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(54) Title: PREPARATION OF HIGH ACTIVITY CATALYSTS; THE CATALYSTS AND THEIR USE

(57) Abstract

A process for the preparation of a catalyst useful for conducting carbon monoxide conversion reactions, especially a Fischer–Tropsch catalyst, use of the catalyst for conducting such reactions, especially Fischer–Tropsch reactions, and the composition produced by said process. In the preparation of the catalyst, a solution of a polyol is employed to impregnate and disperse a compound or salt of a catalytic metal, or metals, e.g., copper or an Iron Group metal such as iron, cobalt, or nickel, or in a preferred embodiment both a compound or salt of rhenium and a compound or salt of a catalytic metal, or metals, e.g., copper or an Iron Group metal such as iron, cobalt, or nickel onto a refractory inorganic oxide support, e.g., titania. The rhenium, when present only in small amount permits full and complete reduction of the catalytic metal, or metals, dispersed by the polyol. Higher catalyst activities with lower rhenium loadings are thus achieved than in previous preparations where higher concentrations of rhenium were required to both effectively disperse, and reduce the catalytic metal, or metals, during the preparation. Surprisingly, as little as about 1/10 of the rhenium is required to accomplish the reduction promotion where the dispersion is effected with the polyol.