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| <b>(51) International Patent Classification <sup>6</sup>:</b><br><b>C08F 4/603, 4/02, 10/00</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>A1</b> | <b>(11) International Publication Number:</b> <b>WO 99/50311</b><br><b>(43) International Publication Date:</b> 7 October 1999 (07.10.99)                                                                                                                                                   |
| <b>(21) International Application Number:</b> PCT/US99/06135<br><b>(22) International Filing Date:</b> 26 March 1999 (26.03.99)<br><b>(30) Priority Data:</b><br>60/079,563 27 March 1998 (27.03.98) US<br><b>(71) Applicant:</b> EXXON CHEMICAL PATENTS INC. [US/US];<br>5200 Bayway Drive, Baytown, TX 77520-5200 (US).<br><b>(72) Inventors:</b> WALZER, John, Flexer, Jr.; 204 Lakeshore Drive,<br>Seabrook, TX 77586 (US). DIAS, Anthony, Jay; 1411 Quiet<br>Green Court, Houston, TX 77062 (US). FRECHET, Jean,<br>M., J.; 6414 Swainland Road, Oakland, CA 94611-1851<br>(US). ROSCOE, Stephen, B.; 624 Wiggins Road, St. Paul,<br>MN 55119 (US).<br><b>(74) Agents:</b> MULLER, William, G. et al.; Exxon Chemical<br>Company, P.O. Box 2149, Baytown, TX 77522-2149 (US).                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           | <b>(81) Designated States:</b> AU, BR, CA, CN, JP, KR, MX, SG,<br>Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),<br>European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR,<br>GB, GR, IE, IT, LU, MC, NL, PT, SE).<br><br><b>Published</b><br><i>With international search report.</i> |
| <b>(54) Title:</b> POLYMERIC SUPPORTED CATALYSTS FOR OLEFIN POLYMERIZATION<br><br><b>(57) Abstract</b><br><br>The described invention provides a low fouling, high particle density polymerization process and an olefin polymerization cocatalyst activator composition comprising a cross-linked polymer bead having a surface area of from about 1 to 20 m <sup>2</sup> /g to which are bound a plurality of non-coordinating anions, where the polymeric support comprises ligands covalently bound to the central metal or metalloid atoms of said anions, and an effective number of cationic species to achieve a balanced charge. The invention also provides an olefin polymerization catalyst compositions comprising the reaction product of a) the foregoing cocatalyst activator, and b) an organometallic transition metal compound having ancillary ligands, at least one labile ligand capable of abstraction by protonation and at least one labile ligand into which an olefinic monomer can insert for polymerization. In a preferred embodiment, the polymeric support has a surface area of ≤ 10 m <sup>2</sup> /g and is particularly suitable for use with high activity organometallic, transition metal catalyst compounds. |           |                                                                                                                                                                                                                                                                                             |