dates, tungstates, stannates, ferrites and vanadates of iron, cobalt, nickel, zinc, palladium, platinum, ruthenium, rhodium, manganese, chromium, copper, cadmium, silver, calcium, barium, mercury, tin, lead, molybdenum, tungsten and the rare earths, and elemental ruthenium, rhodium, palladium, or platinum.

3. A process for making a supported catalyst comprising preparing an aqueous composition consisting essentially of a catalytic amount of a catalytic material selected from the group consisting of the oxides, cerates, chromates, chromites, manganates, manganites, molybdates, tungstates, stannates, ferrites, and vanadates of iron, cobalt, nickel, zinc, palladium, platinum, ruthenium, rhodium, manganese, chromium, copper, cadminum, silver, calcium, barium, mercury, tin, lead, molybdenum, tungsten, ruthenium, iridum and the rare earths; precursors of the oxides; and elemental ruthenium, rhodium, palladium or platinum; with colloidal boehmite and finely divided, high surface area alumina particles having a particle size ranging from 8 to 60 microns and a surface area which ranges from 50 m.^{2}/g. to 600 m.^{2}/g., applying such composition to the catalyst support and heating to temperatures of about 400° C. to 500° C.

4. The process of claim **1** wherein the surface area of the alumina ranges from 180 m.^{2}/g. to 250 m.^{2}/g.

5. The process as described in claim **1** where the alumina is characterized in that it has been acid washed such that when combined with the colloidal boehmite, the mixture as a pH in the range of 3.5 to 4.0.

6. The process of claim **1** wherein the support is a mullite honeycomb made by the in situ oxidation of aluminum coated with a fluxing agent and silicon carbide.

References Cited

UNITED STATES PATENTS

3,264,228	8/1966	Burbidge	252—463
3,317,277	5/1967	Cosgrove	23—143
2,952,644	9/1960	Holden	252—465
3,377,265	4/1968	Caesar	204—290
3,255,027	6/1966	Talsma	106—65

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