1. Record Nr. UNINA9910132206503321

Titolo	Handbook of fluoropolymer science and technology / / edited by Dr. Dennis W. Smith Jr., Dr. Scott T. Iacono, Dr. Suresh S. Iyer ; contributors Olumide I. Adebolu [and fifty nine others]
Pubbl/distr/stampa	Hoboken, New Jersey : , : Wiley, , 2014 ©2014
ISBN	1-118-85008-4 1-118-85022-X 1-118-85009-2
Descrizione fisica	1 online resource (670 p.)
Disciplina	547/.84
Soggetti	Fluoropolymers
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Handbook of Fluoropolymer Science and Technology; Contents; Foreword; In Memoriam; Preface; Contributors; About the Editors; 1 Fluorinated Polyphosphazenes; 1.1 BACKGROUND; 1.2 SYNTHESIS METHODS AND PROPERTY DEVELOPMENT; 1.3 THE ROLE OF FLUORINE IN POLYPHOSPHAZENE SYNTHESIS CHEMISTRY; 1.3.1 Facilitation of Chlorine Replacement by Fluorinated Nucleophiles; 1.3.2 Enhancement of the Hydrolytic Stability and Resistance to Other Reagents When Fluorine Is Present in the Organic Side Groups; 1.3.3 Influence by the Structure of the Fluorinated Alkoxide Nucleophile; 1.3.4 Fluoroaryloxy Side Groups 1.3.5 Fluorinated Alkylamino Side Groups1.3.6 Poly (difluorophosphazene) and Derivatives as Alternatives to Poly (dichlorophosphazene); 1.3.7 Block Copolymers and Micelles; 1.4 PROPERTIES OF FLUORINATED POLYPHOSPHAZENES; 1.4.1 Solubility as a Function of Side Group Structure; 1.4.2 Solid State Properties; 1.4.3 Surface Properties; 1.4.4 Thermal and Thermo-Oxidative Stability; 1.5 EXISTING AND EMERGING APPLICATIONS FOR FLUORINATED POLYPHOSPHAZENES; 1.5.1 Fibers and Nanofibers; 1.5.2 Impact-Absorbing Elastomers; 1.5.3 Surface Coatings; 1.5.4 Radiation

Resistant Polymers; 1.5.5 Membranes
1.5.6 Micelles1.5.7 Uses for Fluorophosphazene Oligomers; REFERENCES; 2 Mn2(CO)10-Visible Light Photomediated, Controlled Radical Polymerization of Main Chain Fluorinated Monomers and Synthesis of Block Copolymers Thereof; 2.1 INTRODUCTION; 2.2 VDF PHOTOPOLYMERIZATION CATALYST SELECTION; 2.3 EFFECT OF REACTION PARAMETERS AND MECHANISTIC CONSIDERATIONS; 2.3.1 Effect of Temperature and Light; 2.3.2 Solvent Effect; 2.3.3 Polymerization Mechanism and Initiator Evaluation; 2.4 SYNTHESIS OF WELL-DEFINED BLOCK COPOLYMERS FROM PVDF-I AND I-PVDF-I CHAIN ENDS; 2.5 CONCLUSIONS; REFERENCES
3 Interfacial Response of Semifluorinated Multi-Block Copolymers3.1 Introduction; 3.2 Simulation Model and Methodology; 3.3 Results and Discussion; 3.4 Conclusions; ACKNOWLEDGMENTS; REFERENCES; 4 FLUOROPOLYMER NANOCOMPOSITES; 4.1 Introduction and Overview; 4.2 Preparation of Fluoroalkyl End-Capped Oligomers; 4.3 Preparation and Thermal Stability of Fluoroalkyl End-Capped Oligomers/Silica Nanocomposites; 4.4 Preparation and Properties of Fluoroalkyl End-Capped Oligomers/Titanium Oxide Nanocomposites
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5.3.4 Mechanism of Formation of Perfluorobutenes

Sommario/riassunto

Handbook of Fluoropolymer Science and Technology reviews fluoropolymer platforms of established commercial interest, as well as recently discovered methods for the preparation and processing of new fluorinated materials. Emphasis is placed on emerging technologies in optics, space exploration, fuel cells, microelectronics, gas separation membranes, biomedical instrumentation, and much more. In addition, the book covers the current environmental concerns associated with fluoropolymers, as well as relevant regulations and potential growth opportunities.