

ABSTRACT

The invention relates to high-activity catalysts for olefin polymerization, to efficient methods for producing them, and to efficient methods of using the catalysts for producing high-quality polyolefins. The olefin polymerization with the catalysts does not require a large amount of an organic aluminium compound, and the residual metal in the polyolefins produced is much reduced. The catalysts are characterized by containing a product as prepared by contacting any of clay, a clay mineral and an ion-exchanging layered compound, an organic silane compound, and water with each other, or by containing a silane compound-processed clay.