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琥珀酸酯为内给电子体的新型$MgCl_2$载体催化剂用于丙烯聚合

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摘要 A novel $MgCl_2$-supported Ziegler-Natta catalyst containing diethyl diisopropylsuccinate donor was prepared and propylene polymerization with the combination of such catalyst and four external donors were investigated in detail. The catalyst was compared with a commercial one with phthalate as internal donor in terms of catalytic activity, hydrogen sensitivity and stereospecificity in propylene polymerization. The molecular weight, molecular weight distribution and microstructure of the produced polypropylenes were compared also. It was found that the novel catalyst containing succinate internal donor showed higher activity and higher stereospecificity than those with phthalate as internal donor. Consequently, polypropylenes obtained by the succinate-based catalyst showed high molecular weight, high melting temperature, high isotactic index and broad molecular weight distribution than those obtained with the commercial catalyst.

关键词 琥珀酸酯，烈性聚合物，$MgCl_2$载体催化剂，丙烯，聚合反应，

分类号

Novel $MgCl_2$-supported Catalysts Containing Succinate Donors for Propylene Polymerization

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Abstract

A novel $MgCl_2$-supported Ziegler-Natta catalyst containing diethyl diisopropylsuccinate donor was prepared and propylene polymerization with the combination of such catalyst and four external donors were investigated in detail. The catalyst was compared with a commercial one with phthalate as internal donor in terms of catalytic activity, hydrogen sensitivity and stereospecificity in propylene polymerization. The molecular weight, molecular weight distribution and microstructure of the produced polypropylenes were compared also. It was found that the novel catalyst containing succinate internal donor showed higher activity and higher stereospecificity than those with phthalate as internal donor. Consequently, polypropylenes obtained by the succinate-based catalyst showed high molecular weight, high melting temperature, high isotactic index and broad molecular weight distribution than those obtained with the commercial catalyst.

Key words propylene polymerization, Ziegler-Natta catalyst, succinate, phthalate, donor,

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