Thickening And Gelling Agents For Food

HESTER KIMBERLY

Encyclopedia of Tribology Springer
Ever think of making your own beauty products -- handmade, high performance, healthy alternatives to just about every chemical laden product you currently put on your face and body? It's easier than you think! In Make It Up author Marie Rayma shares the recipes she has developed through years of trial, error, and testing to come up with the very best. This is real makeup and skincare: bright lipsticks, quality mineral powders, long-wearing eyeliners, and masks and cleansers that yield results. Rayma walks you through natural ingredients available online or at health food stores. These awesome oils, butters, clays, and minerals will replace the petroleum products, artificial colors, and lab-created mystery fragrances that have untold effects on our bodies. Products can be tailored for individual needs -- from swapping out ingredients not suitable for sensitive skin to whipping up the perfect colors suited for any complexion. With easy-to-follow instruction, Make It Up provides more than 40 essential cosmetics and skin care projects so you can make just what you want, when you need it.

The Art, Science, and Technology of Pharmaceutical Compounding Academic Press
An important and growing area of the textile industry is the medical sector. The extent of this growth is due to constant improvements in both textile technology and medical procedures. This collection provides a detailed review of how textiles are incorporated into wound care applications, explaining the importance and suitability of using textiles on different wound types. Part one of the book provides an overview of the use of textiles in particular aspects of wound care, providing details of wound management and the importance of laboratory testing in relation to wound care. Further chapters cover minor wounds, moist wound management and bioactive dressings to promote healing. Given their increasing importance, part two describes how advanced textiles, such as smart temperature controlled textiles and composites, can be used for wound care products. The final chapter gives an interesting insight into the use of fibrous scaffolds for tissue engineering. Advanced textiles for wound care is essential reading for any manufacturers, designers,

scientists and producers of wound care materials. It is a valuable resource for professionals within the medical sector, as well as those in academia. Provides a comprehensive introduction to wound care from types of wound and wound healing mechanisms to the importance of testing in relation to wound care Analyses the application of textiles to wound healing covering minor wounds, burns, ulcers and other deep skin wounds Reviews the current use of smart textiles for wound care including drug delivery dressings and textile-based scaffolds for tissue engineering as well as future trends

Novel Hydrocolloids for Special Dishes John Wiley & Sons

Thickening and Gelling Agents for FoodSpringer Science & Business Media

Food Hydrocolloids Running Press Adult

Hydrocolloids are among the most commonly used ingredients in the food industry. They function as thickeners, gelling agents, texturizers, stabilizers, and emulsifiers, and have applications in the areas of edible coatings and flavor release. This book More Cooking Innovations: Novel Hydrocolloids for Special Dishes completes the very demanding task begun with our previous book: "Cooking Innovations, Using Hydrocolloids for Thickening, Gelling and Emulsification" of covering all hydrocolloids that are or will be very useful and important in the kitchen. Together, these books provide a complete picture of hydrocolloid use in foods, both in the kitchen and for food technologists and academics. The book includes several very important hydrocolloids, among them: chitin and chitosan, gum karaya, gum tragacanth, and milk proteins. Additional chapters comprise unique hydrocolloids which, in our opinion, will not only be used in future cooking (by both amateur cooks and professional chefs), but can pave the way to new and fascinating recipes and cooking techniques. The book also discusses novel hydrocolloids—the "where, why, and when" as well as future ideas for hydrocolloid processing and cooking. This book therefore describes more cooking innovations, and completes the list of hydrocolloids that are now, or will be used in kitchens and cooking for years to come.

Functional Properties of Food Macromolecules Springer Science & Business Media

A needed resource for pharmaceutical scientists and cosmetic chemists, Essential Chemistry for Formulators of Semisolid and Liquid Dosages provides insight into the basic chemistry of mixing different phases and test methods for the stability study of nonsolid formulations. The book covers foundational surface/colloid chemistry, which forms the necessary background for making emulsions, suspensions, solutions, and nano drug delivery systems, and the chemistry of mixing, which is critical for further formulation of drug delivery systems into semisolid (gels, creams, lotions, and ointments) or liquid final dosages. Expanding on these foundational principles, this useful guide explores stability testing methods, such as particle size, rheological/viscosity, microscopy, and chemical, and closes with a valuable discussion of regulatory issues. Essential Chemistry for Formulators of Semisolid and Liquid Dosages offers scientists and students the foundation and practical guidance to make and analyze semisolid and liquid formulations. Unique coverage of the underlying chemistry that makes possible stable dosages Quality content written by experienced experts from the drug development industry Valuable information for academic and industrial scientists developing topical and liquid dosage formulations for pharmaceutical as well as skin care and cosmetic products

Physical Chemistry and Industrial Application of Gellan Gum Elsevier

Gums are plant flours (like starch or arrowroot) that make foods & other products thick. Gums are used in foods for many reasons besides being used as a thickener. Gums are important ingredient in producing food emulsifier, food additive, food thickener & other gum products. The main reason for adding a gum or hydrocolloid to a food product is to improve its overall quality. India is the largest producer of gums specially guar gum products. Similarly stabilizers are an indispensable substance in food items when added to the food items, they smoothens uniform nature and hold the flavouring compounds in dispersion. Gum technology stabilizers are carefully controlled blends of various food ingredients. Most processed foods need some sort of stabilization at some point during production, transportation, storage and serving. The science and technology of hydrocolloids used in food and related systems has seen many new developments and advances over recent years. The breadth and depth of knowledge of gums and stabilizers has increased tremendously over the last two decades, with researchers in industry and academia collaborating to accelerate the growth. Gums as food constituents or as food additives can influence processing conditions in the following ways; retention of water, reduction of evaporation rates, alteration of freezing rates, modification of ice crystal formation and participation in chemical reactions. Some of the fundamentals of the book are functions of gum, typical food applications, gums in food suspensions, rheology and characters of gums, natural product exudates, flavor fixation, ice cream, ices and sherbets, gelation of low methoxyl pectin, seaweed extracts, microbial gums, transformation of collagen to gelatin, cellulose gums, dairy food applications, bakery product applications, analysis of hydrocolloids, gums in food products, general isolation of gums from foods, identification of gums in specific foods, group analysis and identification schemes, group identification methods, qualitative group analysis etc. This book contains rheology of gums, plant sheet gums, microbial gums, cellulose gums and synthetic hydrocolloids different stabilizers used in food industry. The book will be very resourceful to all its readers, new entrepreneurs, scientist, food technologist, food industries etc.

Petroleum Engineer's Guide to Oil Field Chemicals and Fluids CRC Press

This book deepens the study and knowledge on pectins, especially in the processes of extraction, purification, and characterization, in short its many and wide applications. Among the most prominent applications are the food, pharmaceutical, and other industries. The development of pectins has a very promising future with a marked annual increase and with a wide range of sources. As written above, this book will help its readers to expand their knowledge on this biopolymer with vast application in the industry worldwide.

Handbook of Food Structure Development CRC Press

While hydrocolloids have been used for centuries, it took molecular gastronomy to bring them to the forefront of modern cuisine. They are among the most commonly used ingredients in the food industry, functioning as thickeners, gelling agents, texturizers, stabilizers, and emulsifiers. They also have applications in the areas of edible coatings and flavor release. Although there are many books describing hydrocolloids and their industrial uses, Cooking Innovations: Using Hydrocolloids for Thickening, Gelling, and Emulsification is the first scientific book devoted to the unique applications of hydrocolloids in the kitchen, covering both past uses and future innovations. Each chapter addresses a particular hydrocolloid, protein hydrocolloid, or protein–polysaccharide complex. Starting with a brief description of the chemical and physical nature of the hydrocolloid, its manufacture, and its biological/toxicological

properties, the emphasis is on practical information for both the professional chef and amateur cook. Each chapter includes recipes demonstrating the particular hydrocolloid's unique abilities in cooking. Several formulations were chosen specifically for food technologists, who will be able to manipulate them for large-scale use or as a starting point for novel industrial formulations. The book covers the most commonly used hydrocolloids, namely, agar–agar, alginates, carrageenan and furcellaran, cellulose derivatives, curdlan, egg proteins, galactomannans, gelatin, gellan gum, gum arabic, konjac mannan, pectin, starch, and xanthan gum. It also discusses combining multiple hydrocolloids to obtain novel characteristics. This volume serves to inspire cooking students and introduce food technologists to the many uses of hydrocolloids. It is written so that chefs, food engineers, food science students, and other professionals will be able to cull ideas from the recipes and gain an understanding of the capabilities of each hydrocolloid.

Cooking Innovations Academic Press

It is now well recognised that the texture of foods is an important factor when consumers select particular foods. Food hydrocolloids have been widely used for controlling in various food products their viscoelasticity, emulsification, gelation, dispersion, thickening and many other functions. An international journal, FOOD HYDROCOLLOIDS, launched in 1986 has published a number of stimulating papers, and established an active forum for promoting the interaction between academics and industrialists and for combining basic scientific research with industrial development. Although there have been various research groups in many food processing areas in Japan, such as fish paste (kamaboko, surimi), soybean curd (tofu), agar jelly dessert, kuzu starch jelly, kimizu (Japanese style mayonnaise), their activities have been conducted in isolation of one another. The interaction between the various research groups operating in the various sectors has been weak. Symposia on food hydrocolloids have been organised on several occasions in Japan since 1985. Professor Glyn O. Phillips, the Chief Executive Editor of FOOD HYDROCOLLOIDS, suggested to us that we should organise an international conference on food hydrocolloids. We discussed it on many occasions, and eventually decided to organise such a meeting, and extended the scope to include recent development in proteinaceous hydrocolloids, and their nutritional aspects, in addition to polysaccharides and emulsions.

Gluten-Free Cereal Products and Beverages Elsevier

The value of gums, thickeners, stabilizers and gelling agents as ingredients of food products is well established. The market for products requiring these ingredients is growing, and it is anticipated that it will continue to grow. As new products and processes are developed, so the demands made on ingredients change, but they must provide consistent properties, including stability throughout shelf life.

Investigation of Gelling-Thickening Agent to Reduce Settling of Solids in Uncured Propellant CRC Press

Stabilisers, thickeners and gelling agents are extracted from a variety of natural raw materials and incorporated into foods to give the structure, flow, stability and eating qualities desired by consumers. These additives include traditional materials such as starch, a thickener obtained from many land plants; gelatine, an animal by-product giving characteristic melt-in-the-mouth gels; and cellulose, the most abundant structuring polymer in land plants. Seed gums and other materials derived from sea plants extend the range of polymers. Recently-approved additives include the microbial polysaccharides of xanthan, gellan and pullulan. This book is a highly practical guide to the use of polymers in food technology to stabilise, thicken and gel foods, resulting in consistent, high quality products. The information is designed to be easy to read and assimilate. New students will find chapters presented in a standard format, enabling key points to be located quickly. Those with more experience will be able to compare and contrast different materials and gain a greater understanding of the interactions that take place during food production. This concise, modern review of hydrocolloid developments will be a valuable teaching resource and reference text for all academic and practical workers involved in hydrocolloids in particular, and food development and production in general.

Structures, Properties, and Functions Thickening and Gelling Agents for Food

Gellan gum, a microbial polysaccharide, consisting of tetra-saccharide unit, glucose, glucuronic acid, glucose and rhamnose, forms a transparent gel which is heat-resistant in the presence of divalent cations. Since 1989, the collaborative research group was organised in the Research Group of Polymer Gels affiliated to the Society of Polymer Science, Japan, consisting of various laboratories with different disciplines to clarify the mechanism using the common purified sample. This special issue contains 19 papers on the molecular conformation, gel-sol transition, interaction of gellan and water, cations and sugar, based on rheology, NMR, ESR, DSC, light scattering, osmotic pressure, small angle x-ray scattering, dielectric measurement, atomic force microscopy and the industrial application of gellan gum presented at the 4th International Conference on Hydrocolloids - OCUIS '98 by the collaborative group members and by international experts.

Make It Up CRC Press

No doubt: A perfect coating has to look brilliant! But other properties of coatings are also most important. Coatings have to be durable, tough and easily applicable. Additives are the key to success in achieving these characteristics, even though the amounts used in coating formulations are small. It is not trivial at all to select the best additives. In practice, many series of tests are often necessary, and the results do not explain, why a certain additive improves the quality of a coating and another one impairs the coating. This book is dedicated to developers and applicants of coatings working in research or production, and it is aimed at providing a manual for their daily work. It will answer the following questions: How do the most important groups of additives act? Which effects can be be achieved by their addition? Scientific theories are linked to practical applications. Emphasis is put on the optical aspects that are most important for the applications in practice. This book is a milestone in quality assurance in the complete field of coatings!

Chemical and Functional Properties of Food Saccharides Springer Science & Business Media

This book is about the chemical properties of starch. The book is a rich compendium driven by the desire to address the unmet needs of biomedical scientists to respond adequately to the controversy on the chemical properties and attendant reactivity of starch. It is a collective endeavor by a group of editors and authors with a wealth of experience and expertise on starch to aggregate the influence of qualitative and quantitative morphological, chemical, and genetic properties of starch on its functionalities, use, applications, and health benefits. The chemical properties of starch are conferred by the presence, amount and/or quality of amylose and amylopectin molecules, granule structure, and the nature and amounts of the lipid and protein molecules. The implication of this is comprehensively dealt with in this book.

Handbook of Hydrocolloids John Wiley & Sons

Thickening and gelling agents are invaluable for providing high quality foods with consistent properties, shelf stability and good

consumer appeal and acceptance. Modern lifestyles and consumer demands are expected to increase the requirements for these products. Traditionally, starch and gelatin have been used to provide the desired textural properties in foods. Large-scale processing technology places greater demands on the thickeners and gelling agents employed. Modified starches and specific qualities of gelatin are required, together with exudate and seed gums, seaweed extracts and, most recently, microbial polysaccharides, to improve product mouthfeel properties, handling, and stability characteristics. These hydrocolloids have been established as valuable food additives as a result of extensive practical experience with different products. Nevertheless, the last few years have produced much additional research data from sophisticated new analytical methods. Information on the fine structure of these complex molecules has given a tremendous insight into the three-dimensional conformation of hydro colloids and their behaviour in solution. Critical components within the biopolymer have been identified which provide particular thickening, suspending, stabilising, emulsifying and gelling properties. Contributions for this book have been provided by senior development managers and scientists from the major hydrocolloid suppliers in the US and Europe. The wealth of practical experience within this industry, together with chemical, structural and functional data, has been collated to provide an authoritative and balanced view of the commercially significant thickening and gelling agents in major existing and potential food applications.

Additives for Coatings C&T Publishing Inc

Presents new and innovative bio-based monomers to replace traditional petrochemical-based building blocks Featuring contributions from top experts in the field, this book discusses new developments in the area of bio monomers and green polymeric composite materials. It covers bio monomers, green polymeric composites, composites from renewable resources, bio-sourced polymers, green composites, biodegradation, processing methods, green polymeric gels, and green polymeric membranes. Each chapter in Bio Monomers for Green Polymeric Composites Materials presents the most recent research and technological ideas in a comprehensive style. It examines bio monomers for green polymer and the processing methods for the bio nanocomposites. It covers the preparation, characterization, and applications of bio-polymeric materials based blends, as well as the applications of biopolymeric gels in medical biotechnology. The book also explores the properties and applications of gelatins, pectins, and carrageenans gels. Additionally, it offers a plethora of information on green polymeric membranes; the bio-degradation of green polymeric composites materials; applications of green polymeric composites materials; hydrogels used for biomedical applications; and the use of natural aerogels as thermal insulations. Introduces readers to the innovative, new bio-based monomers that are taking the place of traditional petrochemical-based building blocks Covers green polymers, green composites, bio-sourced polymers, bio nanocomposites, biodegradable polymers, green polymer gels, and membranes Features input from leading researchers immersed in the area of study Bio Monomers for Green Polymeric Composites Materials is suitable for academics, researchers, scientists, engineers and advanced students in the field of bio monomers and green polymeric composites materials.

Food Polysaccharides and Their Applications Gulf Professional Publishing

Comprehensive in scope, Food Polysaccharides and Their Applications, Second Edition explains the production aspects and the chemical and physical properties of the main classes of polysaccharaides consumed as food, highlighting their nutritional value and their technological characteristics. Chapters in this new edition detail the source, biosynthesis, molecular structures, and physical properties of polysaccharides. They also explore production and uses in food formulations; the effects of cooking and interactions with proteins, lipids, sugars, and metal ions; analytical methods, including identification and quantitative determination; and nutritional and ecological considerations with emphasis on genetic engineering of food crops. The editors carefully balance coverage of fundamental aspects and practical implications for the food industry. What’s New in the Second Edition: Explains the preparation of new starch esters and improved techniques for the production of acid-converted and oxidized starches Details new information on the natural functions of cell wall polysaccharides of seeds in relation to their molecular structures, biosynthesis and enzymatic hydrolysis Presents additional references that include those relating to IR and NMR spectrometric methods of analysis

Microbial Enhancement of Oil Recovery - Recent Advances Springer Science & Business Media

Cosmetics are the most widely applied products to the skin and include creams, lotions, gels and sprays. Their formulation, design and manufacturing ranges from large cosmetic houses to small private companies. This book covers the current science in the formulations of cosmetics applied to the skin. It includes basic formulation, skin science, advanced formulation, and cosmetic product development, including both descriptive and mechanistic content with an emphasis on practical aspects. Key Features: Covers cosmetic products/formulation from theory to practice Includes case studies to illustrate real-life formulation development and problem solving Offers a practical, user-friendly approach, relying on the work of recognized experts in the field Provides insights into the future directions in cosmetic product development Presents basic formulation, skin science, advanced formulation and cosmetic product development

Handbook of Hydrocolloids John Wiley & Sons

Petroleum Engineer's Guide to Oil Field Chemicals and Fluids is a comprehensive manual that provides end users with information about oil field chemicals, such as drilling muds, corrosion and scale inhibitors, gelling agents and bacterial control. This book is an extension and update of Oil Field Chemicals published in 2003, and it presents a compilation of materials from literature and patents, arranged according to applications and the way a typical job is practiced. The text is composed of 23 chapters that cover oil field chemicals arranged according to their use. Each chapter follows a uniform template, starting with a brief overview of the chemical followed by reviews, monomers, polymerization, and fabrication. The different aspects of application, including safety and environmental impacts, for each chemical are also discussed throughout the chapters. The text also includes handy indices for trade names, acronyms and chemicals. Petroleum, production, drilling, completion, and operations engineers and managers will find this book invaluable for project management and production. Non-experts and students in petroleum engineering will also find this reference useful. Chemicals are ordered by use including drilling muds, corrosion inhibitors, and bacteria control Includes cutting edge chemicals and polymers such as water soluble polymers and viscosity control Handy index of chemical substances as well as a general chemical index

Handbook of Industrial Water Soluble Polymers John Wiley & Sons

The sucess of the first edition of Thickening and Gelling Agents for Food underlined the keen interest in functional food ingredients. In this second edition, the text has been completely revised and updated to reflect the current market trends. New chapters have been included to broaden the scope of materials used by the food technologist. Agar and konjac gum (flour),

probably the most traditional gelling and thickening agents, but most widely utilised in the Far East, have been given greater prominence. Microcrystalline cellulose, a relatively new food stabiliser used widely in the USA, has been included. The preparation of traditional products using formulations suited to bulk food processings is described while new areas focus on low fat and low calorie foods where there is an even greater demand for controlling the stability, viscosity, gelation and mouthfeel using a broad range of thickening and gelling agents. Recent legislative changes in the USA and EC impact the use of additives including gellan gum, konjac flour, carrageenan, tara gum and microcrystal line cellulose: some changes have increased the number of additives ap proved for foods, while others allow a broader range of materials to be used in foods. The detailed information on products, properties and applications given in this second edition will enable these highly functional thickening and gelling agents to be used to full advantage.