

United States Patent [19]

Barta et al.

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[54] **ESSENTIALLY LINEAR POLYMER HAVING A PLURALITY OF AMIDE, IMIDE AND ESTER GROUPS THEREIN, AND A METHOD OF MAKING THE SAME**

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Related U.S. Application Data

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[51] Int. Cl.⁴ **C08G 69/44; C08G 73/16**

[52] U.S. Cl. **528/289; 528/296; 528/303; 528/339; 428/174; 428/379**

[58] Field of Search **528/289, 296, 303, 339**

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[57] ABSTRACT

An essentially linear resin having a plurality of amide, imide and ester groups therein comprising the condensation product of at least one polycarboxylic acid five member ring-forming reactant, at least one ethylenically unsaturated polycarboxylic acid five or six member ring lactam-forming reactant, at least one polyfunctional hydroxy compound, at least one difunctional amino five or six member ring forming reactant, at least one polycarboxylic acid reactant having no more than two carboxylic acid ester forming radicals, and at least one polycarboxylic acid reactant having two or more carboxylic acid ester forming radicals with at least two of the radicals in the 1,2 position relative to each other. The method of forming a solution of a prepolymer having a plurality of amide, imide and ester groups therein in cresylic acid or glycol ether solvents and reacting the same with at least one ethylenically unsaturated polycarboxylic acid five or six member ring forming reactant at elevated temperatures.

19 Claims, No Drawings