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Abstract



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This invention relates to a 4 group metal oxide and to a method for preparation thereof and the 4 group metal oxide prepared by adding a particle growth inhibitor to a hydrosol, a hydrogel or a dried product of a hydrous 4 group metal oxide represented by $MO_{(2-x)}(OH)_{2x}$ (wherein M denotes a 4 group metal and x is a number greater than 0.1 or $x > 0.1$) followed by drying and calcining has a specific surface area of 80 m^2/g or more, a pore volume of 0.2 ml/g or more and a pore sharpness degree of 50% or more and excellent heat stability and is useful for a catalyst or a catalyst carrier in which a catalyst metal is dispersed to a high degree. This invention further relates to a porous 4 group metal oxide and to a method for preparation thereof and the 4 group metal oxide prepared by application of a pH swing operation is characterized by a large specific surface area, excellent heat stability, high dispersion of a catalyst metal and a controlled and sharp pore distribution and is useful for a catalyst or a catalyst carrier of excellent reaction selectivity.