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(54) Title: PROCESS FOR PREPARING RANDOM BUTADIENE-ISOPRENE COPOLYMERS HAVING A HIGH CONTENT OF CIS-1,4 UNITS

(57) Abstract: Process for preparing a random butadiene-isoprene copolymer having a high content of *cis*-1,4 units comprising copolymerizing butadiene and isoprene, in the presence of at least one organic solvent, and a catalytic system prepared in situ comprising: (a₁) at least one neodymium carboxylate soluble in said organic solvent, containing a variable amount of water, the H₂O/Nd molar ratio being between 0.001/1 and 0.50/1; (a₂) at least one aluminum alkyl compound; (a₃) at least one aluminum alkyl compound containing at least one halogen atom. The random butadiene-isoprene copolymer having a high content of *cis*-1,4 units obtained from the abovementioned process may be advantageously used in a number of applications ranging from the modification of plastics [for example, obtainment of high impact polystyrene (HIPS)], to the production of tires, in particular the production of tire treads and/or of tire sidewalls.