CLAIMS

1. A method for producing isobutylene by dehydration reaction of isobutanol, wherein isobutanol is reacted at a reaction pressure of 50 kPa or more and 750 kPa or less as an absolute pressure by using an alumina catalyst having a BET specific surface area in a range of 60 m^2/g or more and 175 m^2/g or less.

2. The method for producing isobutylene according to claim 1, wherein the alumina catalyst has an SiO_2 content of less than 1.0% by mass.

3. A method for producing isobutylene by dehydration reaction of isobutanol, wherein isobutanol is reacted at a concentration of isobutanol in a reaction gas to be supplied of 55 vol % or more and 85 vol % or less, a weight hourly space velocity (WHSV) of isobutanol of 0.175 h^{-1} or more and 20 h^{-1} or less, and a reaction pressure of 50 kPa or more and 750 kPa or less as an absolute pressure by using an alumina catalyst of which 90 mass % or more has a particle size in a range of 700 μm or more and 10000 μm or less.

4. The method for producing isobutylene according to claim 1, wherein 90 % by mass or more of a catalyst has a particle size in a range of 700 μm or more and 10000 μm or less and a weight hourly space velocity (WHSV) of isobutanol in a reaction gas to be supplied is 0.175 h^{-1} or more and 20 h^{-1} or less.

5. The method for producing isobutylene according to claim 3, wherein a concentration of isobutanol is 55 vol % or more and 80 vol % or less.