

Abstract

The present disclosure relates to a catalytic cracking process comprising the following steps: i) subjecting a heavy feedstock oil to a catalytic cracking reaction to obtain a catalytic cracking reaction product; ii) separating the catalytic cracking reaction product to obtain a catalytic cracking gasoline and a catalytic cracking light cycle oil; iii) splitting the catalytic cracking gasoline to obtain a light gasoline fraction, a medium gasoline fraction and a heavy gasoline fraction; iv) subjecting the catalytic cracking light cycle oil to hydrogenation to obtain a hydrogenated light cycle oil); v) mixing a portion of the light gasoline fraction with at least a portion of the hydrogenated light cycle oil to obtain a mixed fraction; vi) subjecting the mixed fraction to a catalytic cracking reaction; and vii) subjecting a portion of the medium gasoline fraction to a catalytic cracking reaction. The process of the present application is capable of producing more catalytic cracking gasoline, reducing the olefin content of the catalytic cracking gasoline, and increasing its octane number.

Fig. 1