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Air; 2.2.3.1 Thermo-oxidation Process
2.2.3.2 Thermal Degradation Process of UHMWPE2.2.4 Irradiation Effects on the Thermogravimetric Curves of UHMWPE; 2.2.5 Stabilization of Polyethylene against Thermo-oxidative Degradation; 2.3 Activation Energies of Degradation Processes in the Thermal Decomposition of UHMWPE; References; 3 Materials Obtained by Solid-State Thermal Decomposition of Coordination Compounds and Metal-Organic Coordination Polymers; 3.1 Introduction; 3.2 Coordination Compounds and Metal-Organic Coordination Polymers as Precursors of Oxides; 3.2.1 Coordination Compounds with Carboxylic Acid as Ligand 3.2.2 Coordination's Compounds as Precursors in the Combustion Synthesis of Oxides3.2.3 Metal-Organic Coordination Polymers as Precursors of Oxides; 3.3 Coordination Compounds and Metal-Organic Coordination Polymers as Precursors of Sulfides; 3.4 Coordination Compounds as Precursors of Composites; 3.5 Coordination Compounds and Metal-Organic Coordination Polymers as Precursors of New Complexes; 3.6 Coordination Compounds and Metal-Organic Coordination Polymers as Precursor of Metals; 3.7 Coordination Compounds as Precursor of Nitrides; 3.8 Other Materials; 3.9 Conclusions; References
4 Methods for Limiting the Flammability of High-Density Polyethylene with Magnesium Hydroxide4.1 Introduction; 4.2 Experimental Part; 4.2.1 Materials; 4.2.2 Sample Preparation; 4.2.3 Methods of Testing; 4.3 Results and Discussion; 4.3.1 Thermal Stability; 4.3.2 Flammability; 4.3.2.1 UL-94 Test; 4.3.2.2 Limiting Oxygen Index (LOI); 4.3.2.3 Cone Calorimetry; 4.3.3 Mechanical Properties; 4.3.4 Microstructure of Fracture Surface of Composites; 4.4 Conclusions; References; 5 Thermal Analysis in the Study of Polymer (Bio)-degradation; 5.1 Introduction; 5.2 Differential Scanning Calorimetry
5.2.1 Melting Profile

Sommario/riassunto

Strong bonds form stronger materials. For this reason, the investigation on thermal degradation of materials is a significantly important area in research and development activities. The analysis of thermal stability can be used to assess the behavior of materials in the aggressive environmental conditions, which in turn provides valuable information about the service life span of the materiel. Unlike other books published so far that have focused on either the fundamentals of thermal analysis or the degradation pattern of the materials, this book is specifically on the mechanism of degrada

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