

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**

Robert Pierre; Spitz Roger Clermont Ferrand, FRANCE assigned to Compagnie Generale Des Etab Michelin-Michelin & Cie; Elf Atochem S

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**

Soga Gazuo; Kim Hyun-joon; Lee Sang-kyun; Jung Min-chul; Son Byung-hee; Thosiya Wuozmi; Thakhasi Irai; Hiroro Nishida Ishigawa, JAPAN assigned to Samsung General Chemicals Co Ltd

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 dienylyl 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.

5610246

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

Buehler Charles K; Masino Albert Naperville, IL, UNITED STATES assigned to Quantum Chemical Corporation

A new catalyst useful in the polymerization of at least one olefin is disclosed. The catalyst comprises the product obtained by contacting silica, in random order, with (1) at least one hydrocarbon soluble magnesium-containing compound; and (2) a first modifying compound selected from the group consisting of silicon halides, boron halides, aluminum halides and mixtures thereof followed by a second modifying compound selected from the group consisting of halides having the structural formula $\text{SiH}_r\text{X}_2\text{s}$, where X2 is halogen; r is an integer of 1 to 3; and s is an integer of 1 to 3 with the proviso that the sum of r and s is 4, a hydrogen halide and mixtures thereof. The product of this step is contacted with a first titanium-containing compound having the structural formula $\text{Ti}(\text{OR})_m\text{X}_n$, where R is hydrocarbyl or cresyl; X is halogen; m is an integer of 1 to 4; and n is 0 or an integer of 1 to 3, with the proviso that the sum of m and n is 4. Finally, the product of this latter step is, in turn, contacted with a second titanium-containing compound, different from the first titanium-containing compound, having the structural formula $\text{TiX}_1\text{p}(\text{OR})_1\text{q}$, where X1 is halogen; R1 is hydrocarbyl; p is an integer of 1 to 4; and q is 0 or an integer of 1 to 3, with the proviso that the sum of p and q is 4. A catalyst system comprising the above catalyst, an aluminum-containing first cocatalyst and at least one silane second cocatalyst is also set forth. Finally, a process for polymerizing at least one olefin utilizing the catalyst system of this disclosure is taught.

5612271

**PROCESS FOR THE PREPARATION OF
A CATALYTIC SYSTEM, PROCESS
FOR THE (CO)POLYMERIZATION OF
OLEFINS AND (CO)POLYMERS OF AT
LEAST ONE OLEFIN**

Zandona Nicola Waterloo, BELGIUM assigned to Solvay (Société Anonyme)

Process for the preparation of a catalytic system according to which a mixture of a halogenated neutral metallocene derived from a transition metal chosen from groups IIIB, IVB, VB and VIB of the Periodic Table and of an organoaluminium compound is prepared and an ionising agent is added thereto. (Co)polymerization process according to which a mixture of a halogenated neutral metallocene as defined above and of an organoaluminium compound is prepared, the olefin is brought into contact with this mixture and an ionising agent is added thereto.

5612427

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

Robert Pierre; Spitz Roger Clermont Ferrand, FRANCE assigned to Campagnie Generale des Etablissements Michelin - Michelin & Cie; Elf Atochem S

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.