

ABSTRACT

CATALYST AND PREPOLYMER USED FOR THE PREPARATION OF POLYOLEFINS

The present invention relates to a solid catalyst suitable for polymerizing olefins in a heterogeneous process, the catalyst consisting of spheroidal particles having a narrow particle size distribution and comprising (i) a support containing magnesium dichloride and an electron-donor free from labile hydrogen, (ii) a zirconium metallocene, and (iii) optionally an organoaluminum compound which is an aluminoxane preferably. The solid catalyst may be used in the form of a prepolymer comprising a polyethylene or a copolymer of ethylene and an active zirconium metallocene catalyst essentially consisting of atoms of Zr, Mg, Cl and Al, preferably in the form of spheroidal particles. The solid catalyst or the prepolymer may be used for producing polyethylene or copolymer of ethylene having from 0.5 to 20 ppm of Zr and a molecular weight distribution from 2 to 5, in the form of a powder having a bulk density from 0.3 to 0.55 g/cm³, preferably consisting of spheroidal particles.

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