CLAIMS

1. A process for producing diisobutylene by contacting a mixed C4 fraction as a raw material with a solid acid catalyst, comprising the steps of:

(a) isobutene oligomerization;

(b) subjecting the resulting reaction products to distillation to separate the unreacted C4 fraction and an oligomer fraction including a C8 fraction produced from each other; and

(c) purification of diisobutylene from the C8 fraction by distillation,

in which a conversion of isobutene contained in the mixed C4 fraction upon conducting the step (a) is controlled to a range of from 60 to 95%.

2. The process for producing diisobutylene according to claim 1, wherein the solid acid catalyst is a silica-alumina catalyst.

3. The process for producing diisobutylene according to claim 1 or 2, wherein the step (a) of isobutene oligomerization is carried out under reaction conditions including WHSV (mass of feed stock based on mass of catalyst per 1 h) of the mixed C4 fraction on the basis of the solid acid catalyst of from 0.1 to 5 h^{-1}, a reaction temperature of 150°C or lower, and a reaction pressure of 0.2 MPa or more at which the raw material is liquefiable.

4. The process for producing diisobutylene according to any one of claims 1 to 3, wherein in the step (c) of purification of diisobutylene from the C8 fraction by distillation, the diisobutylene obtained therein has a C4 fraction content of 1% by mass or less and a purity of 95% by mass or more.

CLAIMS

1. A process for producing diisobutylene by contacting a mixed C4 fraction as a raw material with a solid silica-alumina catalyst, comprising the steps of :

(a) isobutene oligomerization;

(b) subjecting the resulting reaction products to distillation to separate the unreacted C4 fraction and an oligomer fraction including a C8 fraction produced from each other ;

(c) purification of diisobutylene from the C8 fraction by distillation, in which a conversion of isobutene contained in the mixed C4 fraction upon conducting the step (a) is controlled to a range of from 60 to 95%; and
wherein the step (a) of isobutene oligomerization is carried out under reaction conditions including WHSV (mass of feed stock based on mass of catalyst per 1 h) of the mixed C4 fraction on the basis of the solid catalyst of from 0.1 to 5 h^{-1}, a reaction temperature of 150°C or lower, and a reaction pressure of 0.2 MPa or more at which the raw material is liquefiable.

2. The process for producing diisobutylene according to claim 1, wherein in the step (c) of purification of diisobutylene from the C8 fraction by distillation, the diisobutylene obtained therein has a C4 fraction content of 1% by mass or less and a purity of 95% by mass or more.