

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 being obtainable by a process comprising (1) contacting a support containing $MgCl_2$ and an electron donor (D1) free from labile hydrogen with an electron donor (D2) containing labile hydrogen, and (2) then contacting the solid resulting from (1) with a zirconium metallocene, optionally with an organoaluminium compound which is preferably an aluminoxane. The solid catalyst may be used as such in olefin polymerization, or in the form of a prepolymer comprising a (co-)polymer of ethylene, the solid catalyst and an organoaluminium compound. The (co-)polymer of ethylene produced with the solid catalyst or with the prepolymer has a narrow molecular weight distribution and a low zirconium content and is in the form of a powder with a high bulk density, preferably consisting of spheroidal particles with a narrow particle size distribution.

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