

A vanadium-containing catalyst system particularly suited to the polymerization of blow moldable olefin polymers. The catalyst system includes a supported, first catalyst component prepared by contacting preheated silica, with (1) a compound or complex which includes at least one carbon to magnesium covalent bond and (2) a compound which includes at least one carbon to Group III metal covalent bond. The sequence of contact of the silica with compound or complex (1) and compound (2) is optional. However, unless the compound or complex (1) and the compound (2) contact the silica simultaneously, the product of this contact is next contacted with whichever of compound (1) or (2) does not initially contact the silica. The product of the step of contacting with compounds (1) and (2) is contacted with a vanadium compound which includes at least one halogen atom. Finally, the product of the vanadium compound contacting step is contacted with an alcohol. A second component of the catalyst system is an organoaluminum compound cocatalyst. The catalyst system also includes a halocarbon compound promoter as a third catalyst component.

**5534473**

**CATALYST SYSTEMS FOR  
PRODUCING BROAD MOLECULAR  
WEIGHT POLYOLEFIN**

Welch M Bruce; Geerts Rolf; Palackal Syriac J; Pettijohn Ted Bartlesville, OK, UNITED STATES assigned to Phillips Petroleum Company

A catalyst system comprising a bridged fluorenyl-containing metallocene, an unbridged metallocene, and a suitable cocatalyst and the use of such catalyst systems to produce olefin polymers. Also novel olefin polymers produced by those processes.

**5536690**

**POLYMERIZATION CATALYSTS**

Cloke Frederick G N Brighton, UNITED KINGDOM assigned to BP Chemicals Limited

Novel Group IV or V metal complexes comprise cyclooctatetraene ligands. The complexes are suitable for use as catalysts for the polymerization of olefins and may be supported for use in the gas phase. A preferred complex has the formula: (\*See Patent for Chemical Structure\*).

**5536796**

**POLYMERIZATION CATALYSTS,  
THEIR PRODUCTION AND USE**

Jejelowo Moses O; Bamberger Robert L Kingwood, TX, UNITED STATES assigned to Exxon Chemical Company

The invention generally relates to a catalyst, particularly a metallocene catalyst and catalyst system useful in the polymerization of olefins into a polymer product. The polymer product has a broad molecular weight distribution, a high molecular weight and a narrow composition distribution and is easily processable.

**5536859**

**ALPHA-OLEFIN CATALYST AND  
PROCESS**

Lin Kaung-Far; Lanier Carroll; Waites William Baton Rouge, LA, UNITED STATES assigned to Amoco Corporation

This invention provides an improved process for the preparation of an aluminum alkyl chain growth