basic difference between the pharmaceutical industry and the biotechnological industry. However, approved products in the pipeline and renewed public confidence make it one of the most promising areas of economic growth in the near future. India offers a huge market for the products as well as cheap manufacturing base for export. The book is a sincere work of compilation of new and recent advances in the topic of concern through various innovative researches and scientific opinion therefrom. The book is dedicated to the readers who will definitely find it interesting and knowledgeable in carrying out their respective researches in different aspects of applied microbiology and biotechnology.

Science is essentially a descriptive and experimental device. It observes nature, constructs hypotheses, plans experiments and proposes theories. The theory is never contemplated as the 'final truth', but remains ever subject to modifications, changes and rejections. The science of allelopathy in a similar way has emerged, and exists on a similar footing; our endeavour should be to keep it fresh and innovative with addition of newer information and concepts with the rejection of older ideas and antiquated techniques. During the past few decades encouraging results have been obtained in various aspects of allelopathic researches. However, in addition to continuing efforts in all these directions, constant attempts are to be made to describe the mechanics of allelopathic activity in molecular terms and to discover ways and means to exploit it for the welfare of mankind. We feel that multidisciplinary efforts are the only tool to achieve this goal. It is the hope of the editors that this book will serve as a document which identifies an integrated approach, through which research both to understand and exploit allelopathy can be conducted. The present volume arose out of an attempt to bring together eminent scientists in allelopathy to describe their work, of a highly diverse nature, under one title.

Global oilseeds industry is expected to expand in the future but would also constitute a platform for a variety of other products from processing waste such as protein meals and aromatic compounds. Edible Oils: Extraction, Processing, and Applications intends to present up to date technologies that are currently used for the extraction and refining of Edible Oils while proposing potential applications for its derivatives. This contribution pushes to consider market transformation driven by environmental concerns and customer's envy to bring quality attributes, energy efficiency and waste disposal into the heart of innovation. This work is aimed at professionals and academics including researchers, engineers and managers engaged in food and green engineering disciplines and ambitions to stand as a reference for students and lecturers. The readers will find a wealth of knowledge about the fundamentals of unit operations such as extraction and separation while presenting concepts of biorefinery for product and value creation from certain edible seeds. Novelties includes novel approaches for green solvent development in extraction, and examples of life cycle assessment of production systems for certain vegetable oils comprising product, service and waste management systems. Furthermore, this book focuses attention to production, processing, and current applications of palm oil, as an important commodity in Asia and addresses global market changes and important factors that influence its future prospects.

The oil palm is the world's most valuable oil crop. Its production has increased over the decades, reaching 56 million tons in 2013, and it gives the highest yields per hectare of all oil crops. Remarkably, oil palm has remained profitable through periods of low prices. Demand for palm oil is also expanding, with the edible demand now complemented by added demand from biodiesel producers. The Oil Palm is the definitive reference work on this important crop. This fifth edition features new topics - including the conversion of palm oil to biodiesel, and discussions about the impacts of palm oil production on the environment and effects of climate change – alongside comprehensively revised chapters, with updated references throughout. The Oil Palm, Fifth Edition will be useful to researchers, plantation and mill managers who wish to understand the science underlying recommended practices. It is an indispensable reference for agriculture students and all those working in the oil palm industry worldwide.

Biomass Fractionation Technologies for a Lignocellulosic Feedstock-based Biorefinery reviews the extensive research and tremendous scientific and technological developments

that have occurred in the area of biorefining, including industrial processes and product development using 'green technologies', often referred as white biotechnology. As there is a huge need for new design concepts for modern biorefineries as an alternative and amendment to industrial crude oil and gas refineries, this book presents the most important topics related to biomass fractionation, including advances, challenges, and perspectives, all with references to current literature for further study. Presented in 26 chapters by international field specialists, each chapter consists of review text that comprises the most recent advances, challenges, and perspectives for each fractionation technique. The book is an indispensable reference for all professionals, students, and workers involved in biomass biorefinery, assisting them in establishing efficient and economically viable process technologies for biomass fractionation. Provides information on the most advanced and innovative pretreatment processes and technologies for biomass Reviews numerous valuable products from lignocellulose Discusses integration of processes for complete biomass conversion with minimum waste generation Identifies the research gaps in scale-up Presents an indispensable reference for all professionals, students, and workers involved in biomass biorefinery, assisting them in establishing efficient and economically viable process technologies for biomass fractionation

This detailed volume for the first time explores techniques and protocols involving quantitative imaging flow cytometry (IFC), which has revolutionized our ability to analyze cells, cellular clusters, and populations in a remarkable fashion. Beginning with an introduction to technology, the book continues with sections addressing protocols for studies on the cell nucleus, nucleic acids, and FISH techniques using an IFC instrument, immune response analysis and drug screening, IFC protocols for apoptosis and cell death analysis, as well as morphological analysis and the identification of rare cells. Written for the highly successful Methods in Molecular Biology series, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls. Authoritative and practical, Imaging Flow Cytometry: Methods and Protocols will be a critical source for all laboratories seeking to implement IFC in their research studies.

Direct Alcohol Fuel Cells: Materials, Performance, Durability and Applications begins with an introductory overview of direct alcohol fuel cells (DAFC); it focuses on the main goals and challenges in the areas of materials development, performance, and commercialization. The preparation and the properties of the anodic catalysts used for the oxidation of methanol, higher alcohols, and alcohol tolerant cathodes are then described. The membranes used as proton conductors in DAFC are examined, as well as alkaline membranes, focusing on the electrical conductivity and alcohol permeability. The use of different kinds of carbon materials as catalyst supports, gas diffusion layers, and current collectors in DAFC is also discussed. State of the art of the modeling is used to estimate performance and durability. The closing chapter reviews the use of DAFC in portable equipment and mobile devices and features a detailed discussion on the mechanisms of component degradation which limits their durability. This book is written to facilitate the understanding of DAFC technology, applications, and future challenges. It is an excellent introduction for electrochemical and material engineers interested in small fuel cells as portable energy sources, scientists focused on materials science for energy production and storage, as well as policy-makers in the area of renewable energies.

The role of biochar in improving soil fertility is increasingly being recognized and is leading to recommendations of biochar amendment of degraded soils. In addition, biochars offer a sustainable tool for managing organic wastes and to produce added-value products. The benefits of biochar use in agriculture and forestry can span enhanced plant productivity, an increase in soil C stocks, and a reduction of nutrient losses from soil and non-CO₂ greenhouse gas emissions. Nevertheless, biochar composition and properties and, therefore, its performance as a soil amendment are highly dependent on the feedstock and pyrolysis conditions. In addition, due to its characteristics, such as high porosity, water retention, and adsorption capacity, there are other applications for biochar that still need to be properly tested. Thus, the 16 original articles contained in this book, which were selected and evaluated for this Special Issue, provide a comprehensive overview of the biological, chemophysical, biochemical, and environmental aspects of the application of biochar as soil amendment. Specifically, they address the applicability of biochar for nursery growth, its effects on the productivity of various food crops under contrasting conditions, biochar capacity for pesticide retention, assessment of greenhouse gas emissions, and soil carbon dynamics. I would like to thank the contributors, reviewers, and the support of the Agronomy editorial staff, whose professionalism and dedication have made this issue possible.

The "Microbiology" volume of the new revised and updated Handbook of Enology focuses on the vinification process. It describes how yeasts work and how they can be influenced to achieve better results. It continues to look at the metabolism of lactic acid bacteria and of acetic acid bacteria, and again, how can they be treated to avoid disasters in the winemaking process and how to achieve optimal results. The last chapters in the book deal with the use of sulfur-dioxide, the grape and its maturation process, harvest and pre-fermentation treatment, and the basis of red, white and speciality wine making. The result is the ultimate text and reference on the science and technology of the vinification process: understanding and dealing with yeasts and bacteria involved in the transformation from grape to wine. A must for all serious students and practitioners involved in winemaking.

This book describes the design of the first functioning single-sided tomograph, the related measurement methods, and a number of applications in medicine, materials science, and chemical engineering. It will be the first comprehensive account of this new device and its applications. Among the key advances of this method is that images can be obtained in much shorter times than originally anticipated, and that even vector maps of flow fields can be measured although the magnetic fields are highly inhomogeneous. Furthermore, the equipment is small, mobile and affordable to small and medium enterprises and can be located in doctors' offices.

This novel and informative book discusses the various aspects of seafood quality. The book is divided into 7 broad sections, each tackling a different aspect. The first section

covers the general aspects relevant to the nutritional quality of the fish and the various extraction protocols for macro-/ micro-nutrients. The second section provides insights into handling and the principles of thermal and non-thermal processing techniques for commercially important fishery products. The quality standards and safety concerns in the seafood industry and consumption are discussed in this section. The freshness indices of the processed products including biochemical, microbiological and toxicological characteristics are also included. The third section discusses the physico-chemical characteristics and quality parameters of potable water/ ice. The fourth section includes the quality assessment of various toxicants related to seafood products. The fifth section deals with the specific aspects such as principle, instrument and procedures of conventional and novel analytical instruments relevant to the seafood industry. The sixth section deals with the seafood waste management including solid and liquid seafood wastes. Presently, there is a great awareness regarding environmental sustainable processing/ preservation techniques. The final chapter discusses the bioactive compounds from under-utilized marine sources showing pharmaceutical/ nutraceutical applications.

The second edition of Experiments in Plant Tissue Culture makes available new information that has resulted from recent advances in the applications of plant tissue culture techniques to agriculture and industry. This comprehensive laboratory text takes the reader through a graded series of experimental protocols and also provides an introductory review of each topic. Topics include: a plant tissue culture laboratory, aseptic techniques, nutritional components of media, callus induction, organ formation, xylem cell differentiation, root cultures, cell suspensions, micropropagation, embryogenesis, isolation and fusion of protoplasts, haploid cultures, storage of plant genetic resources, secondary metabolite production, and quantification of procedures. This volume offers all of the basic experimental methods for the major research areas of plant tissue culture, and it will be invaluable to undergraduates and research investigators in the plant sciences.

This book has a clear orientation towards making p

This fourth edition of Organic Waste Recycling is fully updated with new material to create a comprehensive and accessible textbook: - New chapter on constructed wetlands for wastewater and faecal sludge stabilization. - New sections on: waste recycling vs. climate change and water; faecal sludge and its characteristics; hydrothermal carbonization technology; up-to-date environmental criteria and legislation and environmental risk assessment. - New case studies with emphasis on practices in both developed and developing countries have been included, along with more exercises at the end of chapters to help the readers understand the technical principles and their application. - Novel concepts and strategies of waste management are presented. - Up-to-date research findings and innovative technologies of waste recycling program are provided. This textbook is intended for undergraduate and graduate students majoring in environmental sciences and engineering as well as researchers, professionals and policy makers who conduct research and practices in the related fields. It is essential reading for experts in environmental science and engineering and sustainable waste reuse and recycling in both developed and developing countries.

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