

(57) Abstract: This invention provides layered porous titanium oxide comprising an inorganic oxide as a core and titanium oxide deposited on the surface of the inorganic oxide, wherein the titanium localization index B/A represented by the ratio of the proportion of titanium (Ti) to the sum of the constituent metal (M) of the inorganic oxide and titanium (Ti) determined by X-ray photoelectron spectroscopy (XPS) [$B = \text{Ti}_{\text{XPS}} / (\text{Ti}_{\text{XPS}} + \text{M}_{\text{XPS}})$] to the bulk mixing molar ratio of titanium (Ti) to the sum of the constituent metal (M) of the inorganic oxide and titanium (Ti) [$A = \text{Ti} / (\text{Ti} + \text{M})$] is 1.6 or more and the titanium oxide is deposited on the surface of the inorganic oxide so as to be chemically and/or microscopically united to the inorganic oxide and also provides a process for producing the same and a catalyst comprising the same. The layered porous titanium oxide of this invention has a regulated pore structure, a large specific surface area, and excellent mechanical strength and is useful as a catalyst or a catalyst carrier.