

AP COMPLEX

CORROSION INHIBITORS SERIES «UNIKOR-3»

Technical conditions 20.5-37717908-005:2022



APPOINTMENT:

- ❖ for the protection of underground and surface equipment of oil and gas production wells, installations and pipelines from atmospheric, oxygen, carbon dioxide, hydrogen sulfide and general acid corrosion
- ❖ have increased lubricating properties and are used as additives to mineral lubricants in simple units

PRINCIPLE OF ACTION:

- ❖ form a protective film on the walls of the equipment that prevents corrosion
- ❖ act as absorbers of acidic components of well products

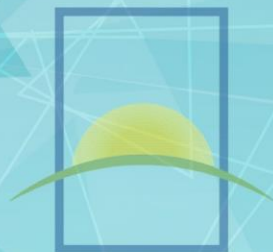
SCOPE OF APPLICATION:

- ❖ closed cycle systems at oil and gas sector production and processing facilities (oil and gas installations, production wells, pipelines, transportation systems, liquid hydrocarbon storage systems, formation and wastewater disposal systems, etc.

CHARACTERISTICS OF THE LINE OF ANTI-CORROSION PRODUCTS

Name of the inhibitor	Composition	Type of corrosion	Solubility				Z, %, not less*
			hydrocarbons	aromatic hydrocarbons	alcohols	water	
Unicor-3.01 and 3.02	Solution of anti-corrosion additives and surfactants of ionic and non-ionic types in alcohols	O ₂ , CO ₂ , H ₂ S	-	-	+	+	80,0
Unicor - 3.03, 3.04 and 3.05	Mixture of complex amines, fatty acids and surfactants in combination with solvents of organic origin	O ₂ , CO ₂ , H ₂ S	+	+	+	-	90,0
Unicor - 3.06	Acid corrosion inhibitor, fatty amines	Water solutions HCl	-	-	+	+	80,0
Unicor - 3.07 and 3.08	Solution of a mixture of fatty amino acids and surfactants in organic solvents	O ₂ , CO ₂ , atmospheric	+	+	-	-	90,0

* Efficiency tests were carried out in accordance with GOST 9.506-87, and in accordance with the standards and requirements for the aggressive environment from the profile mining enterprises of Ukraine



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PRODUCT EFFECTIVENESS IN DIFFERENT MODEL ENVIRONMENTS

Type of corrosion	Model environment	C, ppm	T _{environment} , °C	t _{expos.} , h	The method of inhibition	Electro-chem. method* Z, %	Grav. method** Z, %
O ₂ , CO ₂	Water 75% + 30 mg/l NaCl + CH ₃ COOH (up to pH=4,0) + Diesel 25%	150	+60	6	injection	Not lower than 96,0	Not lower than 90,0
O ₂ , CO ₂ , H ₂ S	Water 75% (3% NaCl + HCl (up to pH 3,5÷4) + 2 g/l H ₂ S) + Diesel 25% H ₂ S gas was obtained from by FeS and HCl reaction: FeS+2HCl=FeCl ₂ ↓+H ₂ S↑	150	+60	6	injection	Not lower than 98,0	Not lower than 90,0
Water solutions HCl	15% water solution HCl	1000	+60	6	injection	Not lower than 85,0	Not lower than 80,0

* Electrochemical studies were carried out using a corrosimeter with bimetallic electrodes

**Gravimetric studies were carried out in a hermetic glass autoclave at a temperature of +60°C, with constant stirring on a magnetic stirrer. The samples are immersed in the corrosion solution in proportion to the content of the model medium so that ¼ of the sample is in the hydrocarbon phase, and ¾ is in the electrolyte for 6 hours

FOAM CHARACTERISTICS*

C, ppm	V of foam, ml	Tendency to foaming
Without inhibitor	120	Low
200	110	Low
500	100	Low
1000	100	Low
2000	100	Low

* * Testing was carried out on a 25% solution of DEA in water. The initial test volume of liquid, which was taken as "0" - 100 ml.

EMULSIFYING ABILITY

The emulsifying ability in the water-hydrocarbon system is 1:1, with an inhibitor concentration of 2000 ppm - low. Emulsion separation time - not more than 10 min.