

Különböző eredetű trigliceridek motorhajtóanyag célú hidrogénezésének vizsgálata

Investigation of motor fuel purpose hydrogenation of different triglyceride sources

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Summary

The European Union created the 2003/30/EC and later the 2009/28/EC directives to encourage the blending of bio components in the motor fuels. Nowadays the second generation or new generation bio fuels researching, improving and market introduction are facilitated. The main reason of this is the demand for better quality and wide raw material basis. All this above-mentioned things make it reasonable to investigate lower cost feedstock or researching of more efficiently processable or raw material basis. For example these special modified hybrids can be rapeseed oil with high erucic acid content (*Bassica Napus*), rapeseed oil with high oleic acid (*Pioneer Hi-Berd 45A37*), or sunflower oil with high oleic acid (*Saaten Union Capella*). These raw materials can be converted to motor fuels by heterogenic catalytic hydrogenation, thus we can produce outstanding gasoil blending components. Further advantages are that the motor fuel purpose crop products can not meet the human health aspects hence genetically modified breeds can be applicable, therefore these raw materials do not endanger the security of food supplement. Hence the aim of our research activities was to produce bio gas oil from properly prepared oil with various fatty acid composition vegetable oil. We made the experiment on commercial available aluminium-oxide supported Co/Mo. The applied process parameters were based on our earlier research: temperature: 300 – 380°C, pressure: 20 – 80 bar, liquid hourly space velocity: 0.5 – 3.0 h⁻¹, H₂/triglycerides ratio: 600 Nm³/m³. During the conversion of high oleic acid vegetable oils while applying the favourable process parameter combination the yield was higher and the hydrogen consumption was unequivocally lower.
