

Abstract

Premixer, radially fixed bed reactor, and reaction system for oxidative dehydrogenation of butene

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The present disclosure provides a premixer for at least two gases, comprising: a tabular body having a closed end and an opposite, open end; a first flow passage for receiving a first gas, the first flow passage axially extending through the closed end into the tabular body in a sealable manner; a conical tube arranged in the tabular body,
10 wherein a small end of the conical tube communicates with the first flow passage, and a large end of the conical tube extends toward the open end with an edge thereof being fixed to an inner wall of the tabular body, thereby defining a sealed distribution chamber between the tabular body and the conical tube; and a second flow passage arranged on a side portion of the tabular body for receiving a second gas, wherein the
15 second flow passage communicates with the distribution chamber, so that the second gas can be introduced into said conical tube via the distribution chamber in a substantially radial manner. The present disclosure further relates to a radially fixed bed reactor comprising the premixer, a reaction system of oxidative dehydrogenation of butene comprising the radially fixed bed reactor, and a corresponding process.

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(Fig. 1)