

consisting essentially of: (A) a trivalent titanium compound-containing solid catalyst component prepared by reducing a titanium compound, represented by the general formula $Ti(OR)_4$ in which R represents a hydrocarbon group having 1 to 20 carbon atoms; X represents a halogen atom; and a represents a numeral satisfying $0 < a < 4$ or $a = 4$, with an organomagnesium compound in the presence of Si-O bond-containing organosilicon compound and an ester compound (a) to obtain a solid product, treating the solid product with an ester compound (b) to obtain an ester-treated solid product, and treating the ester-treated solid product with a mixture of an ether compound and titanium tetrachloride or a mixture of an ether compound, titanium tetrachloride and an ester compound (c), wherein the ester compounds (a), (b) and (c) may be the same or different from one another; (B) an organoaluminum compound and (C) an electron donative compound.

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**TEMPERATURE CONTROL OF MW
IN OLEFIN POLYMERIZATION
USING SUPPORTED METALLOCENE
CATALYST**

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In gas phase polymerizations and copolymerizations of ethylene, temperature controls the molecular weight, expressed as MI (wherein MI is measured according to ASTM D-1238 Condition E), of the resin product. Increase in polymerization temperature produces decrease in MI; whereas, decrease in polymerization temperature produces increase in MI.

5608031

**POLYESTERS MODIFIED WITH
1,4-CYCLOHEXANEDIMETHANOL
HAVING HIGH CLARITY PREPARED
UTILIZING AN ANTIMONY
CONTAINING
CATALYST/STABILIZER SYSTEM**

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This invention relates to a polyester resin prepared by adding one or more dicarboxylic acid components to one or more glycol components containing 1,4-cyclohexanedimethanol equalling 100 mole %, the polyester resin having been prepared in the presence of a catalyst/stabilizer system consisting essentially of antimony compounds and phosphorous compounds and compounds selected from the group consisting essentially of zinc compounds, gallium compounds, and silicon compounds.

5608032

**CATALYTIC COMPOSITIONS FOR
THE PREPARATION OF
POLY(ETHYLENE
TEREPHTHALATE) WITH
ATTENUATED YELLOW COLOR**

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A catalyst composition for use in a polycondensation reaction for making poly(ethylene terephthalate) from terephthalic acid comprising: (a) an antimony salt catalyst present in a range from about 10 to about 1,000 ppm; (b) a metal salt catalyst of at least one of cobalt,

magnesium, zinc, manganese, calcium, and lead, present in a range from about 10 to about 500 ppm; and (c) a phosphorus salt co-catalyst selected from the group consisting of alkali metal phosphates, alkali metal phosphites, alkali metal hypophosphites and alkali metal polyphosphates, present in a range from about 10 to about 500 ppm; all amounts are based on the metallic or phosphorus element relative to the theoretical yield of the poly(ethylene terephthalate), by weight, to be made from the terephthalic acid. The catalyst composition was found to have increased the reaction rate in the production of poly(ethylene terephthalate), as well as improved the color of the produced product, by reducing the degree of yellowness in the final poly(ethylene terephthalate) product. Attenuation of the yellowish color indicates a reduction in the amount of undesired side reaction product.

5610114

**CATALYST FOR THE
POLYMERIZATION OF DIOLEFINS,
METHOD FOR ITS
PREPARATION, AND ITS USE FOR
THE PREPARATION OF POLYMERS**

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A supported solid catalyst which can be used for the polymerization and copolymerization of conjugated dienes having as its basis the reaction product of: A) a solid $MgCl_2$ support, B) an ether, preferably THF, as swelling agent for the support, C) a metal salt selected from among metals having an atomic number of between 57 and 71 or 92 in the periodic table of elements and, if the metal salt is not a halide, D) a halogenation agent selected from the group consisting of a halogenated compound of aluminum and a halogenated compound not containing aluminum, the reaction solid being free from the swelling agent, plus E) an

organic derivative of aluminum which is obligatory when the halogenation agent is not a halogenated compound of aluminum and optional when the halogenation agent is a derivative of aluminum. Also, a method of preparing this catalyst.

5610115

**ORGANIC CARRIER SUPPORTED
METALLOCENE CATALYST FOR
OLEFIN POLYMERIZATION**

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The organic carrier supported metallocene catalyst of the present invention is prepared by preparing a ligand complex of a silicone compound having at least one halogen, an alkyl group and a cycloalkane dienyl group, activating styrene polymer or styrene/divinylbenzene copolymer with a strong base including a metal atom such as Li, Na, K or Mg, reacting the activated polymer or copolymer with the ligand complex of a silicone compound so that the ligand may be supported on the activated polymer or copolymer, and reacting the organic carrier supported ligand with a compound of a transition metal of Group IVb of the Periodic Table or Lanthanides of Atomic Number 58-71. The styrene polymer or styrene/divinylbenzene copolymer may be alkylated by Friedel-Crafts alkylation before they are activated with a strong base.

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**PROCESS FOR POLYMERIZING
PROPYLENE USING A
SILICA-SUPPORTED CATALYST**

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