

ABSTRACT

A process for producing a vinyl polymer which comprises carrying out anionic polymerization under the condition that the polymerization temperature is not lower than 45°C and not higher than 250°C and the concentration of the vinyl monomer based on the polymerization solvent is 45-100% by weight, wherein the metal of the cation forming a counterpart to the carbonic anion at the polymerization propagating species consists essentially of Mg, or Mg and M^1 wherein M^1 is at least one alkali metal selected from the group consisting of Li, Na and K, and the molar concentrations of the metals of Mg and M^1 satisfy the relation of $[Mg]/[M^1] \geq 4$, the invention also relates to a vinyl monomer polymerization initiator comprising $(R^2)_2Mg$ wherein R^2 is a hydrocarbon group.