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Range, structure and quality of oils delivered to Russian oil refineries

Keywords: quality of oil, content of sulphur and light fractions, density, correlation, dependence, condensate, selection, potential, expenses, prime cost.

Abstract. Natural quality of oil according to the content of sulphur and light fractions (boiling lower than 350°C and determined by oil density) essentially influences the economy of its processing. The fullest output of light fractions from the potential within primary distillation at the ADU and AVDU provides decrease in specific operational expenses at further oil refining and therefore prime cost of the oil products developed. The All-Russian Scientific-Research Institute for Petroleum Processing JSC since 1993 annually collects information comprising the following indicators: delivered individual or mixed oils names, scope of oil supply (thousand tons), sulphur content in oil (percent by mass), density of oil (kg/m³), potential light fractions content boiling lower than 350 and 360°C (percent by mass), actual light cuts yield on the ADU and AVDU units (up to diesel fuel inclusive, percent to oil), terms of delivery (pipeline and railway transport) and oil refining (in mix or separately). On the basis of generalisation and analysis of the initial information obtained from oil refineries during 2008-2014 it seemed to be helpful to draw conclusions presented in this article.

All-Russia Research Institute of oil Refining JQC

**PETROLEUM PRODUCTS:
TECHNOLOGY, INNOVATION, MARKET**

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Improvement of gasoline separation schemes into narrow fractions

Keywords: gasoline separation schemes, atmospheric column, heat input by hot jet

Abstract. Analysis of feedstock separation scheme in three columns, that differs from the scheme with fully connected streams by excepting the steam backflow from the third column feed zone and the liquid coming from the second column to the first one, is carried out. The side stream from rectifying section and the residue from the first column are fed into the feed zone of the second and third columns, respectively; the second column distillate is returned for the first column refluxing. Fractions IBP-60°C are outputted from the top of the first column, and fractions 60-105°C and 105°C EBP - from the bottom of the second and third columns, respectively, connected by oppositely directed streams of vapor and liquid.

Calculation analysis showed that in comparison with the gasoline separation scheme in three columns with their series-parallel connection, the proposed scheme can reduce the heat input by the hot jet on 23%, the heat output in the condensers on 17%. In this case the impurities content in the separation products has reduced 1.2-2.2 times.

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Urgent problems of development of viscous lubrications for perspective instrumental aircraft space technology

Keywords: viscous lubrications, thermooxidative stability, high temperature lubricant, cranking properties, research equipment, list of obligatory specifications and stands, compulsory testing conditions.

Abstract. Creating of lubricating materials for new technique requires the development of research to find new liquids, thickening agents, lubes and improvement the composition of viscous lubrications in order to increase their operational life at high load, speed, temperature. Suggestions for the development of methods for investigation the composition and properties are presented. The ways to improve the quality of commercial products and the necessity to regulate the tests are discussed. The importance of the problem of formation the national sustainable range of viscous lubrications and dopes is emphasized.

All-Russia Research Institute of oil Refining JQC

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The influence of chemical structure of esters of the vicinal dicarboxylic acids on protective properties of conservation liquids

Keywords: anhydride of vicinal dicarboxylic acids, monoesters, diesters, symmetrical esters, corrosion, inhibitor, conservation liquid.

Abstract. One of the effective remedies of protection of technique against atmospheric corrosion is use of conservation liquids. The implementation of anticorrosive protection during storage and transportation is called conservation. To increase the protective effect of conservation liquids, introduce into their composition oil-soluble rust inhibitors belonging to different classes of compounds.

On the basis of anhydrides of vicinal dicarboxylic acids (VDA) both aliphatic (heptanol-1) and aromatic alcohols (benzalcohol) have been synthesized mono - and diesters and studied their physical and chemical and viscosity-temperature properties. On the basis of mono - and VDA diesters and a mineral oil of T-30 compositions were prepared and investigated as conservation liquids. Results of the conducted studies show that the structure and amount of the inhibitor influences to the protective capacity of turbine oil against corrosion. It is established that the offered conservation liquids surpass the industrial samples in the protective properties.

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QUALITY: DOCUMENTS and COMMENTS

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Diesel and middle-distillate fuels. Deviations from the requirements of standards

Keywords: diesel, marine low-viscosity, furnace household fuels, middle-distillates, standards, fuel quality, fractional composite, excise rate, counterfeit products.

Abstract. The increase of excise taxes for diesel fuel and stringent requirements TR TS 013/2011 created the economic basis for use furnace and marine low-viscosity fuels in diesel. Manufacturers quickly responded to the taxation policy. Not surprising, that furnace household and marine low-viscosity fuels, being non-excise products have been actively sold by gas stations. In 2014, the production of furnace household fuels decreased by 8 times, compared with 2013, at the same time production of marine low-viscosity fuels increased by 1,5 times. To exclude such a provision from 01.01.2016 took place changes to the art. 181 of the Tax Code with the definition of excisable goods "middle-distillates".

Taking into account the appearance of large number of counterfeit products at the market, VNII NP JSC created the system of provision information to the consumers on the fuels, approved to use, including containing additives for various applications.

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MATERIALS of the PETROCHEMICAL and REFINERS ASSOCIATION

Extracts of the protocol #129 of ANN board meeting of 12.05.2016