

Catalytic conversion of bio-mass derived ethanol into hydrocarbon blend-stock with low benzene content

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Technology Summary

We have recently demonstrated that bio-mass derived ethanol and other alcohols can be converted to hydrocarbon blend-stock over a zeolite catalyst. The fractional collection allows us to separate the blend-stock into pools for mixing with gasoline, diesel, or jet-fuel. The blend-stock pool for gasoline is low-boiling and contains ~5.0% benzene. Since EPA limits benzene to 0.62%. In order to meet regulatory requirements across various countries it is necessary to produce hydrocarbon blend-stock for mixing with petroleum derived gasoline, diesel, and jet fuel. The disclosed invention reduces and eliminates benzene in the bio-alcohol derived blend-stock making it compliant with regulatory requirements of benzene in fuel.

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