SEAE 53P INHIBITION OF CORROSION OF STEELS IN WATER TRIHYDRATE $NiCl_2 \cdot Dig \cdot 3H_2O$

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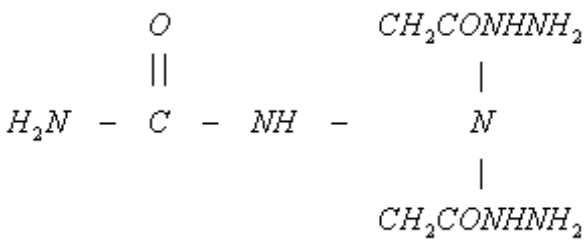
It are known, that the natural or process water, which contain activating chloride - or sulfate ions, are aggressive enough medium in which corrosion of a steel proceeded with enough fair speed. As inhibitor of corrosion in some cases used the $H_2N\text{-}NH_2$ hydrazine which action are based on bound of oxygen, dissolved in water, and, thereby, on reduction of corrosion activity of water:

$$N_2H_4 + O_2 \rightarrow 2H_2O + N_2.$$

However this inhibitor possessed essential disadvantages. First, influence of hydrazine apparently or at high enough temperature, or at padding introduction of fixed catalysts, for example, salts of a cobaltous, copper or manganese. Secondly, it are poisonous, and to work with it it are necessary very carefully. All it strongly complicated exploitation of aqueous loop systems.

For increase corrosion resistance of loop systems of steel pipelines the carrier agent in which are water, was utilized chloride - (digidrazidsemikarbazid of diacetic acid Ni (II)) $NiCl_2 \cdot Dig \cdot 3H_2O$ trihydrate, where by Dig - digidrazidsemikarbazid of diacetic acid:



By gravimetric, electrochemical and physical (UF- and infrared spectroscopy, X-ray analysis, optical microscopy) methods was studied corrosion of steels in tap water at inhibition. It was shown, that the greatest effect are attain at use of inhibitor in quantitative of 0,05-0,75 g/l. It visible, that at concentration of inhibitor of 0,05 g/l corrosion losses decreased at a stand-up 72 hours to 4,6 times, at concentration of 0,25 g/l - to 5,7 times (at the same duration of tests). The lower limit of its concentration are 0,05 g/l as at the smaller content of inhibitor it introduction on medium slightly reduced corrosion losses. An upper bound - 0,75 g/l as with the further increase in concentration corrosion losses changed slightly, but grown expenses for inhibitor.

The mechanism of effect of inhibitor is offer and influence on formation integumentary layers on steel in the process of corrosion is show it.