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(54) Title: OLEFIN POLYMERIZATION PROCESS TO PRODUCE BRANCHED POLYMER COMPOSITIONS

(57) Abstract: A method of lowering MFR response of a high-melt-flow-rate-polymer-producing metallocene catalyst is provided. The method includes contacting the metallocene catalyst with a sufficient quantity of α,ω -diene monomer such that when the catalyst composition is contacted with polymerizable reactants under suitable polymerization conditions, the resulting polymer has an MFR rate in the range of 0.1 to 1000. Hydrogen and ethylene may also be present in the polymerization. Additionally a catalyst composition is provided which includes a high-melt-flow-rate-polymer-producing metallocene catalyst and a sufficient quantity of α,ω -diene monomers such that when the catalyst composition is contacted with a monomer under polymerization conditions, the resulting polymer has an MFR rate in the range of 0.1 to 1000.