

5. The process as claimed in any one of the preceding claims wherein M' is Al.
6. The process as claimed in any one of the preceding claims wherein M is Zn, Mg or Al, and M' is Al.
7. The process as claimed in any one of the preceding claims, wherein X is selected from halide, inorganic oxyanions, organic anions, surfactants, anionic surfactants, anionic chromophores, and/or anionic UV absorbers.
8. The process as claimed in any one of the preceding claims, wherein the at least one solvent is an organic solvent, preferably anhydrous, and preferably selected from acetone, acetonitrile, dimethylformamide, dimethyl sulfoxide, dioxane, ethanol, methanol, n-propanol, 2-propanol, tetrahydrofuran or a mixture of two or more thereof.
9. The process as claimed in any one of the preceding claims, wherein the thermal treatment comprises heating at a temperature in the range 110°C to ~~1000°C~~400°C, preferably for a predetermined time at a predetermined pressure, optionally under a flow of an inert gas or under reduced pressure.
10. The process as claimed in claim 9, wherein the predetermined pressure is in the range of 1×10^{-1} to 1×10^{-3} mbar.
11. A process for producing a solid catalyst, the process comprising providing a catalyst support prepared by the process of any one of the preceding claims, and contacting the support with an activator.
12. The process as claimed in claim 11, further comprising contacting the support, before, simultaneously with or after contacting the support with the activator, with at least one metal-organic transition metal compound.
13. A polymerisation catalyst comprising,

a) a catalyst support prepared according to the process of claim 1, and

b) at least one metal-organic compound.

wherein the catalyst support comprises specific surface area ranging from 250-650 m²/g.

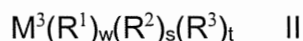
14. The catalyst as claimed in claim 13, further comprising an activator.

15. The catalyst as claimed in claim 14, wherein the activator comprises an alkyl aluminium activator.

16. The catalyst as claimed in any one of claims 13 to 15, wherein the metal-organic compound comprises a transition metal compound, preferably a titanium, zirconium, hafnium, iron, nickel and/or cobalt compound.

17. The catalyst as claimed in any one of claims 13 to 16, wherein the catalyst is an olefin polymerisation catalyst.

18. The catalyst as claimed in any one of claims 13 to 17, further comprising one or more metal compounds of the formula (II)



where

M³ is an alkali metal, an alkaline earth metal or a metal of group 13 of the Periodic Table,

R¹ is hydrogen, C₁-C₁₀-alkyl, C₆-C₁₅-aryl, alkylaryl or arylalkyl each having from 1 to 10 carbon atoms in the alkyl part and from 6 to 20 carbon atoms in the aryl part,

R² and R³ are each independently selected from hydrogen, halogen, pseudohalogen, C₁-C₁₀-alkyl, C₆-C₁₅-aryl, alkylaryl, arylalkyl or alkoxy each having from 1 to 10 carbon atoms in the alkyl radical and from 6 to 20 carbon atoms in the aryl radical,

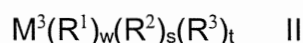
w is an integer from 1 to 3, and

5. The process as claimed in any one of the preceding claims wherein M' is Al.
6. The process as claimed in any one of the preceding claims wherein M is Zn, Mg and M' is Al.
7. The process as claimed in any one of the preceding claims, wherein X is selected from halide, inorganic oxyanions, organic anions, surfactants, anionic surfactants, anionic chromophores, and/or anionic UV absorbers.
8. The process as claimed in any one of the preceding claims, wherein the at least one solvent is an organic solvent, preferably anhydrous, and preferably selected from acetone, acetonitrile, dimethylformamide, dimethyl sulfoxide, dioxane, ethanol, methanol, n-propanol, 2-propanol, tetrahydrofuran or a mixture of two or more thereof.
9. The process as claimed in any one of the preceding claims, wherein the thermal treatment comprises heating at a temperature in the range 110°C to 400°C, preferably for a predetermined time at a predetermined pressure, optionally under a flow of an inert gas or under reduced pressure.
10. The process as claimed in claim 9, wherein the predetermined pressure is in the range of 1×10^{-1} to 1×10^{-3} mbar.
11. A process for producing a solid catalyst, the process comprising providing a catalyst support prepared by the process of any one of the preceding claims, and contacting the support with an activator.
12. The process as claimed in claim 11, further comprising contacting the support, before, simultaneously with or after contacting the support with the activator, with at least one metal-organic transition metal compound.
13. A polymerisation catalyst comprising,

- a) a catalyst support prepared according to the process of claim 1, and
- b) at least one metal-organic compound.

wherein the catalyst support comprises specific surface area ranging from 250-650 m²/g.

- 14. The catalyst as claimed in claim 13, further comprising an activator.
- 15. The catalyst as claimed in claim 14, wherein the activator comprises an alkyl aluminium activator.
- 16. The catalyst as claimed in any one of claims 13 to 15, wherein the metal-organic compound comprises a transition metal compound, preferably a titanium, zirconium, hafnium, iron, nickel and/or cobalt compound.
- 17. The catalyst as claimed in any one of claims 13 to 16, wherein the catalyst is an olefin polymerisation catalyst.
- 18. The catalyst as claimed in any one of claims 13 to 17, further comprising one or more metal compounds of the formula (II)



where

M³ is an alkali metal, an alkaline earth metal or a metal of group 13 of the Periodic Table,

R¹ is hydrogen, C₁-C₁₀-alkyl, C₆-C₁₅-aryl, alkylaryl or arylalkyl each having from 1 to 10 carbon atoms in the alkyl part and from 6 to 20 carbon atoms in the aryl part,

R² and R³ are each independently selected from hydrogen, halogen, pseudohalogen, C₁-C₁₀-alkyl, C₆-C₁₅-aryl, alkylaryl, arylalkyl or alkoxy each having from 1 to 10 carbon atoms in the alkyl radical and from 6 to 20 carbon atoms in the aryl radical,

w is an integer from 1 to 3, and