

ABSTRACT

Method for producing methyl methacrylate

Disclosed is a method for producing methyl methacrylate, which comprises: subjecting isobutylene and/or tert-butanol to a gas phase catalytic oxidation reaction with molecular oxygen to thereby obtain gas (a) containing methacrolein gas and steam; introducing gas (a) and a methacrolein/methanol liquid mixture (I) into a dehydration tower at a lower portion thereof and at an upper portion thereof, respectively, thereby allowing the liquid mixture (I) to flow downwardly in the dehydration tower and contact countercurrently with the gas (a) in the dehydration tower, to thereby obtain a dehydrated gas mixture (b) containing methacrolein gas and methanol gas; introducing the dehydrated gas mixture (b) and a methacrolein/methanol liquid mixture (II) into an absorption tower at a lower portion thereof and at an upper portion thereof, respectively, thereby allowing the liquid mixture (II) to flow downwardly and contact countercurrently with the dehydrated gas mixture (b) in the absorption tower, thereby obtaining a methacrolein/methanol liquid mixture (III); and introducing the liquid mixture (III) into a reactor and subjecting the methacrolein and methanol, which are contained in the liquid mixture (III), to an oxidative esterification reaction in the reactor in the presence of molecular oxygen and in the presence of a palladium catalyst.

(Figure 1)

