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TRANSLATION

PETROLEUM SPECIALIST (SELECTED ARTICLES)

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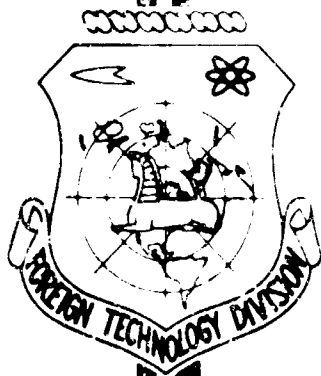
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PETROLEUM SPECIALIST (SELECTED ARTICLES)

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ADDITIVE TO HEAVY HIGHLY SULFUROUS ENGINE FUELS

By

T. Skichko

Exploitation of heavy duty Diesels on engine fuel with high content of sulfur speeds up the wear of engine components, especially its piston group and fuel apparatus. This is explained by the fact that during the use of sulfurous types of petroleum fuels in engines, in addition to ordinary wear of friction surfaces of components, they are subjected to corrosion effect of the sulfurous compounds, contained in the fuel and in products of its combustion. N. Butkov, Ye. Kazmina, V. Nikolayeva, P. Botkin, V. Somov, P. Ivanov, P. Sukhorukov, and V. Byelov have applied for a patent No. 119290 for an additive to heavy highly sulfurous engine fuels, assuring a reduction in wear of engine components, more thorough combustion of the fuel with reduction in scale formation in the combustion chamber, much broader application of sulfurous engine fuels in Diesels.

In the role of additive base is used purified sulfuric acid and deparaffinated heavy gas oil of catalytic cracking, with a boiling point of 280-400°, with the addition of organic compounds of barium, phosphorus, copper and nitrogen in the amount of up to 0.23% of barium, 0.7% phosphorus, 0.45% copper and 0.2% nitrogen to the additive.

In role of organic metallic compounds can be used bariumalkyldithiophosphate, barium alkylphenolate, barium naphthenate, alkyldithiophosphate, tricresylphosphate, nitrobenzol and cupric naphthenate.

The proposed additive is added to heavy sulfurous engine fuels in the amount of 0.2 - 0.5%.

ANTICORROSION ADDITIVE TO LUBRICANTS

By

T. Skichko

In the role of anticorrosion additive to consistent lubs can be used a benzoate buffer in the form of sodium benzoate. But this additive has a strong alkaline reaction, in connection with which it is unsuitable for copper, aluminum, zinc, and other metal objects.

R. Arunov and V. Balannik obtained a patent for a method of preparing an anticorrosion additive to consistent lubs on the base of sodium benzoate. According to this method in the role of anticorrosion additive is used an aqueous solution of a sodium benzoate mixture with benzoic acid, having $pH = 7$, which with consistent lub forms an emulsion, protecting against corrosion not only ferrous but also non-ferrous metals.

The additive is introduced into consistent lubs in the amount of 0.2% per weight. Testing of consistent lub samples with new additive at the lab of the Elektrosila plant (city of Leningrad) under conditions of higher temperatures and humidity gave positive results.

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