

TRANSALKYLATION OF HEAVY AROMATIC HYDROCARBON FEEDSTOCKS

ABSTRACT

In a process for producing xylene by transalkylation of a C₉+ aromatic hydrocarbon feedstock with a C₆ and/or C₇ aromatic hydrocarbon, the C₉+ aromatic hydrocarbon feedstock, at least one C₆ and/or C₇ aromatic hydrocarbon and hydrogen are contacted with a first catalyst comprising (i) a first molecular sieve having a Constraint Index in the range of about 3 to about 12 and (ii) at least first and second different metals or compounds thereof of Groups 6 to 12 of the Periodic Table of the Elements. Contacting with the first catalyst is conducted under conditions effective to dealkylate aromatic hydrocarbons in the feedstock containing C₂+ alkyl groups and to saturate C₂+ olefins formed so as to produce a first effluent. At least a portion of the first effluent is then contacted with a second catalyst comprising a second molecular sieve having a Constraint Index less than 3 under conditions effective to transalkylate C₉+ aromatic hydrocarbons with said at least one C₆-C₇ aromatic hydrocarbon to form a second effluent comprising xylene.

(No Figure to accompany abstract)