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(57) Abstract: A method of preparing a catalyst comprising aging a silica support in an alkaline solution to produce an alkaline aged silica support, removing at least a portion of the alkaline solution from the alkaline aged silica support to produce a dried silica support, and activating the silica support to produce a catalyst composition, wherein alkaline aging lowers the surface area of the silica support to less than about 50% of the original value and wherein activation of the silica support is carried out in batches of equal to or greater than about 500 lbs for a time period of less than about 8 hours. A method of preparing a polymer comprising alkaline aging a silica support material, adding chromium to the silica support material prior to the alkaline aging, after the alkaline aging, or both to form a chromium-silica support, rapidly activating the chromium-silica support produce an activated olefin polymerization catalyst, contacting the activated olefin polymerization catalyst with at least one monomer in a reaction zone under conditions suitable to produce a polymer, and recovering the polymer



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