

Abstract

The present disclosure relates to a process for producing catalytic cracking gasoline comprising the following steps: i) subjecting a heavy feedstock oil to a catalytic cracking reaction in the presence of a first catalytic cracking catalyst to obtain a first reaction product; ii) subjecting a hydrogenated cycle oil to a catalytic cracking reaction in the presence of a second catalytic cracking catalyst to obtain a second reaction product; iii) separating a mixture of the first reaction product and the second reaction product to obtain a catalytic cracking gasoline and a catalytic cracking light cycle oil; iv) subjecting the catalytic cracking light cycle oil or a fraction thereof to hydrogenation to obtain a hydrogenated product; and v) recycling the hydrogenated product to the step ii) as the hydrogenated cycle oil. The present disclosure also relates to a catalytic cracking system for carrying out the process. The process and system according to the present application are capable of providing optimized reaction conditions for the hydrogenated cycle oil and the heavy feedstock oil, thereby providing a high yield of high-octane gasoline.

Fig. 1