

of polyurethane products.

**5627246**

**SUPPORTED METALLOCENE  
COMPLEXES HAVING  
HETEROFUNCTIONAL GROUPS IN  
THE CYCLOPENTADIENYL SYSTEM  
AS CATALYST SYSTEMS**

Langhauser Franz; Fischer David; Kerth Juml urgen; Schweier Guml unther; Barsties Elke; Brintzinger Hans-Herbert; Schaible Stefan; Roell Werner Bad Durkheim, GERMANY assigned to BASF Aktiengesellschaft

A supported catalyst system that is obtained by a) reacting a finely divided carrier with an a-trisalkoxy-silyl- omega-haloalkyl compound, b) adding a metallocene complex of the indicated formula I to the reaction product of a); c) reacting the product of b) with a quaternizing agent; and d) optionally adding an open-chain or cyclic alumoxane compound. The catalyst system can be used to prepare polymers of C<sub>2</sub>-C<sub>10</sub>-alk-1-enes.

**5629253**

**POLYMERIZATION CATALYST  
SYSTEMS, THEIR PRODUCTION AND  
USE**

Chang Main Houston, TX, UNITED STATES assigned to Exxon Chemical Patents Inc

This invention is generally directed toward a supported catalyst system useful for polymerizing olefins. The method for supporting the catalyst of the invention provides for a supported bulky ligand transition metal catalyst which when utilized in a polymerization process substantially reduces the reactor fouling and sheeting particularly in a slurry phase polymerization process.

**5629254**

**SUBSTITUTED INDENYL RING  
CONTAINING METALLOCENE  
CATALYST FOR PROPYLENE  
POLYMERIZATION PROCESS**

Fukuoka Daisuke; Tashiro Takashi; Kawaai Koji; Saito Junji; Ueda Takashi; Kiso Yoshihisa; Imuta Junichi; Fujita Terunori; Nitabaru Masatoshi; Yoshida Masayasu Kuga gun, JAPAN assigned to Mitsui Petrochemical Industries Co Ltd

The novel transition metal catalyst of the invention is represented by the following formula (I): (\*See Patent for Chemical Structure\*) (I) wherein M is a zirconium or hafnium; R<sub>1</sub> is a hydrocarbon group of 2 to 6 carbon atoms, R<sub>2</sub> is an aryl group of 6 to 16 carbon atoms; X<sub>1</sub> and X<sub>2</sub> are each a halogen atom; and Y is a divalent hydrocarbon group, a divalent silicon-containing group.

**5629255**

**HIGHLY ACTIVE CATALYSTS FOR  
OLEFIN POLYMERIZATION AND A  
POLYMERIZATION PROCESS USING  
THESE CATALYSTS**

Hafner Norbert; Tuml oltsch Wilfried;Ledwinka Hans; Neissl Wolfgang Linz, AUSTRIA assigned to PCD Polymere Gesellschaft m b H

Highly active catalysts, for olefin polymerization, from tetraneophylzirconium and partly hydroxylated metal oxides from group IIa, IIIa, IVa or IVb of the Periodic Table, which are essentially free from by-products.