

ABSTRACT

PREPOLYMERIZATION CATALYST FOR USE IN GAS PHASE POLYMERIZATION OF OLEFINS AND PROCESS FOR PRODUCING THE SAME

A prepolymerization catalyst for use in a gas phase polymerization of an olefin which comprises (A) a solid catalyst component comprising magnesium, halogen, titanium and an electron donor and having a weight-average particle diameter of 15 to 45 μm , (B) at least one organoaluminum compound and (C) a prepolymer of an ethylene and/or an α -olefin, wherein the molar ratio of aluminum to titanium in the prepolymerization catalyst (Al/Ti ratio) is 3 to 11 (mol/mol), the weight ratio of the prepolymerization catalyst to the solid catalyst component (prepolymerization catalyst/solid catalyst component) is 2 to 35 (g/g), the content of volatile materials (VM) in the prepolymerization catalyst is 2.0% by weight or less, and the intrinsic viscosity $[\eta]$ measured in tetralin at 135°C is 2.0 dl/g or less, and a process for a production thereof.

According to the present invention, a prepolymerization catalyst for gas phase polymerization of olefins showing a high activity in gas phase polymerization, not forming aggregates and coarse particles markedly at the time of prepolymerization, having a high bulk density and an excellent fluidity, not causing a marked entraining of prepolymerization catalyst and product powder out of the fluidized bed and nearly completely free from a formation of aggregates, at the time of gas phase polymerization,

and giving an olefin polymer having a low content of cold xylene-soluble fraction can be provided.