

Fluidized Bed Reactor, and Apparatus and Method for Preparing Light Olefins

Abstract

The present invention relates to the olefin preparation field, and discloses a fluidized bed reactor, an apparatus for preparing light olefins, and a method for preparing light
5 olefins. The apparatus comprises a fluidized bed reactor (15), a settler (6), and a regenerator (11), wherein, a reaction zone of the fluidized bed reactor (15) is provided with a draft tube (32) that is arranged axially and separates the reaction zone into a fast reaction zone A inside the draft tube (32) and a recirculating flow mixing zone B outside the draft tube (32), a catalyst outlet of the fluidized bed reactor (15)
10 communicates with the settler (6), a recirculation outlet (8) on the lower part of the settler (6) communicates with the recirculating flow mixing zone B, a spent catalyst outlet (7) on the lower part of the settler (6) communicates with the regenerator (11), and a regenerated catalyst outlet of the regenerator (11) communicates with the recirculating flow mixing zone B. The apparatus provided in the present invention can
15 attain an objective of improving the yield ratio of light olefins, has great technical advantages, and is applicable to industrial production of light olefins.

Fig. 1