

## DEVELOPMENT OF EFFECTIVE COMPOSITIONS AND TECHNOLOGIES FOR OBTAINING ANTICORROSIVE COMPOSITE INHIBITORY MATERIALS AND COATINGS BASED ON THEM

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### ANNOTATION

This article presents the results of experimental work in the field of research and the development of anti-corrosion inhibiting materials based on selected organinery ingredients from local raw materials and waste of industries and coatings.

**Keywords:** development, effective composition, technology, production, anti-corrosion composite inhibitory materials, coatings

### INTODUCTION

The best corrosion inhibitors of the medium of the obtained inhibitors have a monoethanolamine obtained. This is due to all likelihoods associated with the ratio of amide and hydroxyl groups included in the structure of corrosion inhibitors.

To obtain anticorrosive composite inhibitory materials, various ratios of aminopirts and humans are used. 1: 2, 1: 4, 1:10. We investigated the dependence of the degree of protection against the concentration of inhibitors.

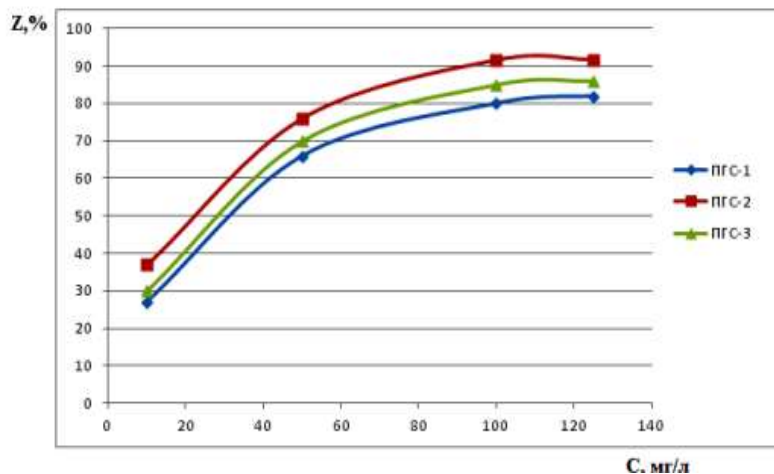
Experiments have shown that inhibitory properties obtained with monoethanolamine is much higher than others. This, in turn, depends on the ratio of amide and hydroxyl groups constituting the corrosion inhibitor.

At first heated the stateship resin at a temperature of 90-100 0s and amidized with an aqueous solution of ammonia was added with the calculated amount of monoethanolamine. Well stirred 30-40 minutes.

It turned out a homogeneous mass, and diluted with gas condensate to the desired viscosity and stirred for 20-30 minutes.

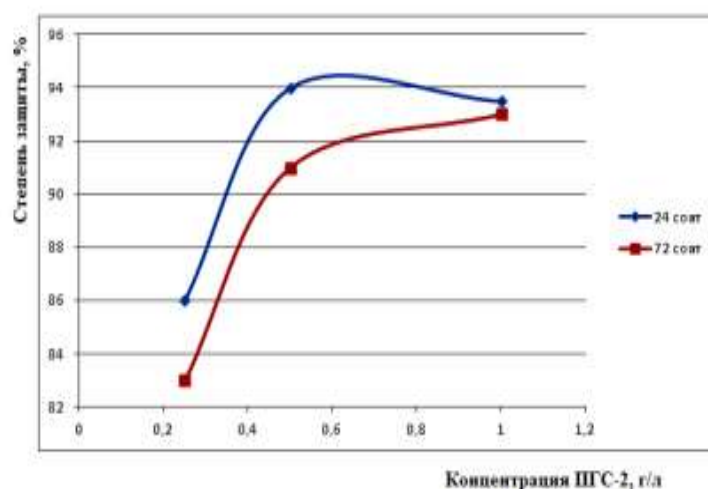
The resulting composition was studied as a corrosion inhibitor of gas-condensate and aqueous media in accordance with GOST 9.506 by the gravimetric method of metal plates of steel grades of 40x20x2 mm at various concentrations and found the optimal ratio of components for the further development of corrosion inhibitor.

The most effective degree of metal protection against corrosion showed the composition 1: 4, conditionally named PGS-2



The effect of the ratio of components of the GS: MEA and the concentration of inhibitors to the degree of protection of metal brand "D"

The results of laboratory tests on the corrosion-resistance of the developed anti-corrosion inhibitory composite materials of the PGS-2 brand at T=20-25 ° C on the steel of the brand "D" in the gas condensate medium: water (1: 1) are shown in Table 4 and 5. Laboratory studies shows that Inhibitor concentrations 0.5 g / l duration 24-72 h Degree of protection is 91-94%. To assess the effect of the concentration of hydrogen sulfide on the protective properties of the study were carried out in the gas condensate medium. As can be seen from the data of the table at the concentration of hydrogen sulfide 0.5-2.0 g / l under normal conditions, a certain synergism is observed, a further increase in the concentration of hydrogen sulfide in the medium reduces the degree of protection of the inhibitor, the concentration of hydrogen sulfide 1 g / l The degree of protection is 97.7%, And in carbon dioxide 82%. For the creation of an anti-corrosion coating, state-festing resin with various sequivats, plasticizers and depol motors are also used. Syccats - metal oxides - cobalt, calcium, zinc, aluminum. More than 20 compositions in various ratios of the components used are tested, according to the results of the experimental data, the most effective sequiva is zinc oxide.



The effect of the concentration of PGS-2 on protective properties from exposure time  
Figure 2 shows the dependence of the degree of protection of the developed anti-corrosion inhibitory material of PGS-2 from the concentration of exposure time. As can be seen from the

graph that at a concentration of an inhibitor of 0.5 g / l, protection duration 24-72 hours, the degree of protection is 91-94%. To evaluate the dependence of the concentration of hydrogen sulfide on the degree of protection, we conducted an experiment in the gas environment. Based on the results obtained, it was established that the composition of CRPS-2 corrosion inhibitor obtained at a concentration of 0.5-1 g / l effectively revealed a protective effect on the metal well equipment and the degree of protection against aggressive media is 82-97%. To protect against corrosion of the inner surface of tanks, tanks, containers and pipelines, only certain types of coatings can be used. According to the existing classification, such coatings refer to the group of benzines. The coatings developed by us on the basis of HS with a sequestrant filled with various fillers belong to this group. They provide anti-corrosive protection of the metal due to long-term conservation conditions with sufficiently high adhesion that impedes the adsorption of the medium on the metal surface and reducing its reactivity.

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