

# Introduction to Food Packaging

## 1. DEFINITIONS

Despite the vital and central role played by packaging, it is often perceived as a necessary inconvenience or an unnecessary expense. From the consumer's perspective, packaging can seem either unnecessary or a significant waste of resources and an environmental threat. Such perceptions arise because the functions of packaging are either not well understood or are not fully considered. By the time most consumers encounter food packages that its primary role has often been fulfilled, contributing to the view that excessive packaging has been used. Packaging is defined as a socio-scientific discipline operating in society to ensure the delivery of goods to the end consumer in the best possible condition for their intended use. The now-defunct Packaging Institute International defined packaging as the enclosure of products, items, or packages in various container forms (such as pouches, bags, boxes, trays, cans, tubes, bottles) to perform functions like containment, protection, preservation, communication, utility, and performance. Any device or container performing one or more of these functions was considered packaging.

Other definitions of packaging include a coordinated system of preparing goods for transport, distribution, storage, retailing, and final use; a means of ensuring safe delivery to the end consumer at optimal cost; and a techno-commercial function aimed at minimizing delivery costs while maximizing sales and profits.

It is important to distinguish between the terms "package," "packaging," and "packing." The package is the physical entity containing the product. Packaging, as defined earlier, is also a discipline, as evident in the term "Packaging Technologist." The term "packing" refers to enclosing an individual item or multiple items within a package or container.

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Typically, distinctions are made among various "levels" of packaging. A primary package directly contacts the product and serves as the initial and often the primary protective barrier. Examples include metal cans, paperboard cartons, glass bottles, and plastic pouches. Consumers frequently purchase only the primary package at retail stores. A secondary package, such as a corrugated case or box, contains multiple primary packages and serves as the physical distribution carrier. It is often designed for use in retail displays, known as "shelf-ready" packaging. A tertiary package consists of multiple secondary packages, with a common example being a pallet of stretch-wrapped corrugated cases. In interstate and international trade, a quaternary package is often used to facilitate handling tertiary packages. This may be

# Packaging An Introduction

**Anne Emblem**



## **Packaging An Introduction:**

**Package Design** László Roth,1981      **Food Packaging** Tim Hutton,2003-01-01      Packaging, an Introduction Stanley Sacharow,1986-01-01      *Introduction to Food Packaging* María Omary,2024-01-24

There is currently a need for an introductory food packaging textbook which will introduce food science undergraduates to complex food packaging technologies in an understandable and engaging way As the visual design aspects of packaging are so crucial the book will be in full colour throughout and feature a number of colour images The material will be presented in an interactive way complete with a companion website which will feature videos illustrations and graphics to assist with understanding and to make the learning process more appealing to today s students This book will be a valuable instructional tool for students of food science and packaging as well as a reference book for new food and packaging professionals

*Packaging Technology* Anne Emblem,2012-10-29 Packaging is a complex and wide ranging subject Comprehensive in scope and authoritative in its coverage Packaging technology provides the ideal introduction and reference for both students and experienced packaging professionals Part one provides a context for the book discussing fundamental issues relating to packaging such as its role in society and its diverse functions the packaging supply chain and legislative environmental and marketing issues Part two reviews the principal packaging materials such as glass metal plastics paper and paper board It also discusses closures adhesives and labels The final part of the book discusses packaging processes from design and printing to packaging machinery and line operations as well as hazard and risk management in packaging With its distinguished editors and expert contributors Packaging technology is a standard text for the packaging industry The book is designed both to meet the needs of those studying for the Diploma in Packaging Technology and to act as a comprehensive reference for packaging professionals Provides the ideal introduction and reference for both students and experienced packaging professionals Examines fundamental issues relating to packaging such as its role in society its diverse functions the packaging supply chain and legislative environmental and marketing issues Reviews the principal packaging materials such as glass metal plastics paper and paper board

Handbook of Paper and Paperboard Packaging Technology Mark J. Kirwan,2012-11-07 The definitive industry reference on the paper and paperboard packaging sector Now in a fully revised and updated second edition this book discusses all the main types of packaging based on paper and paperboard It considers the raw materials the manufacture of paper and paperboard and the basic properties and features on which packaging made from these materials depends for its appearance and performance The manufacture of twelve types of paper and paperboard based packaging is described together with their end use applications and the packaging machinery involved The importance of pack design is stressed as well as how these materials offer packaging designers opportunities for imaginative and innovative design solutions Environmental factors including resource sustainability societal and waste management issues are addressed in a dedicated chapter The book is directed at readers based in companies which manufacture packaging grades of paper and

paperboard companies involved in the design printing and production of packaging and companies which manufacture inks coatings adhesives and packaging machinery It will be essential reading for students of packaging technology and technologists working in food manufacturing who are users of paper and paperboard packaging products Praise for the First Edition This book is a valuable addition to the library of any forward looking company by providing in depth coverage of all aspects of packaging which involve the most ecologically acceptable material namely paper and paperboard International Journal of Dairy Technology a welcome contribution to a field where coverage was previously limited to subject specific books or to single chapters in textbooks on broader aspects of packaging technology Packaging Technology and Science

Introduction to Food Packaging Ting Hun Lee,2001

**The Packaging User's Handbook** Frank A. Paine,2012-12-06

The first version of this book Packaging Materials and Containers was published in 1967 and was revised extensively ten years later under the title The Packaging Media Some thirty or so authors were involved in producing the initial texts for these books and I must acknowledge their material much of which is still valid It is now thirteen years since The Packaging Media high time to take stock and incorporate the considerable advances in materials forms techniques and machinery that have taken place In 1977 wherever possible we asked the original authors to carry out the revisions but retirements and job changes have now eliminated over twenty of the original authors We have therefore appointed an Editorial Board to advise on this more extensive revision and I wish to thank them for their detailed and helpful assistance Dr C J Mackson and Professor Y Dagel for general comments and guidance on the overall plan and in particular the Introduction chapter 1 Graham Gordon and Harri Mostyn for assistance with much of Part D on Distribution Packages and Dennis Hine and Susan Selke for their work in respect of paperboard and plastics retail packaging respectively A major contribution was made by the seventh member of the Editorial Board David Osborne who advised in the area of glass

**The Wiley Encyclopedia of Packaging Technology** Kit L. Yam,2010-01-05 The complete and authoritative guide to modern packaging technologies updated and expanded From A to Z The Wiley Encyclopedia of Packaging Technology Third Edition covers all aspects of packaging technologies essential to the food and pharmaceutical industries among others This edition has been thoroughly updated and expanded to include important innovations and changes in materials processes and technologies that have occurred over the past decade It is an invaluable resource for packaging technologists scientists and engineers students and educators packaging material suppliers packaging converters packaging machinery manufacturers processors retailers and regulatory agencies In addition to updating and improving articles from the previous edition new articles are also added to cover the recent advances and developments in packaging Content new to this edition includes Advanced packaging materials such as antimicrobial materials biobased materials nanocomposite materials ceramic coated films and perforated films Advanced packaging technologies such as active and intelligent packaging radio frequency identification RFID controlled release packaging smart blending nanotechnology biosensor technology and package integrity inspection Various

aspects important to packaging such as sustainable packaging migration lipid oxidation light protection and intellectual property Contributions from experts in all important aspects of packaging Extensive cross referencing and easy to access information on all subjects Large double column format for easy reference     Introduction to Packaging Harold Hughes,2009-08-28     **Food Packaging Technology** Richard Coles,Derek McDowell,Mark J. Kirwan,2003-08-15 The protection and preservation of a product the launch of new products or re launch of existing products perception of added value to products or services and cost reduction in the supply chain are all objectives of food packaging Taking into consideration the requirements specific to different products how can one package successfully meet all of these goals Food Packaging Technology provides a contemporary overview of food processing and packaging technologies Covering the wide range of issues you face when developing innovative food packaging the book includes Food packaging strategy design and development Food biodeterioration and methods of preservation Packaged product quality and shelf life Logistical packaging for food marketing systems Packaging materials and processes The battle rages over which type of container should be used for which application It is therefore necessary to consider which materials or combination of materials and processes will best serve the market and enhance brand value Food Packaging Technology gives you the tools to determine which form of packaging will meet your business goals without compromising the safety of your product     The Electronic Packaging Handbook Glenn R. Blackwell,2017-12-19 The packaging of electronic devices and systems represents a significant challenge for product designers and managers Performance efficiency cost considerations dealing with the newer IC packaging technologies and EMI RFI issues all come into play Thermal considerations at both the device and the systems level are also necessary The Electronic Packaging Handbook a new volume in the Electrical Engineering Handbook Series provides essential factual information on the design manufacturing and testing of electronic devices and systems Co published with the IEEE this is an ideal resource for engineers and technicians involved in any aspect of design production testing or packaging of electronic products regardless of whether they are commercial or industrial in nature Topics addressed include design automation new IC packaging technologies materials testing and safety Electronics packaging continues to include expanding and evolving topics and technologies as the demand for smaller faster and lighter products continues without signs of abatement These demands mean that individuals in each of the specialty areas involved in electronics packaging such as electronic mechanical and thermal designers and manufacturing and test engineers are all interdependent on each others knowledge The Electronic Packaging Handbook elucidates these specialty areas and helps individuals broaden their knowledge base in this ever growing field     **Handbook of Plastic Films** Elsayed M. Abdel-Bary,2003 Plastic films are high performance materials which play an essential part in modern life The plastics films industry uses state of the art manufacturing processes and is continuously seeking out new technologies to improve its performance The understanding of the nature of plastic films their production techniques applications and their characterisation is essential for producing new

types of plastic films This handbook has been written to discuss the production and main uses of plastic films Plastic films are high performance materials which play an essential part in modern life Plastic films are mostly used in packaging applications but as will be seen from this book they are also used in the agricultural medical and engineering fields The plastics films industry uses state of the art manufacturing processes and is continuously seeking out new technologies to improve its performance The understanding of the nature of plastic films their production techniques applications and their characterisation is essential for producing new types of plastic films This handbook has been written to discuss the production and main uses of plastic films *Metal Packaging* Bev Page,2001 *Wafer-Level Chip-Scale Packaging* Shichun Qu,Yong Liu,2014-09-10 Analog and Power Wafer Level Chip Scale Packaging presents a state of art and in depth overview in analog and power WLCSP design material characterization reliability and modeling Recent advances in analog and power electronic WLCSP packaging are presented based on the development of analog technology and power device integration The book covers in detail how advances in semiconductor content analog and power advanced WLCSP design assembly materials and reliability have co enabled significant advances in fan in and fan out with redistributed layer RDL of analog and power device capability during recent years Since the analog and power electronic wafer level packaging is different from regular digital and memory IC package this book will systematically introduce the typical analog and power electronic wafer level packaging design assembly process materials reliability and failure analysis and material selection Along with new analog and power WLCSP development the role of modeling is a key to assure successful package design An overview of the analog and power WLCSP modeling and typical thermal electrical and stress modeling methodologies is also presented in the book **Handbook on Modern Packaging Industries (2nd Revised Edition)** NIIR Board,2010-02-13 Packaging is a means of ensuring the safe delivery of a product to the ultimate consumer in a sound condition at the minimal overall cost Packaging not only differentiates one brand from another but also at times gives a preview of the product being sold Although it is a subject of recent technological origin the art of packaging is as old as the primitive humans Packaging is the science art and technology of enclosing or protecting products for distribution storage sale and use also refers to the process of design evaluation and production of packages and can be described as a coordinated system of preparing goods for transport warehousing logistics sale and end use Packaging contains protects preserves transports informs and sells In many countries it is fully integrated into government business institutional industrial and personal use The continual technological growth systems have undergone significant changes in recent years A lot of packaging process has been streamlined to give a more scientific and rational approach The role of packaging continues from the coordinated system of preparing goods to the end use It has become a big tool for launching new specific products in different shapes and sizes The packaging industrial growth has led to greater specialization and sophistication from the point of view of health in the case of packaged foods and medicines and environment friendliness of packing material The demands on the packaging industry are

challenging given the increasing environmental awareness among communities The packaging industry is growing at the rate of 22 to 25 per cent per annum thus is to play a unique role in preserving the wealth or value created by many industries This book describes the techniques and process behind packaging of different specific products which are used in our day to day life The specific products include cereal spices edible oils drinking water chocolate and confectionery fruits and vegetables marine products and many more Some of the vital contents of the book are adhesives for packaging industries factors affecting adhesion tin plate containers for foods pharmaceuticals and cosmetics tin plate usage in packaging packaging of cereals and cereal products trends in packaging of spices and spice products packaging of edible oils vanaspati and ghee metal containers for food packaging packaging aspects of sugar and chocolate confectionery packaging for irradiated foods packing of meat meat products in tin containers etc This book is an invaluable resource for all its readers entrepreneurs scientists existing industries technical institution etc in the field of packaging

Handbook of Package Engineering, Third Edition Joseph F. Hanlon, Robert J. Kelsey, Hallie Forcinio, 1998-04-23 Now in its third edition the Handbook of Package Engineering is still considered the standard industry reference on packaging materials and engineering This text is a useful source of information for anyone involved in packaging Designed as a refresher on packaging fundamentals this complete guide also provides information on recent changes in the materials and structures of packaging It reviews the essentials of production packaging operations line layout and the machines that are required in order to perform basic packaging functions It introduces the increasing web of laws and regulations controlling virtually all packaged products

*Innovations in Food Packaging* Jung H. Han, 2005-07-20 Innovations in Food Packaging addresses selective topics of functions of food packaging to modify the traditional notion of this process This book is organized into five parts Part I focuses on the fundamental theories covering physical chemistry background and quality preservation of foods Parts II and III discuss active packaging research and development and modified atmosphere packaging of fresh produce meats and ready to eat products respectively Part IV talks about edible and biodegradable coatings and films whereas Part V discusses commercialization aspects of packaging technologies Each part is divided into chapters of subject review and detailed technical information This text will benefit those who are interested in innovative technology of food packaging in general and experienced field packaging specialists and graduate level food scientists in particular This book will be useful as a textbook not only for extension programs of food packaging development in food industry but also for advanced graduate level food packaging courses Covers four major food packaging topics Theories in food packaging Active packaging Modified atmosphere packaging Edible films and coatings

Logistics Management Reji Ismail, 2008-12 Deals with the topics of logistics management

**111 Questions and Answers in Packaging Technology** Tunji Adegboye, Sola Somade, 2009-07-08 111 Questions and Answers in Packaging Technology is a practical educational reference and detailed study guide for those aspiring to become packaging professionals through formal and informal training Sola Somade and Tunji Adegboye together

possess over thirty years of experience in handling packaging matters at both Unilever and Cadbury Nigeria Plc and offer not only their hands on experience as packaging developers quality managers and buyers but also share questions from former papers and lecture notes from the Institute of Packaging Students from all over the world who want to learn how to write professional packaging examinations will benefit from the information included as they prepare for the various stages of their examinations Seasoned practitioners will receive tips on how to demystify key areas of packaging that cause anxiety helpful suggestions on solving basic calculations and developing unique formats with language easily understood by clients and other stakeholders and effective ways to make sound economic decisions on packaging material choice Other issues relevant to each of the major packaging materials known to modern civilization are also covered Packaging is a universal subject that affects social and economic life in many ways 111 Questions and Answers provides valuable insight into a unique industry



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