Claims

1. A methanol to olefin process, comprising:

placing a deactivated methanol-to-olefin catalyst in a regenerator;

introducing a regeneration gas which consists of water steam into the regenerator to contact with the deactivated-methanol-to olefin-catalyst so as to gasify partial coke deposited on the deactivated-methanol-to-olefin-catalyst using the water steam, thereby obtaining a partially-regenerated-methanol-to-olefin-catalyst having a coke amount in a range from 3.89wt% to 6wt%;

introducing the partially-regenerated-methanol-to-olefin-catalyst into a fluidized bed to carry out the methanol to olefin reaction,

wherein the regeneration gas does not contain oxygen.

2. The methanol to olefin process of claim 1, wherein the contact time between the water steam and the deactivated methanol to olefin catalyst is in a range of 10 min to 40 min.

3. The methanol to olefin process of claim 2, wherein the water steam is introduced into the regenerator with a space velocity in a range of $4h^{-1}$ to $8h^{-1}$.

4. The methanol to olefin process of claim 1, wherein the obtaining the partially-regenerated-methanol-to-olefin-catalyst is carried out at a temperature in a range of 600 ºC to 750 ºC.

5. The methanol to olefin process of claim 1, wherein the obtaining the partially-regenerated-methanol-to-olefin-catalyst is carried out at a temperature in a range of 710 ºC to 750 ºC.

6. The methanol to olefin process of claim 1, wherein the deactivated methanol to olefin catalyst has a coke amount in a range of 7wt% to 12wt%.

7. The methanol to olefin process of claim 1, wherein an inert gas is also introduced into the regenerator; the inert gas is at least one selected from nitrogen, helium, argon, and neon.

8. The methanol to olefin process of claim 1, wherein,

the partially regenerated methanol to olefin catalyst contains a silicoaluminophosphate molecular sieve; and

the partially regenerated methanol to olefin catalyst is a fluidized bed catalyst.