

1. Record Nr.	UNINA9910789226203321
Autore	Imeson Alan P
Titolo	Thickening and Gelling Agents for Food [[electronic resource] /] / by Alan P. Imeson
Pubbl/distr/stampa	New York, NY : , : Springer US : , : Imprint : Springer, , 1997
ISBN	1-4615-2197-1
Edizione	[1st ed. 1997.]
Descrizione fisica	1 online resource (XV, 320 p.)
Disciplina	641.3 664
Soggetti	Food—Biotechnology Food Science
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	1 Agar -- 1.1 Introduction -- 1.2 Raw Materials -- 1.3 Production -- 1.4 Agars Obtained from Various Agarophytes -- 1.5 Chemical Composition -- 1.6 Agar Gelation -- 1.7 Synergies and Incompatibilities of Agar -- 1.8 Applications -- References -- 2 Alginates -- 2.1 Introduction -- 2.2 Manufacture -- 2.3 Chemical Composition -- 2.4 Functional Properties -- 2.5 Gel Formation Techniques -- 2.6 Alginic Processes for Food Production -- 2.7 Thickening and Stabilising -- 2.8 Film Formation -- 2.9 Summary -- References -- 3 Carrageenan -- 3.1 Introduction -- 3.2 Raw Materials -- 3.3 Manufacturing -- 3.4 Regulation -- 3.5 Functional Properties -- 3.6 Synergism with Food Ingredients -- 3.7 Food Applications -- References -- 4 Cellulose Derivatives -- 4.1 Introduction -- 4.2 Manufacture -- 4.3 MC and MHPC: Chemistry And Properties -- 4.4 HPC: Chemistry and Properties -- 4.5 CMC: Chemistry and Properties -- 4.6 Major Commercial Applications in Food Products -- References -- 5 Exudate Gums -- 5.1 Introduction -- 5.2 Gum Arabic -- 5.3 Gum Tragacanth -- 5.4 Gum Karaya -- References -- 6 Gellan Gum -- 6.1 Introduction -- 6.2 Manufacture -- 6.3 Chemical Composition -- 6.4 Functional Properties -- 6.5 Regulatory Status -- 6.6 Applications -- 6.7 Future Developments -- References -- 7 Gelatin -- 7.1 Introduction -- 7.2 Gelatin: Definition -- 7.3 Collagen -- 7.4 Collagen- Gelatin Transformation -- 7.5 Gelatin Manufacture -- 7.6 Chemical

Structure -- 7.7 Functional Properties -- 7.8 Uses of Gelatin in the Food Industry -- References -- 8 Konjac Gum -- 8.1 Introduction -- 8.2 Raw Materials -- 8.3 Manufacturing -- 8.4 Regulation -- 8.5 Chemical Structure -- 8.6 Functional Properties -- 8.7 Dietary Fibre -- 8.8 Food Applications -- Additional Reading -- 9 Microcrystalline Cellulose -- 9.1 Introduction -- 9.2 Raw Materials -- 9.3 Manufacturing Process -- 9.4 Chemical Composition -- 9.5 Physical and Functional Properties -- 9.6 Interactions with other Food Ingredients -- 9.7 Applications in Foods -- 9.8 Legislation and Nutrition -- 9.9 Future Developments -- References -- 10 Modified Starches -- 10.1 Introduction -- 10.2 Chemical Composition -- 10.3 Starch Manufacturing Process -- 10.4 Physical and Sensory Properties of Native and Modified Starches -- 10.5 Preparation and use -- 10.6 Major Commercial Applications -- Further Reading -- 11 Pectins -- 11.1 Occurrence and Sources of Pectin -- 11.2 Chemical Nature of Pectin -- 11.3 Pectin Manufacture -- 11.4 Modification of Pectin -- 11.5 Properties of Pectin -- 11.6 Gelation: High Methoxyl Pectins -- 11.7 Gelation: Low Methoxyl Pectins -- 11.8 Interaction with other Polymers -- 11.9 Physiological Properties: Dietary Fibre -- 11.10 Legal Status -- 11.11 Jams and Jellies: Traditional High-Sugar Products -- 11.12 Jams and Jellies: Reduced Sugar -- 11.13 Fruit Products for Bakery Applications -- 11.14 Fruit Preparations -- 11.15 Desserts -- 11.16 Confectionery -- 11.17 Savoury Products -- 11.18 Low-Calorie Drinks -- 11.19 Dairy Drinks -- 11.20 Other Food uses and Potential Uses -- References -- 12 Seed Gums -- 12.1 Introduction -- 12.2 Galactomannans -- 12.3 Chemical Structure -- 12.4 Properties -- 12.5 Applications of Galactomannans -- 12.6 Conclusion -- References -- 13 Xanthan Gum -- 13.1 Introduction -- 13.2 Process -- 13.3 Molecular Structure -- 13.4 Xanthan gum in Solution -- 13.5 Solution Preparation and use -- 13.6 Gum Associations -- 13.7 Applications -- References.

## Sommario/riassunto

The success 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 approved 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.