1. Record Nr. UNINA9911006980103321 Autore Moore Albert L Titolo Fluoroelastomers handbook: the definitive user's guide and databook / / Albert L. Moore Norwich, NY,: William Andrew Pub., c2006 Pubbl/distr/stampa **ISBN** 1-282-25315-8 9786612253157 0-08-094719-0 0-8155-1726-2 Descrizione fisica 1 online resource (377 p.) Collana Plastics Design Library Fluorocarbon Disciplina 620.1/94 Soggetti Elastomers Fluorocarbons Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Includes bibliographical references and index. Nota di bibliografia Nota di contenuto Front Cover: Fluoroelastomers Handbook: The Definitive User's Guide and Databook; Copyright Page; Contents; Series Editor's Preface; Preface; Acknowledgments; Part I: Fluoroelastomers Overview; Chapter 1. Fundamentals: 1.1 Introduction: 1.2 Scope: Fluorocarbon Elastomers: 1.3 Nature of Fluoroelastomers; 1.4 Fundamental Properties; 1.5 Developmental History: Compositions, Cure Technology; 1.6 Major Uses of Fluoroelastomers; 1.7 Producers of Fluoroelastomers; REFERENCES; Chapter 2. Fluoroelastomer Composition and Properties; 2.1 Major Families of Fluorocarbon Elastomers 2.2 VDF/HFP/(TFE) Elastomers2.3 VDF/PMVE/TFE Elastomers; 2.4 TFE/PMVE Perfluoroelastomers; 2.5 TFE/P Elastomers; 2.6 E/TFE/PMVE Elastomers; REFERENCES; Part II: Fluoroelastomers Technology; Chapter 3. Fluoroelastomer Monomers; 3.1 Introduction; 3.2 Vinylidene Fluoride (VDF); 3.3 Tetrafluoroethylene (TFE); 3.4 Hexafluoropropylene (HFP); 3.5 Perfluoro(methy1 vinyl ether) (PMVE); 3.6 Olefins: Ethylene and Propylene: 3.7 Cure-site Monomers: 3.8 Safety Aspects of Monomer Handling; REFERENCES; Chapter 4. Production of Fluoroelastomers; 4.1

Introduction: 4.2 General Process Description

4.3 Free Radical Copolymerization4.4 Emulsion Polymerization; 4.5

Suspension Polymerization: 4.6 Process Conditions and Polymer Characteristics: 4.7 Monomer Recovery: 4.8 Isolation: 4.9 Process Safety: 4.10 Commercial Process Descriptions; REFERENCES; Chapter 5. Cure Systems for Fluoroelastomers; 5.1 Introduction; 5.2 VDF/HFP/ (TFE) Copolymers: Diamine, Bisphenol, Peroxide; 5.3 VDF/PMVE/TFE Elastomers: Peroxide (Bisphenol); 5.4 Perfluoroelastomers-Various Systems; 5.5 TFE/Propylene Elastomers: Peroxide, Bisphenol; 5.6 Ethylene/TFE/PMVE Elastomers: Peroxide, Bisphenol; REFERENCES Chapter 6. Processing of Fluoroelastomers 6.1 Introduction; 6.2 Mixing; 6.3 Extrusion; 6.4 Molding; 6.5 Calendering; 6.6 Other Processing Methods; REFERENCES; Part III: Environmental Resistance and Applications of Fluoroelastomers; Chapter 7. Fluid Resistance of VDF-Containing Fluoroelastomers; 7.1 Introduction; 7.2 Fluid Resistance Data; 7.3 Discussion of Results; 7.4 Fluid Service Recommendations; REFERENCES: Chapter 8. Fluid and Heat Resistance of Perfluoroelastomers; 8.1 Introduction; 8.2 Fluid Resistance Data; 8.3 Heat Resistance Data; 8.4 Resistance to Special Environments 8.5 Major Applications REFERENCES; Chapter 9. Fluid Resistance of TFE-Olefin Fluoroelastomers; 9.1 Introduction; 9.2 Fluid Resistance of TFE/Propylene Elastomers; 9.3 Fluid Resistance of Ethylene/TFE/PMVE Elastomer: REFERENCES: Chapter 10. Fluoroelastomer Applications: 10.1 Introduction; 10.2 Major End Uses; 10.3 Fabrication Methods; Chapter 11. Compounds for O-Rings and Molded Goods; 11.1 O-Rings; 11.2 VDF/HFP/TFE Compounds; 11.3 VDF/PMVE/TFE Compounds; 11.4 Seal Design Considerations; 11.5 Additional Fluoroelastomer Molding Compounds; REFERENCES; Chapter 12. Compounds for Auto Fuel Systems

12.1 Introduction

Sommario/riassunto

Fluoroelastomers Handbook: The Definitive User's Guide and Databook is a comprehensive reference on fluoroelastomer chemistry, processing technology, and applications. This is a must-have reference for materials scientists and engineers in the automotive, aerospace, chemical, chemical process, and power generation industries. Fluoroelastomers meet rigorous performance requirements in harsh environments, enhancing reliability, safety, and environmental friendliness. Fluoroelastomers are growing as products of choice for critical components such as O-rings, hoses, and seals in hostile fluid and