

**Abstract**

162162

A process for producing a specific titanium-containing silicon oxide catalyst having a specific average pore diameter, a specific a pore diameter distribution and a specific pore
5 volume per unit weight, which comprises the following first to second steps:

first step: a step of obtaining a solid containing a catalyst component and a template by mixing and stirring a silica source, a titanium source and, as the template, the quaternary
10 ammonium ion, wherein an amount of an alkali metal in the mixture prepared is within a range of the following expression (II) or (III),

$$\text{alkali metal/titanium} \leq 3(\text{mol/mol}) \quad (\text{II})$$

$$\text{alkali metal}/[\text{NR}^1\text{R}^2\text{R}^3\text{R}^4]^+ \leq 0.3(\text{mol/mol}) \quad (\text{III}); \text{ and}$$

15 second step: a step of removing the template from the solid prepared in the first step.