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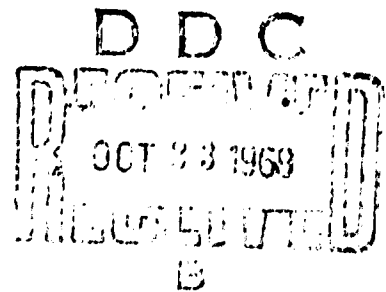
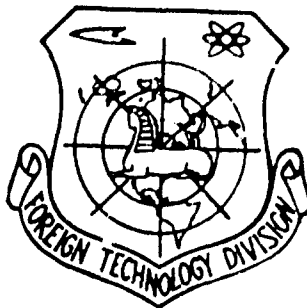
FOREIGN TECHNOLOGY DIVISION



METHOD FOR INCREASING THE ANTICORROSION PROPERTIES
OF LIQUID LUBRICANT COOLANTS

by

Ye. N. Polulyakhov, V. P. Barannik, and N. K. Zagoruyko



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EDITED TRANSLATION

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ABSTRACT

(U) An Author Certificate has been issued for a method for increasing the anticorrosive properties of liquid lubricant coolants made from colloidal solution of salts of organic acids in mineral oil by introducing an additive. It is suggested that sizing soap containing 25 percent salt of fatty acid, 1--2 percent soda ash and alkali, 1 percent dicarboxylic acid, 3 percent unsaponified hydrocarbons, and 70 percent water be used as the additive. The sizing soap should be added in amounts ranging from 1 to 1.5 percent calculated for dry substance.

METHOD FOR INCREASING THE ANTICORROSION PROPERTIES
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Ye. N. Polulyakhov, V. P. Barannik, and N. K. Zagoruyko

The method of increasing the anticorrosion properties of lubricating-cooling fluids based on a colloidal solution of salts of organic acids in mineral oil by introducing soda ash is known.

However, the effectiveness of soda ash as an anticorrosion additive is inadequate.

The proposed method of increasing the quality of the emulsion imparts to the latter high anticorrosion properties while retaining its nontoxic quality and significantly increasing its cooling capacity (due to a reduction in the coefficient of friction).

The essence of the method is as follows: In the process of manufacturing the emulsion from the self-emulsifying oils E-1 (A), E-3 (B), etc., 1-1.5% (on the dry substance) of sizing soap is introduced. The sizing soap is a semiproduct of the process of oxidation of paraffin.

The sizing soap is readily available and nontoxic. It consists of sodium salts of synthetic fatty acids with carbon atom contents from C_5 to C_{30} and higher and has the following composition (%):

salts of fatty acids	about 25
water	about 70
soda and alkalis	1-2

dicarboxylic acids	about 1
nonsaponified hydrocarbons	about 3
traces of low-molecular acids (C_1-C_4)	

The emulsion with the sizing soap additive reduces the friction coefficient by 1.5 times, improves the heat exchange, has a high anticorrosion effect with respect to ferrous and nonferrous metals, and is completely nontoxic.

Object of the Invention

1. The method of increasing the anticorrosion properties of liquid lubricant coolants based on a colloidal solution of salts of organic acids in mineral oil by the introduction of additives is distinguished by the fact that the additive used is sizing soap, containing (percent): salts of fatty acids ~25, soda ash and alkali ~1.2, dicarboxylic acids ~1, nonsaponified hydrocarbons ~3, and water ~70.

2. The method in paragraph 1 is further distinguished by the fact that the sizing soap is introduced as 1-1.5%, calculated on the dry substance.