

ABSTRACT

The present invention provides a solid phosphoric acid catalyst which attains high activity and dimer selectivity in olefin dimerization reaction and an efficient method for dimerization of olefin using the same. The solid

5 phosphoric acid catalyst comprises phosphoric acid supported on a siliceous carrier, the proportion of orthophosphoric acid in the phosphoric acid supported being 60 mol% or more in terms of phosphorus atom amount.

The solid phosphoric acid catalyst is prepared by bringing a phosphoric acid aqueous solution into contact with the siliceous carrier followed by drying,
10 the preparation step being carried out at a temperature lower than 100°C.

Also provided is a method for bringing an olefin-containing raw material into contact with the catalyst. In this method, the olefin-containing raw material contains water in an amount of 10 to 1000 mass ppm, the olefin-containing raw material is brought into contact with the solid
15 phosphoric acid catalyst in a liquid phase, and the olefin is a monoolefin having 3 to 7 carbon atoms.