

ABSTRACT

The present application discloses a fluidized bed reactor, a device, and a method for producing low-carbon olefins from oxygen-containing compound. The fluidized bed reactor includes a reactor shell, a reaction zone, a coke control zone and a delivery pipe, where there are n baffles arranged in the coke control zone, and the n baffles divide the coke control zone into n sub-coke control zones which include a first sub-coke control zone, a second sub-coke control zone, and an n th sub-coke control zone; at least one catalyst circulation hole is provided on each of the $n-1$ baffles, so that the catalyst flows in an annular shape in the coke control zone, where n is an integer. The device and method described in the present application can be adapted to a new generation of DMTO catalyst with high methanol processing capacity and high selectivity of low-carbon olefins, and the unit consumption of production ranges from 2.50 to 2.58 tons of methanol/ton of low-carbon olefins.

Fig. 1 for publication.