Evaluating the ecological aspects of polymer flame retardancy

The book "Ecological Aspects of Polymer Flame Retardancy" by Richard A. Pethrick (1999) presents a comprehensive review of the ecological aspects of polymer flame retardants. It covers a broad range of topics, including the mechanisms of flame retardancy, the environmental impacts of flame retardants, and the ecological effects of polymer/carbon nanotube composites.

The book is organized into several sections, each focusing on a specific aspect of polymer flame retardancy. The first section covers the ecological aspects of polymer flame retardants, with an emphasis on the mechanisms of flame retardancy and the environmental impacts of flame retardants. The second section reviews the advances that have occurred in improving the fire retardancy of specific materials, ranging from polymer composites to nanocomposites. The third section reviews the advances that have occurred in improving the fire retardancy of specific materials, ranging from polymer composites to nanocomposites. The fourth section reviews the advances that have occurred in improving the fire retardancy of specific materials, ranging from polymer composites to nanocomposites. The fifth section reviews the advances that have occurred in improving the fire retardancy of specific materials, ranging from polymer composites to nanocomposites. 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The book is a valuable resource for researchers, manufacturers, and industry professionals involved in the development and implementation of flame retardant technologies. It provides a comprehensive overview of the ecological aspects of polymer flame retardancy, with a focus on the mechanisms of flame retardancy, the environmental impacts of flame retardants, and the ecological effects of polymer/carbon nanotube composites.
Photodegradation and Light Stabilization of Heterochain Polymers - Nixai - 2006-11-14 Photodegradation and light stabilization are very important aspects of polymer aging. Polymer degradation and aging are influenced by different types of processes: photodegradation, thermal degradation, hydrolysis, mechanical degradation, and biodegradation. It is very important to know the mechanism of polymer degradation in order to select stabilizers against the degradation. This paper presents the results of the analysis of achievements in the field of photodegradation. It includes, for the first of all, data of Russian investigators who have decisively contributed in the development of this field of knowledge (the schools headed by academicians V.V. Korshak, N.M. Emanuel, N.S. Elnikov, A.A. Berlin, and many others).

Structure of the Polymer Amorphous State - Kozlov - 2004-02-01 This new volume in the book series New Concepts in Polymer Science focuses on the problem of creating materials with reduced combustibility as well as the use of polymeric materials for protection from fire or other conditions. It examines the factors that determine the combustibility of polymers and materials based on them, with reduced combustibility. However the combustibility degree or their ability to protect from fire or high temperature can be indicated only in particular conditions of combustion. In this volume the results of the development of high-quality polymer materials that have a lower combustibility are discussed. The book describes the main practical properties and methods for structural modification and other techniques. It describes the main practical properties and methods for structural modification and other techniques.

The Concept of Micellar-Sponge Nanophases in Chemical Physics of Polymers - Yuri Arsenovich Mikheev - 2004-03-01 This book presents investigation results of thermal transformations in thermoresistant polymers: polysulfones, polyimides, polyamides, polyurethanes, polyesters, among others. It also includes sections on phycal chemical methods (IR, NMR, DSC etc.) are especially important for studying of the polymer structures and properties of synthesized monomer and polymer compounds. The book is finely illustrated with photos and figures. To identify the specific features of the kinetics of oxidation of polymer mixtures, determine the key structural-functional properties that are capable of protecting against high temperatures are discussed. A presentation of the mechanisms of the formation of the structure of synthetic polymers and reduced combustibility is also given.

Fire Retardant and Thermally Stable Materials Derived from Chlorinated Polycyanoacrylates - A. A. Donkosi - 2003-06-25 This new volume in the book series New Concepts in Polymer Science focuses on the problem of creating materials with reduced combustibility as well as the use of polymeric materials for protection from fire or other conditions. It examines the factors that determine the combustibility of polymers and materials based on them, with reduced combustibility. However the combustibility degree or their ability to protect from fire or high temperature can be indicated only in particular conditions of combustion. In this volume the results of the development of high-quality polymer materials that have a lower combustibility are discussed. The book describes the main practical properties and methods for structural modification and other techniques. It describes the main practical properties and methods for structural modification and other techniques.

Thermal Stability of Engineering Heterochain Thermoresistant Polymers - Kozlov - 2004-08-31 This book presents investigation results of thermal transformations in thermoresistant polymers: polysulfones, polyimides, polyamides, polyurethanes, polyesters, among others. It also includes sections on phycal chemical methods (IR, NMR, DSC etc.) are especially important for studying of the polymer structures and properties of synthesized monomer and polymer compounds. The book is finely illustrated with photos and figures. To identify the specific features of the kinetics of oxidation of polymer mixtures, determine the key structural-functional properties that are capable of protecting against high temperatures are discussed. A presentation of the mechanisms of the formation of the structure of synthetic polymers and reduced combustibility is also given.

Polymeric Materials (Moscow, Russia) – one of the leading Institutes in this branch - which have not been available in international scientific publications before.

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Quantitative Aspects of Polymers Stabilizers - Gennadiĭ Efremovich Zaikov - 1996 This book presents investigation results of thermal transformations in thermoresistant polymers: polysulfones, polyimides, polyamides, polyurethanes, polyesters, among others. It also includes sections on phycal chemical methods (IR, NMR, DSC etc.) are especially important for studying of the polymer structures and properties of synthesized monomer and polymer compounds. The book is finely illustrated with photos and figures. To identify the specific features of the kinetics of oxidation of polymer mixtures, determine the key structural-functional properties that are capable of protecting against high temperatures are discussed. A presentation of the mechanisms of the formation of the structure of synthetic polymers and reduced combustibility is also given.

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Stationary and Non-Stationary Kinetics of the Photoinitiated Polymerization - S. M. Sapuan - 1996-08-31 This book presents investigation results of thermal transformations in thermoresistant polymers: polysulfones, polyimides, polyamides, polyurethanes, polyesters, among others. It also includes sections on phycal chemical methods (IR, NMR, DSC etc.) are especially important for studying of the polymer structures and properties of synthesized monomer and polymer compounds. The book is finely illustrated with photos and figures. To identify the specific features of the kinetics of oxidation of polymer mixtures, determine the key structural-functional properties that are capable of protecting against high temperatures are discussed. A presentation of the mechanisms of the formation of the structure of synthetic polymers and reduced combustibility is also given.

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This book focuses on the effects of deformation, pressure, and temperature on these processes. It discusses the contribution of different factors in the study of rubber and elastomers and the possibility of increasing frost-resistance by optimization of composition and design.

Elementorganic Monomers: Technology, Properties, Applications - Khasanabiev - 2006-06-09

New fields of science and technology call for new materials with valuable performance characteristics. Long-term resistance to high temperatures, chemical inertness, and resistance to the action of corrosive media are of importance to industry. The book describes the mechanisms of degradation of polymers and co-polymers derived from isobutylene, which have a wide range of (industrial) applications. The book discusses the contribution of different factors in the study of rubber and elastomers and the possibility of increasing frost-resistance by optimization of composition and design.

Cyclolinear Organosilicon Copolymers - Omar V. Mokhiamian - 2003-11

The demand for organosilicon elastomers used in the production of thermally resistant rubbers and organosilicon polymers for making non-metal composite materials is increasing from year to year. This monograph presents a methodical manual and directory for scientists and researchers in both academia and industry.

Polymer Nanocomposites - Arumugam Dassanaike - 2016-06-28

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This volume in the book series New Concepts in Polymer Science deals with the damaging effects, which microorganisms such as bacteria, fungi, etc. can have on a range of materials in machinery. The book aims to provide theoretical notions about the mechanisms of material damage by microorganisms under operation conditions as well as to give recom
Polymer Yearbook 13 - Richard A. Pethrick - 2019-08-22
Polymer Yearbook 13 brings together reviews and information on the progress of polymer science worldwide, including useful and topical information such as a list of new publications in polymer science and a compilation of dissertation abstracts. This volume includes reviews of key aspects of polymer science, including contributions from Russia, and details of important publications. This volume also contains reviews on state-of-the-art Japanese research presented at the annual Spring and Fall meetings of the Japanese Polymer Science Society. The aim of this section is to make information on the progress of Japanese polymer science, and on topics of current interest to polymer scientists in Japan, more easily available worldwide.


Fire Safety Aspects of Polymeric Materials - - 1977

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Polymer Yearbook - Richard Arthur Pethrick - 1999

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