

ALKYLATION PROCESS FOR INCREASED CONVERSION AND REDUCED CATALYST USE

Abstract

The invention relates to a process for the production of alkylated aromatic compounds comprising introducing olefin and aromatic compounds into at least first and second vertically spaced catalytic reaction zones in an alkylation unit under alkylation reaction conditions to provide an alkylated product, wherein the second catalytic reaction zone is positioned above the first catalytic reaction zone; wherein aromatic compound from each of the at least first and second catalytic reaction zones are contacted with a cooling means for re-condensing at least a portion of the aromatic compounds vaporized from the exothermic heat of reaction of the alkylation process; and wherein the olefin is introduced into the at least first and second catalytic reaction zones via respective first and second olefin feed streams at respective olefin feed rates such as to maintain olefin partial pressures at inlets to at least first and second catalytic reaction zones which vary by less than about ten percent. The invention additionally relates to an apparatus for practicing the alkylation process of the invention.

Figure: 1