

ABSTRACT

Provided are a catalyst for polymerizing olefinic monomers, which comprises (a) a transition metal compound, (b) at least one member selected from clay, clay minerals and ion-exchanging layered compounds, (c) a silane compound, and optionally (d) an alkylating agent; a catalyst for polymerizing olefinic monomers, which comprises (a) a transition metal compound, (b) at least one member selected from clay, clay minerals and ion-exchanging layered compounds, (c) a silane compound, and optionally (e) an organic aluminum compound, and further optionally (d) an alkylating agent; and a method for producing olefinic polymers or styrenic polymers, which comprises homopolymerizing or copolymerizing olefinic or styrenic monomers in the presence of the catalyst for polymerizing olefinic monomers. The method does not require a large amount of aluminoxane, and the catalyst to be used therein has high polymerization activity. Using the catalyst, olefinic polymers and styrenic polymers having high stereospecificity are obtained. The amount of the metallic component remaining in the polymers produced is small, and the polymers have high quality. As being highly efficient, the method is favorable to industrial use.