

Abstract

Provided are a supported catalyst, a preparation method therefor and use thereof, and a method for the preparation of isobutylene from halomethane. The catalyst is characterized in that it comprises a carrier and a metallic active component supported on the carrier, wherein the metallic active component comprises zinc oxide and zinc halide. On the basis of the total amount of the catalyst, by weight content, the content of zinc oxide is 0.5%-20%, the content of zinc halide is 10%-50%, and the content of the support is 40%-88%. Compared with the prior art, the catalyst of the present invention can convert halomethane into isobutylene with a high selectivity. With the reaction for preparing of isobutylene by converting bromomethane according to the method of the present invention, the conversion of bromomethane is not less than 90% and the selectivity of isobutylene is not less than 80%.