Research into Fraction Composition of Bio Fuel Produced by Bioconversion of Renewable Vegetable Feed

S.I. Dvoretsky, S.A. Nagornov, S.V. Romantsova, I.A. Ryazantseva, V.P. Tarov

Tambov State Technical University, Tambov; All-Russian Research and Engineering Institute of Machinery and Oil Products Use, Tambov

Key words and phrases: bio fuel; IR spectrum; evaporability; vegetable feed; fraction composition.

Abstract: The fraction composition of bio fuel produced from vegetable oil is studied by techniques of distillation, IR spectroscopy and gas-phase chromatography.

It is shown that bio fuel possesses heavier fraction composition than oil diesel fuel; it leads to increase in its flash point and as a result to reduction in fire risk in storage and transportation compared to oil diesel fuel.

It is found out, that in the course of distillation bio fuel exposes to thermal decomposition thus producing carboxylic acids and unsaturated compounds with smaller molecular weight; it can possibly cause increase in corrosive aggression of bio-fuel.