

We have performed X-Ray analysis to investigate the structure of the synthesized salt (Figure 1):

Factly, we shown for the first time double coordination 2 molecules of iodonium salts with

sulfate-anion instead of hydrosulfate. Also, it was proved, that the salts indeed have cyclic structure.

Acknowledgements

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IDENTIFICATION OF THE REGULARITIES OF THE CETANE INFLUENCE ON THE EFFECTIVENESS OF THE DEPRESSANT ADDITIVE

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The effectiveness of the depressant additives most strongly depends on the hydrocarbon composition of diesel fuel (DF), which is associated with the specific mechanism of interaction depressants with hydrocarbons.

A change in the fractional composition of DF can have a positive and a negative effect on the effectiveness of the depressant additive. It was previously found that with an increase in the proportion of light fractions and the total content of n-paraffins, the effectiveness of the action of depressants decreases [1, 2].

For identification of the regularities of the light n-paraffins effect on the effectiveness of the depressant action, blends of two DF samples (DF 1 and DF 2) with additives (Ad) and similar blends with the addition of cetane and a depressant were prepared, the concentration of cetane in the blends was 1, 3, 5 and 10 % vol. Cetane was chosen as a typical representative of light n-paraffins that make up diesel fuel.

According to the requirements of [3], the cloud point (CP), the pour point (PP), and the cold filter plugging point (CFPP) for all prepared blends were determined.

The change in low-temperature properties when adding different concentrations of cetane to a blend of DF samples with an additive is shown in Figures 1–2.

Based on the results presented in Figures 1–2, it can be seen that the addition of cetane to blends of DF samples with an additive reduces the effectiveness of the additive on CFPP and PP. In regard to CP, the addition of cetane does not have a significant effect on the action of the additive (the changes obtained are within the error of method). The greatest negative effect (increase in temperature by 15 °C) is observed in relation to PP of sample DF 2 with the addition of 5 % vol. cetane. It can also be seen that with an increase in the content of cetane in the blend with the sample DF 1, the negative effect is increase.

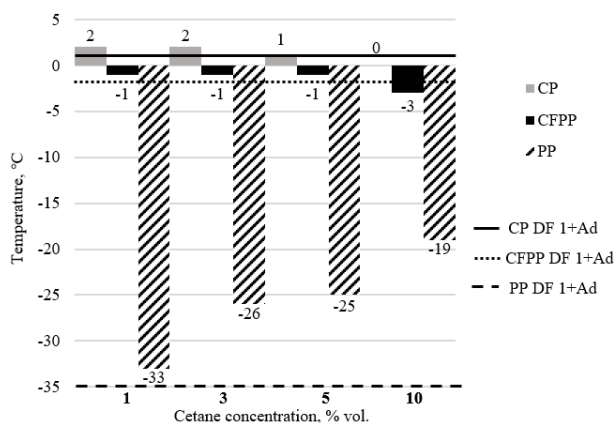


Fig. 1. Change in low-temperature properties for sample DF 1

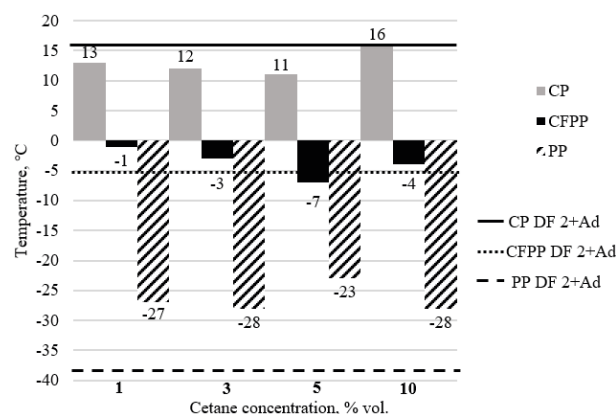


Fig. 2. Change in low-temperature properties for sample DF 2

The obtained results allow us to conclude that light n-paraffins in the composition of diesel fuel

(on the example of cetane) has an negative effect on the efficiency of depressants.

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ECOLOGICAL STATE OF TECHNOGENEOUS SALINE SOIL OF OIL-CONTAMINATED ALLUVIAL ECOSYSTEMS AND THEIR REMEDIATION TECHNIQUES

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The Western Siberian supraqual landscapes are the end point of organic pollutants accumulation, where the intense technogenic stream flow of petroleum hydrocarbons typical for oil pipeline accidents produces maximum impact to soil landscape [1–7], which indirectly affects the state of the hydrological network. Therefore, this study is focused on identification of specifics of halogeochemical phenomena in alluvial ecosystems of Western Siberia under circumstances of soil local contamination with oil and petroleum products, and selection of the most effective salinized soil remediation technique.

Actual data originate from field studies and laboratory tests fulfilled by this article authors in

Aleksandrovsky and Kargasoksky districts of the Tomsk Region, and in Nizhnevartovsk District of the Khanty-Mansi Autonomous Okrug – Yugra. To reveal soil morphological transformations, a routing method was applied with subsequent comparative/geographic and profile/genetic analysis of reference and contaminated soil. The trends of radial and lateral salts and oil distribution were revealed with the help of reference sections (2 full-scale sections) and trenching (26 samples) in different technogenic impact zones. Acidic reaction (aqueous extract pH), as well as analytical studies of readily soluble salts content and composition were fulfilled as per na-