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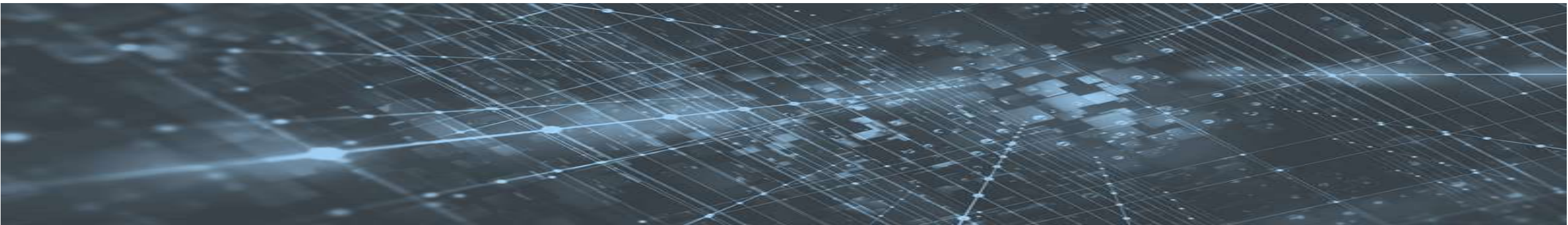
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« Studying of properties of low-viscous fuel oil for the purpose of its
utilization »

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Problem statement

- Problems of utilization of low-viscous fuel oil
- Definition of technical characteristics of fuel low-viscous "inveterate" oil of M100 brand for the subsequent its utilization



Solution methods

- Physical and chemical properties of the analyzed low-viscous "inveterate" fuel oil of M100 brand according to which, indicators do not exceed standard values in such parameters are given in table 1 as ash-content (which excess leads to decrease in its thermolysis at combustion therefore fuel consumption increases, necessary for burning, the extent of environmental pollution which is also contained in fuel oil ashes thereby increases, in addition, hammers nozzles of coppers, considerably reducing their service life), a mass fraction of mechanical impurity, a mass fraction of sulfur, and also flash temperature in an open crucible. In a type of the increased density of the studied sample, determination of kinematic viscosity is not possible. Temperature of hardening is equal to standard value Results a research of reaction of etherification of phthalic anhydride with VRBA with use as the catalyst of tetrabutyltitanate (TBOT) and stearate of zinc are given in this work



Solution methods

- By results of a research fuel oil after processing corresponds to state standard specification 10585-2013 "Fuel oil. Fuel oil" on all indicators for M100 brand fuel oil that will allow to use it as secondary fuel. It should be noted that water content in fuel oil decreased by 58,5 %, the kinematic viscosity was 38 mm²/ s



Conclusions

Results, implementation

- The carried-out analysis of physical and chemical properties of fuel "inveterate" oil of M100 brand does not correspond to state standard specification 10585-2013 "Fuel oil. Fuel oil"
- in order to avoid additional load of the environment, it is necessary to reduce sulfur content to the minimum value (no more than 1%), it not only will improve ecological characteristics of fuel, but also will lead to decrease in viscosity and density of fuel oil that is result of action of structure-forming properties of sulphurous connections in hydrocarbon mixes

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