

ABSTRACT

The present invention discloses a catalyst composition and a preparation method therefor and the use thereof for the alkylation of an aromatic hydrocarbon and an olefin. The catalyst composition comprises: (a) a first catalyst, which is a molecular sieve catalyst having a static water initial contact angle θ_1 of 10-15° and a static water adsorption amount of 220-280 mg/g; and (b) a second catalyst, which is a molecular sieve catalyst having a static water initial contact angle θ_2 of 140-165° and a static water adsorption amount of 130-170 mg/g. The catalyst composition has high activity, selectivity, stability, and impurity resistance when used in the reaction for preparing an alkyl aromatic hydrocarbon by the alkylation of the aromatic hydrocarbon and the olefin.

FIG. 1