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(54) Title: IMPACT MODIFICATION AND FUNCTIONALIZATION OF COPOLYMERS OF OLEFINS AND DIENES

(57) Abstract: Disclosed is the preparation of compositions which are mixtures of certain types of epoxidized rigid copolymers of α -olefins and diene-derived co-monomers in combination with elastomeric diene-based polymers or copolymers. These two types of rigid and elastomeric polymeric materials are placed in a common liquid reaction medium and contacted therein with an oxidizing agent. The oxidizing agent, which can be a peroxide or peracid, epoxidizes in-situ at least a portion of the residual double bonds of the rigid copolymer and preferably also introduces hydroxyl groups, e.g., diol moieties, (or derivatives thereof such as ester groups) onto the unsaturated moieties of the elastomeric diene-based polymers or copolymers. This combination of materials which has been oxidized in-situ can then be co-precipitated to form a polymeric mixture which can be melt-molded into polyolefin materials of improved structural, thermal and mechanical properties with desirable impact resistance.



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