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Decisions and Orders of the National Labor Relations Board - United States. National Labor Relations Board 2000

**Industrial Biorenewables** - Pablo Domínguez de María 2016-05-02  
INDUSTRIAL BIORENEWABLES A Practical Viewpoint This unique text provides an in-depth industrial view in its discussion of industrial biorenewables; industries report on real cases of biorenewables, dealing with economics, the motivation of implementing industrial biorenewable-based processes, and suggestions for further improvement and research. Includes industrial perspectives by scientists working on biorenewable technology in industry, with a clear commercial focus Spans basic research to commercialization of processes and everything in between

Provides key information for academic groups working in the area by covering the way industrial scientists tackle problems Showcases patented technologies across diverse industries, shares the motivation of implementing industrial biorenewable-based processes, and suggests options for further improvement and research Serves as a guide for industries and academic groups, providing crucial information for the setup of future biobased industrial concepts Industrial Biorenewables provides a state-of-the-art perspective, offering a unique viewpoint from which a range of industries report on real cases of biorenewables, demonstrate their technologies, share the motivation of implementing a certain industrial biorenewable-based processes, and suggest options for further improvement and research. With an in-depth industrial viewpoint, the book

serves as a key guide for industries and academic groups, providing crucial information for the setup of future biobased industrial concepts.

*Fatigue and Tribological Properties of Plastics and Elastomers* - PDL Staff  
2013-10-22

For all practical purposes, the useful life of a plastic component is equal to its fatigue life under conditions of cyclic loading such as those that occur in vibration. Equally important to materials engineers and designers are abrasion, friction and wear-tribological properties. Over 80 generic families are covered including thermoplastics, thermosets, thermoplastic elastomers and rubbers. Neat resins, blends and alloys, plastics with various combinations of fillers, additives and more are covered. Also covers plastics mated to plastics and metals.

*Handbook of Elastomers* - Anil K. Bhowmick 2000-11-02

"Provides the latest authoritative research on the developments, technology, and applications of rubbery materials. Presents structures, manufacturing techniques, and processing details for natural and synthetic rubbers, rubber-blends, rubber composites, and thermoplastic elastomers.

80% revised and rewritten material covers major advances since pu

*Biodegradable Polyesters* - Stoyko Fakirov 2015-04-06

Collating otherwise hard-to-get and recently acquired knowledge in one work, this is a comprehensive reference on the synthesis, properties,

characterization, and applications of this eco-friendly class of plastics. A group of internationally renowned researchers offer their first-hand experience and knowledge, dealing exclusively with those biodegradable polyesters that have become increasingly important over the past two decades due to environmental concerns on the one hand and newly-devised applications in the biomedical field on the other. The result is an unparalleled overview for the industrial chemist and materials scientist, as well as for developers and researchers in industry and academia alike.

*The Science and Technology of Rubber* - James E. Mark 2013-05-10

The 4e of *The Science and Technology of Rubber* provides a broad survey of elastomers with special emphasis on materials with a rubber-like elasticity. As in previous editions, the emphasis remains on a unified treatment of the material, exploring chemical aspects such as elastomer synthesis and curing, through recent theoretical developments and characterization of equilibrium and dynamic properties, to the final applications of rubber, including tire engineering and manufacturing.

Updated material stresses the continuous relationship between ongoing research in synthesis, physics, structure and mechanics of rubber technology and industrial applications. Special attention is paid to recent advances in rubber-like elasticity theory and new processing techniques for elastomers. Exciting new developments in green tire manufacturing and

tire recycling are covered. Provides a complete survey of elastomers for engineers and researchers in a unified treatment: from chemical aspects like elastomer synthesis and curing to the final applications of rubber, including tire engineering and manufacturing. Contains important updates to several chapters, including elastomer synthesis, characterization, viscoelastic behavior, rheology, reinforcement, tire engineering, and recycling. Includes a new chapter on the burgeoning field of bioelastomers.

#### **Failure of Plastics and Rubber Products - D. Wright 2001-06**

Plastics and rubbers together make up the most adaptable and varied class of materials available to product designers. They may be transparent or opaque, rigid or flexible, lightweight, insulating, and weatherproof. They are used in almost every industry, and in every part of the home.

Applications range from the humble hot water bottle to the sheathing on a high voltage cable, and from a simple scrubbing brush to a tank for storing hydrochloric acid. Products may be disposable (e.g. packaging goods) or intended to last for decades, such as a buried sewage pipe. However, it is this very diversity which makes materials selection so difficult, and appropriate design so important. Indeed the one thing that all these particular products have in common is their presence in this book of failures. Failures due to degradation may result from exposure to the weather or an aggressive operating environment. Alternatively they may be

caused by the introduction of an external agent unforeseen by the product designer. They may be rapid or very slow, and they may result from a combination of factors. In this book Dr. Wright describes the following mechanisms of polymer degradation, and then illustrates each failure mechanism with a number of case studies: Thermo-oxidation, Photo-oxidation, Degradation due to ionising radiation, Chemical attack, Environmental stress cracking, Other miscellaneous effects, including treeing, electrochemical degradation and biodegradation. Many of the case studies are based on Dr. Wright's own experiences whilst working at Rapra. In each case he describes the circumstances of the failure, and discusses both the consequences of the failure and the lessons that may be learned from it. Most of the failed products are familiar to us all, and his style is both readable and informative. Photographs are included where available. The book will be essential reading for designers, engineers, product specifiers and forensic engineers. Materials suppliers and processors will also benefit from the pragmatic analysis and advice it contains. It will also be of value to all students of polymer science and technology, providing an essential insight into the practical application of plastics and rubbers and the potential problems. Finally, it will be of interest to a much broader readership, including anyone who ever wondered why things break, and it should become a standard reference

work in all technical libraries. This book was written with the support of the UK Department of Trade and Industry. It is intended to raise awareness of the causes and consequences of polymer product failures, in order to reduce the future incidences of such failures, and their considerable costs to industry

**Chilton's CCJ.** - 1987

**Chemical Looping Partial Oxidation** - Liang-Shih Fan 2017-10-12

The first comprehensive guide to chemical looping partial oxidation processes, covering key principles, techniques, and applications.

*Handbook of Plastics, Elastomers, and Composites* - Charles A. Harper 2002

Handbook of Plastics, Elastomers, and Composite, 4th Edition, places state-of-the-art information on plastics, elastomers, and composites at your fingertips. The revised and updated edition presents all of the fundamental information required to understand the large number of materials and material forms, and provides the necessary data and guidelines for optimal use of these materials and forms in the broad range of industrial products, ensuring the highest performance from materials. Thoroughly revised, this new edition features the latest advance in properties of plastics, elastomers, and composites while providing practical examples throughout.

Thermosets, plastics in coatings and finishes, thermoplastics and plastics in packaging are covered.

**Permeability Properties of Plastics and Elastomers, 2nd Ed.** - Liesl K. Massey 2003

This extensively revised and updated second edition of the only data handbook available on the properties of commercial polymeric films details the permeability characteristics of over 125 major plastic and elastomer packaging materials. New to this edition are 92 resin chapters containing textual summary information including: category, general description, processing methods, applications, and general permeability considerations for water vapor, oxygen, and other gases including aroma and flavor. The product data is presented in graphical and tabular format, retaining the familiar format of the first edition and allowing easy comparison between materials and test conditions.

*Fatigue and Tribological Properties of Plastics and Elastomers* - Laurence W. McKeen 2016-03-31

Part of a series of data-rich handbooks within the Plastics Design Library, *Fatigue and Tribological Properties of Plastics and Elastomers* provides a comprehensive collection of graphical multipoint data and tabular data covering the fatigue and tribological performance of plastics. The handbook is structured by grouping together plastics of similar polymer

types into ten chapters. Each of these chapters is split into two sections: Fatigue Properties and Tribological Properties, and together they provide a compendium of several hundred graphs and charts, supplying the core data needed by engineers and scientists on a day-to-day basis. The data for this third edition has been updated to cover upwards of five years since the previous edition was published, and also includes an entirely new chapter covering sustainable and biodegradable polymers. The book also includes an extensive introductory section covering fatigue, what it is and how it is measured; the fundamentals of tribology; polymer chemistry and plastics composition. These chapters also provide readers with a full understanding of the data section, and how to put it to use as a hard-working information tool.

*Handbook of Polymers for Electronics* - George Wypych 2021-01-31

Polymers used in electronics and electrical engineering are essential to the development of high-tech products, with applications in space, aviation, health, automotive, communication, robotics, consumer products, and beyond. Typical features of mainstream polymers such as mechanical performance, optical behavior, and environmental stability frequently need to be enhanced to perform in these demanding applications, creating the need to develop special grades or use completely new chemistry for their synthesis. Similarly, the typical set of properties included in the description

of mainstream polymers are not sufficient for polymer selection for these applications, as they require different data, data that is meticulously detailed in the *Handbook of Polymers for Electronics*. The book provides readers with the most up-to-date information from the existing literature, manufacturing data, and patent filings. Presenting data for all polymers based on a consistent pattern of arrangement, the book provides details organized into the following sections: General; history; synthesis; structure; commercial polymers; physical properties; electrical properties; mechanical properties; chemical resistance; flammability; weather stability; thermal stability; biodegradation; toxicity; environmental impact; processing; blends; analysis. The contents, scope, treatment and novelty of the data makes this book an essential resource for anyone working with polymeric materials used in modern electronic applications. Synthesizes the most recent literature available on various grades of polymers, plastics, finished products, and patents Provides data on general information, synthesis, structure, physical properties, electrical properties, mechanical properties, chemical resistance, flammability, weather stability, thermal stability, biodegradation, toxicity, environmental impact, and more Details information on crystalline structure, cell dimensions, methods of synthesis, optoelectrical properties, relative permittivity, dissipation factor, actuation bandwidth, tear strength, abrasion resistance, and more

*GenBase/materials in Print, 1990: Data files: thermosets, elastomers, composites, films, fibers & metals* - Chris E. Nunez 1990

Electronic Products Magazine - 1977

Handbook of Thermoplastics - Olagoke Olabisi 1997-03-19

Offers coverage of all known commodity, transitional, engineering, high-temperature and high-performance thermoplastics, and analyzes emerging developments in the creation of new thermoplastics. The text examines: important issues in the field for each substance discussed, including history, development and commercialization; polymer formation mechanisms and process technologies; the affect of structural and phase characteristics on properties; the commercial relevance of thermoplastic blends, alloys, copolymers and composites; and more.

Plastics Engineered Product Design - D.V. Rosato 2003-12-16

- A comprehensive book which collates the experience of two well-known US plastic engineers.
- Enables engineers to make informed decisions.

Includes a unique chronology of the world of plastics. The use of plastics is increasing year on year, and new uses are being found for plastics in many industries. Designers using plastics need to understand the nature and properties of the materials which they are using so that the products

perform to set standards. This book, written by two very experienced plastics engineers, provides copious information on the materials, fabrication processes, design considerations and plastics performance, thus allowing informed decisions to be made by engineers. It also includes a useful chronology of the world of plastics, a resource not found elsewhere.

**Developments in Thermoplastic Elastomers** - K. E. Kear 2003

Thermoplastic elastomers (TPEs) have the elastic behaviour of rubber and the processability of thermoplastics. The Freedonia Group has forecast that demand will expand by 6.4% per year to around 2.15 million tons in 2006. There is potential for these new, exciting materials to expand into the much larger thermoset rubber markets. This review includes comparisons between the two material types. There are three major types of TPE: block copolymers, rubber/plastic blends and dynamically vulcanised rubber/plastic alloys known as thermoplastic vulcanisates. The chemistry of these materials and how.

Industrial Equipment News - 1980

Predicasts F & S Index Europe - 1985

Discourse Across Languages and Cultures - Carol Lynn Moder 2004-08-31

This volume brings together for the first time research by linguists working in cross-linguistic discourse analysis and by second language researchers working in the contrastive rhetoric tradition. The collection of articles by prominent authors and younger scholars encompasses a variety of research approaches and treats numerous naturally-occurring spoken and written genres, including conversations, narratives, academic expository writing, journalism, advertising, and professional promotional texts.

Languages examined include English, Spanish, French, Brazilian Portuguese, Korean, Japanese, Chinese, Hebrew, Urdu, Dutch, Turkish and Serbo-Croatian. Taken individually and collectively, the articles in this collection draw important conclusions concerning the roles of cognition, multilingualism, communities of practice, and linguistic typology in shaping discourse within and across cultures.

**Biopolymers: Processing and Products** - Michael Niaounakis 2014-09-22

Biopolymers and biodegradable plastics are finding new applications in various sectors, from packaging, to medical, automotive and many more.

As synthetic plastics are increasingly replaced by their bioplastic equivalents, engineers are facing new challenges including processing, costs, environmental sustainability and – ultimately – developing successful products. *Biopolymers: Processing and Products*, the second book of a trilogy dedicated to biopolymers, gives a detailed insight into all

aspects of processing, seamlessly linking the science of biopolymers to the latest trends in the development of new products. Processes covered in the book include blending, compounding, treatment, and shaping, as well as the formation of biocomposites. Biopolymer coatings and adhesives are also investigated. This book unique in its coverage contains information retrieved mainly from patents, which form the bulk of the book. The coverage of processing will help engineers and designers to improve output and efficiency of every stage of the product development process, and will form an indispensable tool in selecting the right biopolymer and processing technique for any given application, covering medical, automotive, food packaging and more. It will assist also engineers, material scientists and researchers to improve existing biopolymer processes and deliver better products at lower cost. Multi-disciplinary approach and critical presentation of all available processing techniques and new products of biopolymers Contains information not to be found in any other book Self-contained chapters

**Polymer-Polymer Miscibility** - Olagoke Olabis 2012-12-02

*Polymer-Polymer Miscibility* discusses miscibility of polymeric mixtures. This book explains the theoretical and practical aspects of polymer miscibility, which has become a considerable area of research in many academic and industrial laboratories. Comprised of seven chapters, this

book starts with an overview of the physical nature of the variations of the basic polymer structure. This monograph then discusses the two cases of miscible polymer blends, namely, poly(vinyl chloride) (PVC)–butadiene/acrylonitrile copolymer (NBR) and polystyrene–poly(2,6-dimethyl-1,4-phenylene oxide) (PPO) blends. This text explores the useful and unique properties of blends of poly(vinyl chloride) and butadiene/acrylonitrile copolymer rubber. Other chapters discuss the thermodynamic theories for the phase separation of block copolymers. The reader is also introduced to other variations of chemical structure, which can result in the permanent attachment of polymers to each other through block and graft copolymers. This text also explores the feasibility of covalent bonding of polymer components. This book is intended for chemical engineers and materials scientists.

**Xtra Strong/Light Composites** - Lut Pil 2006

Offers an accessible account of the properties and possibilities of composite materials. It also discusses the ways in which the Belgian designers Clem van Himbeeck and Weyers & Borms and the Israeli designer Ron Arad use composite materials.

Power Transmission Design - 1977

**Permeability Properties of Plastics and Elastomers, 2nd Ed.** - Liesl K.

Massey 2003-01-01

This extensively revised and updated second edition of the only data handbook available on the properties of commercial polymeric films details the permeability characteristics of over 125 major plastic and elastomer packaging materials. New to this edition are 92 resin chapters containing textual summary information including: category, general description, processing methods, applications, and general permeability considerations for water vapor, oxygen, and other gases including aroma and flavor. The product data is presented in graphical and tabular format, retaining the familiar format of the first edition and allowing easy comparison between materials and test conditions.

*Handbook of Thermoplastic Elastomers* - Jiri George Drobny 2007-08-11

There are few if any adequate guides to the properties, processing, and applications of thermoplastic elastomers, in spite the skyrocketing rise in the use of these materials. Until now. This new book sets the standard for a reference on these materials by compiling in one comprehensive volume an applicable knowledge of the chemistry, processing, and all properties, and uses of thermoplastic elastomers. Copiously illustrated and full of applicable processing and engineering data, this is the very definition of a ""definitive"" user's guide.

**ISO 9000 Registered Company Directory, United States & Canada** - 1992



*The Effect of Long Term Thermal Exposure on Plastics and Elastomers* -  
Laurence W. McKeen 2021-04-25

The Effect of Long Term Thermal Exposure on Plastics and Elastomers, Second Edition brings together a wide range of essential data on the effect of long-term thermal exposure on plastics and elastomers, enabling engineers to make optimal material choices and design decisions. This second edition has been thoroughly revised to include the latest data and materials. This highly valuable handbook will support engineers, product designers, R&D professionals, and scientists who are working on plastics products or parts for high temperature environments across a range of industries. This readily available data will make it easy for practitioners to learn about plastic materials and their long- term thermal exposure without having to search the general literature or depend on suppliers. This book will also be of interest to researchers and advanced students in plastics engineering, polymer processing, coatings, and materials science and engineering. Provides essential data and practical guidance for engineers and scientists working with plastics in high temperature environments Includes introductory chapters on the effect of heat aging and testing methods, providing the underpinning knowledge required to utilize the data Covers a wide range of commercial polymer classes that are updated to include the latest developments in plastics materials

*Forensic Materials Engineering* - Peter Rhys Lewis 2003-09-29

Most books on forensic engineering focus on civil engineering failures rather than consumer or general mechanical products. Unique both in scope and style, this treatment is built upon case studies of real accidents, broadly focused on consumer products, and dedicated to problem solving through scientific principles. Each well-illustrated case stud

*The Effect of UV Light and Weather on Plastics and Elastomers* -  
Laurence W. McKeen 2019-03-22

The Effect of UV Light and Weather on Plastics and Elastomers, Fourth Edition, provides critical data on the effect of UV light and weathering on plastics and elastomers, enabling engineers, designers and R&D professionals to select the right materials when developing plastics products for a range of industries and applications. This information will also support academic researchers and scientists in developing polymeric materials for advanced applications. Provides vital data on the effects of weather and UV light exposure on plastics and elastomers Offers practical guidance for engineers and scientists working with plastics for outdoor applications Expanded revision includes the latest data, polymer classes and newly available materials, including bio-based polymers and plastics for 3D printing

**Handbook of Molded Part Shrinkage and Warpage** - Jerry Fischer

2012-12-31

How easy life would be if only moldings were the same size and shape as the mold. But they never are, as molders, toolmakers, designers and end users know only too well. Shrinkage means that the size is always different; warpage often changes the shape too. The effects are worse for some plastics than others. Why is that? What can you do about it? The Handbook of Molded Part Shrinkage and Warpage is the first and only book to deal specifically with this fundamental problem. Jerry Fischer's Handbook explains in plain terms why moldings shrink and warp, shows how additives and reinforcements change the picture, sets out the effect of molding process conditions, and explains why you never can have a single 'correct' shrinkage value. It goes on to demonstrate how to alleviate the problem through careful design of the molded part and the mold, and by proper material selection. It also examines computer-aided methods of forecasting shrinkage and warpage. And most important of all, the Handbook gives you the data you need to work with. . Authoritative and rooted in extensive industrial experience, the expert guidance contained in this handbook offers practical understanding to novices, and new insights to readers already skilled in the art of injection molding and mold making. Contains the answers to common problems and detailed advice on how to control mold and post-mold shrinkage and warpage. Case Studies

illustrate and enrich the text; Data tables provide the empirical data that is essential for success, but hard to come by.

**Predicasts F & S Index International Annual - 1982**

*Thermoplastic Elastomers - 1988*

Permeability & Qt - William Woishnis 1993-01-01

An extensive compilation on the barrier and film properties of 97 families of materials including thermoplastics, thermosets, thermoplastic elastomers, rubbers, alloys, multi-layer films, and other new materials. Information is provided in graphical, tabular, and textual formats. For each material tested, the information provided includes the trade name, grade, supplier, generic description, recipe, fillers and/or additives used, and other details relating to the material and test specimen. Data are include for properties such as permeability to various gases, moisture and aroma, permeation rate, breakthrough time, area factor, tensile strength, elongation, bursting strength, tear strength, electrical properties, optical properties, friction, heat resistance, puncture resistance, folding endurance, absorption, heat seal strength, and others. Annotation copyright by Book News, Inc., Portland, OR

*Ullmann's Polymers and Plastics, 4 Volume Set - Wiley-VCH 2016-04-25*

Your personal Ullmann's: Chemical and physical characteristics, production processes and production figures, main applications, toxicology and safety information are all to be found here in one single resource - bringing the vast knowledge of the Ullmann's Encyclopedia to the desks of industrial chemists and chemical engineers. The ULLMANN'S perspective on polymers and plastics brings reliable information on more than 1500 compounds and products straight to your desktop Carefully selected "best of" compilation of 61 topical articles from the Encyclopedia of Industrial Chemistry on economically important polymers provide a wealth of chemical, physical and economic data on more than 1000 different polymers and hundreds of modifications Contains a wealth of information on the production and use of all industrially relevant polymers and plastics, including organic and inorganic polymers, fibers, foams and resins Extensively updated: more than 30% of the content has been added or updated since the launch of the 7th edition of the Ullmann's encyclopedia in 2011 and is now available in print for the first time 4 Volumes

**Making the Modern World: Materials and Dematerialization** - Vaclav Smil  
2016-12-04

How much further should the affluent world push its material consumption? Does relative dematerialization lead to absolute decline in demand for materials? These and many other questions are discussed and answered

in Making the Modern World: Materials and Dematerialization. Over the course of time, the modern world has become dependent on unprecedented flows of materials. Now even the most efficient production processes and the highest practical rates of recycling may not be enough to result in dematerialization rates that would be high enough to negate the rising demand for materials generated by continuing population growth and rising standards of living. This book explores the costs of this dependence and the potential for substantial dematerialization of modern economies. Making the Modern World: Materials and Dematerialization considers the principal materials used throughout history, from wood and stone, through to metals, alloys, plastics and silicon, describing their extraction and production.

**Chemical Products Desk Reference** - Michael Ash 1990

There is hardly a technical library in the world in which the volumes of the Chemical Formulary (Volumes 1-34) do not occupy a prominent place. It does not duplicate any of the formulas included in previous volumes, but lists a wide array of modern and salable products from all branches of the chemical industries. An excellent reference for formulation problems.

Contents - I. Introduction - II. Adhesives - III. Beverages and Foods - IV. Cosmetics - V. Coatings - VI. Detergents - VII. Drugs - VIII. Metal Treatments - IX. Polishes - X. Elastomers, Polymers and Resins - XI.

Miscellaneous - Appendix - Index - Preface - Chemistry, as taught in our schools and colleges, concerns chiefly synthesis, analysis, and engineering-and properly so. It is part of the right foundation for the education of the chemist. Many a chemist entering an Industry soon finds that most of the products manufactured by his concern are not synthetic or definite complex compounds, but are mixtures, blends, or highly complex compounds of which he knows little or nothing. The literature in this field, if any, may be meager, scattered, or obsolete. Even chemists with years of experience In one or more Industries spend considerable time and effort in acquainting themselves with any new field which they may enter.

Consulting chemists similarly have to solve problems brought to them from industries foreign to them. There was a definite need for an up-to-date compilation of formulae for chemical compounding and treatment. Since the fields to be covered are many and varied, an editorial board of chemists and engineers engaged in many industries was formed. Many publications, laboratories, manufacturing firms, and Individuals have been consulted to obtain the latest and best information. It is felt that the formulas given in this volume will save chemists and allied workers much time and effort.

*A Practical Guide to Plastics Sustainability* - Michel Biron 2020-04-18

A Practical Guide to Plastics Sustainability: Concept, Solutions, and

Implementation is a groundbreaking reference work offering a broad, detailed and highly practical vision of the complex concept of sustainability in plastics. The book's aim is to present a range of potential pathways towards more sustainable plastics parts and products, enabling the reader to further integrate the idea of sustainability into their design process. It begins by introducing the context and concept of sustainability, discussing perceptions, drivers of change, key factors, and environmental issues, before presenting a detailed outline of the current situation with types of plastics, processing, and opportunities for improved sustainability. Subsequent chapters focus on the different possibilities for improved sustainability, offering a step-by-step technical approach to areas including design, properties, renewable plastics, and recycling and re-use. Each of these pillars are supported by data, examples, analysis and best practice guidance. Finally, the latest developments and future possibilities are considered. Approaches the idea of sustainability from numerous angles, offering practical solutions to improve sustainability in the development of plastic components and products Explains how sustainability can be applied across plastics design, materials selection, processing, and end of life, all set alongside socioeconomic factors Considers key areas of innovation, such as eco-design, novel opportunities for recycling or re-use, bio-based polymers and new technologies

