

ABSTRACT

The purpose of the present invention is to provide a catalyst that enables a hydrogenation reaction of cyclopentadiene to cyclopentene in a gas phase that exhibits both a high conversion rate and high selectivity, and a method for producing the cyclopentene in a gas phase that exhibits both a high conversion rate and high selectivity. A catalyst according to the disclosure and a method for producing cyclopentadienecyclopentene according to the disclosure are a catalyst and a method for producing cyclopentene using the catalyst that is used in a hydrogenation reaction of cyclopentadiene in a gas phase to form the cyclopentene, the catalyst including palladium (Pd) and a titanium dioxide (TiO₂) support, wherein the titanium dioxide (TiO₂) support contains anatase-type titanium dioxide (TiO₂).