



AP COMPLEX

FOAM FORMERS SERIES «UNIKOR-10»

Technical conditions 20.4-37717908-006:2023



APPOINTMENT:

- ❖ for carrying out activities and works on complete cleaning and restoration of filtration properties of the near-bottom zone of the formation due to foaming of highly mineralized water-gas-condensate mixtures
- ❖ for the processes of construction, operation and repair of wells, extraction and transportation of oil and gas
- ❖ as components of process fluids and special mixtures in oil production

PRINCIPLE OF ACTION:

- ❖ a micellar layer is formed on the surface of liquid molecules, which allows to improve the rheological properties of formation liquids, reduce the interfacial surface tension and improve their removal to the surface

SCOPE OF APPLICATION:

- ❖ closed cycle systems at oil and gas production and processing facilities (oil and gas installations, production wells, pipelines, transportation systems, etc.).

CHARACTERISTICS OF THE LINE OF PRODUCTS

| Name of the product | Composition | Active base, % | Solubility | | | | Working concentration, % |
|------------------------|--------------------------------------------------------------------------------------------------------|----------------|--------------|-----------------------|----------|-------|--------------------------|
| | | | hydrocarbons | aromatic hydrocarbons | alcohols | water | |
| Unikor-10 A100 | Mixture of target, stabilizing and strengthening surfactants with thickeners and hardeners | 30-50 | - | - | + | + | 0,1-0,5 |
| Unikor -10 A200 | Solution of a mixture of target, stabilizing and strengthening surfactants in solvents | 40-50 | - | - | + | + | 0,025-0,2 |
| Unikor-10 A300 | Solution of a mixture of target, stabilizing and strengthening surfactants in solvents | 10-30 | - | - | + | + | 0,1-0,3 |
| Unikor-10 K200 | Solution of a mixture of target, stabilizing and strengthening organic surfactants in organic solvents | 40-50 | + | + | + | - | 0,2-1,0 |



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INDICATORS OF THE VALUE OF SURFACE TENSION WHEN USING PRODUCTS OF THE LINE

| C, % | The studied surfactant, $\sigma \cdot 10^{-3}$, N/m | | | |
|-------|------------------------------------------------------|-----------------|-----------------|-------------------------|
| | Unicor-10 A100 | Unicor -10 A200 | Unicor -10 A300 | Unicor -10 K200 |
| | Medium- water | | | Medium - gas condensate |
| 0 | 71,8 | 71,8 | 71,8 | 71,8 |
| 0,025 | - | 28,31 | - | - |
| 0,05 | - | 27,3 | - | - |
| 0,1 | 26,8 | 26,4 | 28,22 | - |
| 0,2 | 26,8 | 26,3 | 27,4 | 27,21 |
| 0,3 | 26,24 | 26,08 | 26,3 | 26,11 |
| 0,5 | 26,8 | - | 26,28 | 26,07 |
| 1 | 26,24 | - | 26,14 | 26,04 |

TEST OF EMULSIFYING PROPERTIES IN THE «WATER-HYDROCARBONS» SYSTEM

| C, 1,0% | Name of the product | | | |
|------------------------------------|---------------------|-----------------|-----------------|-----------------|
| | Unicor-10 A100 | Unicor -10 A200 | Unicor -10 A300 | Unicor -10 K200 |
| Separation time, min, no more than | 20 | 10 | 30 | 2 |
| The nature of phase separation | full | full | full | full |

This series is presented in the form of surfactants of different nature (organic and inorganic) and different molecular mechanism (ionic and non-ionic) products.

Technological types of surfactants were used in the production of these products in various combinations. The recipes of the obtained reagents are a commercial secret and are the intellectual property of the manufacturing company.

The amount of active basis in the construction of the technical and economic model of the use of surfactants can be changed and balanced according to the wishes of the Customer