SNPH

DIVISION CHEMICALS FOR OIL WELL CONSTRUCTION

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SNPH JSC develops and implements chemical products for oil production processes and well construction

More than 220 types of chemical products and technologies have been developed and implemented by SNPH JSC.

All of them are approved for use in the oil and gas industry and are supported by regulatory and technical documentation. The quality management system of the organization is certified in accordance with the GOST 9001-2015 standard.

SNPH JSC can promptly supply the required amount of chemical products and equipment, conduct laboratory tests and field trials, and provide supervision during application.

Chemical solutions under the SNPH brand and their application technologies are successfully used at oil fields in Russia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan.

Our company supplies reagents to various oil companies, including the largest ones: NK Rosneft PJSC, Gazprom Neft PJSC, LUKOIL PJSC, PJSC Tatneft, JSC RITEK, PJSC RussNeft, Surgutneftegas JSC, Zarubezhneft JSC, Belorusneft PC, Transneft PJSC.


90 cities
7 countries
Russia
Belarus
Kazakhstan
Azerbaijan
Kyrgyzstan
Tajikistan
Uzbekistan

SNPH

FIRST IN OILFIELD CHEMISTRY

47
YEARS OF EXPERIENCE





>220
PRODUCTS

333
PATENTS AND COPYRIGHT CERTIFICATES

18 000 TONS
OF ANNUAL PRODUCTION VOLUME

Own production facility in Nizhnekamsk

520
SCIENTIFIC PUBLICATIONS

MAIN AREAS OF ACTIVITY



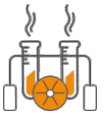
ENHANCED OIL RECOVERY AND WELL STIMULATION:REAGENTS AND TECHNOLOGIES



CHEMICAL REAGENTS FOR OIL PRODUCTION, TRANSPORTATION, AND TREATMENT



CHEMICAL REAGENTS FOR WELL CONSTRUCTION



CHEMICAL REAGENTS FOR OIL REFINERIES



SUPPLY OF INSTRUMENTS AND LABORATORY EQUIPMENT

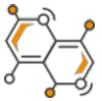


LABORATORY RESEARCH AND ENGINEERING SUPPORT SERVICES

THE ADVANTAGE OF WORKING WITH US – A COMPREHENSIVE APPROACH TO SOLVING TASKS



AUDIT, MONITORING, AND RESEARCH



PRODUCTION OF CHEMICAL PRODUCTS



DEVELOPMENT AT OUR OWN SCIENTIFIC CENTER



AUTHOR'S SUPERVISION AND TECHNICAL SERVICE



PILOT-INDUSTRIAL TESTING



COMPANY HISTORY

1970s

The entire oil industry of the Soviet Union relied on imported chemical reagents.

Threat of Import Ban

The Ministry of the Oil Industry of the USSR set the task of developing highly effective chemical products in the shortest possible time

February 24, 1978

By order of the Ministry of the Oil Industry of the USSR, a scientific and production association for the chemicalization of oil production processes – "Soyuznefteprom khim" – was established.

1 2 3

KEY AREAS OF ACTIVITY



01 Chemical reagents for well construction

02 Reagents for oil production, transportation, and processing

03 Chemical solutions for oil refining and petrochemistry

04 Reagents and technologies for enhanced oil recovery



CHEMICAL SOLUTIONS FOR WELL CONSTRUCTION

Over its nearly 50-year history, the institute has become a leading expert in chemical reagents for the oil and gas industry, and products under the SNPH brand have consistently demonstrated a high and stable level of performance.

Today, the institute's researchers face a new challenge — import substitution. Their work is essential in maintaining the competitiveness of our partners and clients.

In addition to an already extensive product range, this catalog features new, high-performance SNPH formulations that match the quality of foreign equivalents.

CLAY INHIBITORS

1

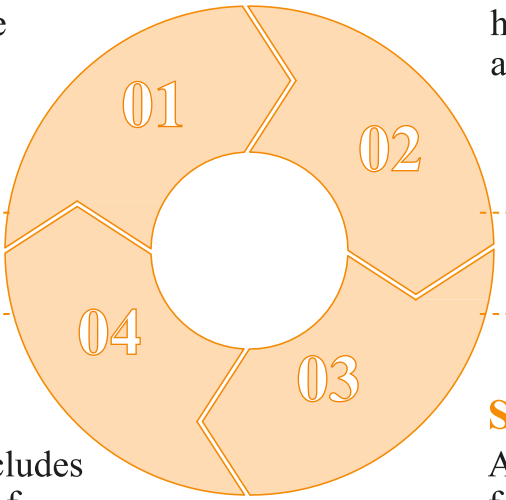
SNPH-PGI

Glycol-based inhibitor – reduces clay swelling and hydration by forming a protective layer

2

SNPH-ASF

Glycol-based inhibitor – reduces clay swelling and hydration by forming a protective layer



4

SNPH-IG

Complex action: includes a liquid dispersion of natural bitumen, which not only suppresses clay hydration but also improves the lubricating properties of the drilling fluid by forming an elastic filter cake.

3

SNPH-AMIN

A highly effective formula based on amines and glycols; stabilizes the borehole with minimal dosage.

SNPH

SNPH-PGI

Unique Composition

Developed on the basis of glycols with an optimized complex of active components, ensuring rapid and effective suppression of clay hydration

Mechanism of Action

Thanks to the combined use of glycols, an adsorptive layer is formed that effectively prevents clay hydration and swelling

Advantages:

- Stabilizes borehole walls and reduces the risk of sloughing and collapse
- The molecular structure of the reagent ensures uniform distribution in the drilling fluid

Laboratory tests

confirmed a reduction in swelling of PBUV tablets in fresh water-based drilling fluid by at least 35% within 48 hours, measured using a Linear Swell Meter.

SNPH-ASF

Multifunctional Additive

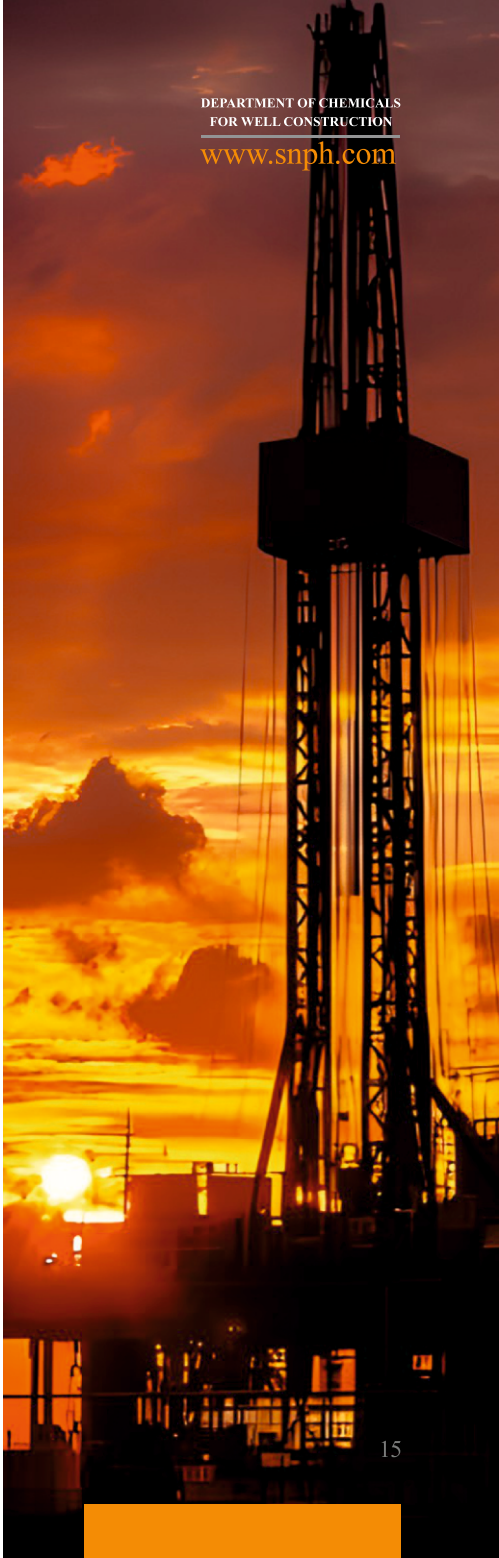
An asphaltene-based inhibitor that works through physicochemical interaction with porous materials, sealing micropores and fractures.This promotes the formation of a thin yet durable filter cake that remains stable under high temperature and pressure conditions.

Advantages:

- The use of this reagent significantly increases borehole wall stability, preventing collapses and reducing operational risks, even under high-temperature, high-pressure (HTHP) conditions

Laboratory Tests:

- Water solubility of at least 50%
- Reduction of fluid loss by up to 45% at high temperatures





SNPH-AMIN

Innovative Approach

A highly effective formula based on amines and glycols guarantees suppression of hydration processes through strong adsorptive interaction with the mineral surface, using minimal reagent consumption.

Advantages:

- Reduces dispersion of drilled cuttings, improving fluid cleaning, which leads to increased borehole stability and a reduced risk of seal formation.

Laboratory Tests:

Reduction of relative linear swelling of clay tablets by at least 40% with the addition of 1% reagent sample.

SNPH-IG Complex Inhibitor

Comprehensive Action

Containing a liquid dispersion of natural bitumen, it not only suppresses clay hydration but also improves the lubricating properties of the drilling fluid by forming an elastic filter cake.

Advantages

3-in-1	Hydration suppression + elastic filter cake + lubrication.

Effectiveness

Thanks to its comprehensive action, this is the only solution that simultaneously addresses several technological challenges, making your project as efficient and cost-effective as possible.





FILTRATION REDUCERS: CONTROL EVEN IN EXTREME CONDITIONS

Sodium Polyacrylate SNPH-PAN

Optimized for stabilizing the filter cake and reducing fluid loss.

Forms a strong filter cake regardless of the solid content, ensuring wellbore stability and minimizing fluid loss.

Polyanionic Cellulose SNPH-PAC

Available in low-viscosity (LV) and high- viscosity (HV) grades for fresh and saline fluids.

Thermo- and salt-resistant, resistant to bacterial degradation, creates a dense filter cake.

Modified Starch SNPH-PFK

An environmentally friendly product with high dissolution rate and biodegradability.

Provides fluid loss reduction under challenging conditions, combining effectiveness and safety



SODIUM POLYACRYLATE SNPH-PAN

Optimized Molecular Structure

High anionic charge and low molecular weight promote uniform adsorption on clay formations, which stabilizes the filter cake and reduces fluid loss in the drilling mud.

Advantages:

- Regardless of the solid content in the fluid, our product forms a strong, thin filter cake that ensures wellbore stability and reduces drilling fluid loss.

Laboratory Tests:

- Brookfield viscosity of 10% aqueous solution: no more than 100 cP
- Fluid loss reduction up to 20% better than traditional systems

SNPH

POLYANIONIC CELLULOSE AND MODIFIED STARCH

Polyanionic Cellulose SNPH-PAC Low Viscosity (LV) and High Viscosity (HV) Grades

A dual product range for any conditions: low viscosity (LV) and high viscosity (HV) grades allow selecting the optimal solution for fresh and saline fluids

Advantages: Provide high thermal and salt resistance, which is especially important for use in saline fluids

Increased resistance to bacterial degradation and the ability to form a dense, elastic filter cake

Modified Starch SNPH-PFK, LV and HV Grades

A modern, environmentally friendly product: high dissolution rate (10–15 minutes) and biodegradability make it safe for the environment

Advantages: Stability in highly mineralized fluids ensures reliable fluid loss reduction even under challenging geological conditions

Combines high performance with environmental safety

RHEOLOGY MODIFIERS

SNPH-BP
Rheology Modifier

Xanthan biopolymer is a polysaccharide obtained through the fermentation of starch-containing raw materials using Xanthomonas campestris bacteria. It has high thixotropic properties and is designed to create an optimal drilling fluid structure.

Advantages:
Enhances effective cuttings transport and stabilizes rheological properties even at low concentrations — especially important for horizontal and directional drilling.

Laboratory Tests:
Brookfield viscosity at 1.5 rpm in mineralized fluid: not less than 3000 cP·s.

Polyacrylamide
SNPH-PM (Anionic/Cationic)

A high-molecular-weight polymer that functions both as a structuring agent and a filtration reducer. It is also used to maintain colloidal stability, helping to prevent the formation and settling of solid particles in the wellbore.

Advantages:
- Forms a thin, durable filter cake and prevents the settling of drill cuttings, enhancing borehole stability and reducing the risk of collapses.
- The polymer's unique adsorption capacity allows it to encapsulate clay particles effectively.



LUBRICATING ADDITIVES

SNPH-SD

SNPH-SD Grade A (high-performance)

Unmatched Lubricating Properties:The formula based on natural modified components and fatty acid esters significantly reduces torque, minimizes wear on contacting metal surfaces, and prevents galling

Advantages:

- Forms a hydrophobic layer on friction surfaces and inhibits corrosion processes. Promotes the formation of thin lubricating films that smooth out microscopic surface irregularities and reduce specific loads

Laboratory Tests:

- Reduction of the coefficient of friction in "metal-to-metal" pairs

≥ 40% (SNPH-SD)	≥ 70% (SNPH-SD Grade A)

FUNCTIONAL ADDITIVES

SNPH-BAKCID

Protection against biodegradation; preserves the technological properties of the solution.

SNPH-PG

Defoamer for rapid foam elimination. Effective even at minimal dosages.

SNPH-DET

Prevents adhesion of clay particles, thereby avoiding the formation of packing rings.

SNPH-KS

Complex lost circulation material for prevention and elimination of fluid losses.

SNPH-DFL

Synthetic deflocculant to reduce viscosity and improve wellbore cleaning.

SNPH-NSV

Hydrogen sulfide neutralizer.Quickly binds H_2S and remains effective at high temperatures.

SNPH-MULTIPOL

Multifunctional cationic polymer for wellbore wall stabilization.

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BACTERICIDE SNPH-BAKCID

Bactericide SNPH-BAKCID

Protection against biodegradation:
A composition based on alcohols and modifying additives effectively prevents the growth of pathogenic microorganisms.

Advantages:

- Maintains optimal technological properties of the solution without negatively affecting its parameters, ensuring stability and long-term performance; Compatible with all types of drilling fluids (WBM, OBM, etc.).

Defoamer SNPH-PG Grades A and B

Fast and reliable action:
Formulas based on alcohols or organosilicon compounds instantly eliminate foam formation, reducing the risk of emergency situations.

Advantages:

- Effective even at minimal dosages;
- Does not negatively affect the rheological properties of the solution.

Laboratory Tests:

- Foam suppression efficiency: not less than 85%

DRILLING DETERGENT AND LOST CIRCULATION MATERIAL



SNPH-DET

A modern solution for preventing packing formation: the formulation based on surfactants and glycol ether prevents adhesion of clay particles to metal surfaces by altering surface tension and enhancing wettability.

Advantages:

- Reduces friction between drilling tools and borehole walls, accelerating the drilling process and reducing tool wear
- Improves rheological properties and filtration performance of model drilling mud—when introduced at 1 g/L, deviation does not exceed 5%



Complex Lost Circulation Material SNPH-KS

A multi-component formulation with optimized particle size and distribution for efficient sealing of microfractures in permeable formations.

Advantages:

- Effectively seals permeable formations
- Minimal impact on the rheological properties of the drilling fluid

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SNPH-DFL – SYNTHETIC DEFLOCCULANT

- SNPH-DFL is an aqueous solution of acrylic acid-based polymers with the addition of active surfactants.Due to its high anionic activity, the reagent breaks down clay particle flocs, disperses them, and reduces interparticle adhesion. It is especially effective in systems with high pH and density
- Used to reduce the viscosity and structural-mechanical properties of drilling fluids through effective deflocculation of clay and solid phases
- Suitable for systems with a high content of colloids and suspended solids. Recommended dosage: 0.2–2.0 kg/m³ (adjusted based on rheology)

Advantages:

High thermal stability
Effective at temperatures up to 200°C, maintaining performance under extreme conditions.

Improved cleaning
Enhances wellbore cleaning and optimizes hydraulic characteristics.

Wide operating range
Performs reliably across a broad range of salinity and pH levels.

Structure control
Allows for precise control of fluid structure without damaging the polymer network.

SNPH-MULTIPOL – MULTIFUNCTIONAL POLYMER

Purpose

Inhibits swelling and dispersion of clay formations and stabilizes borehole walls in water-based drilling fluids



Description and Mechanism of Action

SNPH-MULTIPOL is an aqueous solution of a cationic polyelectrolyte. It interacts with the colloidal fraction of the drilling fluid, stabilizing its structure and reducing the dispersity of the solid phase through flocculation. It prevents phase separation, improves rheology, and reduces filtration



Recommended Concentration

1–5 kg/m³ depending on fluid composition, salinity, and colloidal content.



Advantages:

- Effective under high salinity and in the presence of contaminants
- Enhances borehole wall stability
- Reduces the content of fine-dispersed particles



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SNPH-HSV – HYDROGEN SULFIDE NEUTRALIZER

- Designed for the effective neutralization of toxic and highly corrosive hydrogen sulfide (H_2S) in drilling fluids.
- SNPH-HSV is a powdered reagent based on zinc carbonate. Zinc carbonate reacts rapidly with H_2S to form insoluble sulfides, thereby efficiently removing H_2S from the fluid.
- Recommended concentration: 1–10 kg/m³, depending on the expected H_2S concentration in formation fluids and drilling mud. Dosage is adjusted until complete binding of H_2S is achieved.

Advantages:



High reaction speed
Quickly reacts with H_2S.



Preserves fluid structure
Does not disrupt the structure of the drilling fluid or increase fluid loss.



Stability
Withstands high temperatures (up to 200°C) and high salinity.



Corrosion reduction
Effectively reduces the risk of equipment corrosion.

REAGENTS FOR OIL-BASED MUDS (OBM)

SNPH-EMUL

Emulsifier for stable invert emulsions resistant to high temperatures and pressures

SNPH-BM

Base fluid for OBM with excellent lubricating properties, low toxicity, and biodegradability

SNPH-GFD

Hydrophobizing additive to enhance thermal and rheological stability and reduce contamination

SNPH-OFG

Organophilic clay that provides required viscosity and thermal resistance in challenging geological conditions

SNPH-MRD

Rheology modifier for regulating and stabilizing rheological properties





EMULSIFIER SNPH-EMUL GRADES A AND B

Stability Under Extreme Conditions

Our emulsifier, based on amides and esters, ensures the formation of stable invert emulsions that withstand high temperatures and pressures.

Advantages

- Highly compatible with various oil bases (diesel, synthetic oils);
- Emulsion stability confirmed at temperatures up to 140°C;
- Delivers required electrical stability values of over 1000 V.

Performance

Provides not only emulsion stability but also high drilling efficiency even under the most challenging conditions

TEST RESULTS FOR EMULSIFIER SNPH-EMUL GRADE B

Composition	SNPH-EMUL Grade B	
Conditions	Before TS*	After TS*
Density, g/cm³	1,52	1,52
Electrical Stability, V	760	>1000
Plastic Viscosity, cP	22	20
Yield Point, lb/100 ft²	18	19
10 sec Gel Strenght, lb/100 ft²	9	10
10 min Gel Strenght, lb/100 ft²	10	12
Filtration, ml/ 30 min	2,2	2,4

*TS — Thermal aging for 16 hours at 140 °C





HYDROPHOBIZING ADDITIVE SNPH-GFD

Advanced Hydrophobization Technology
This surfactant-based additive improves the hydrophobization of any water-wetted particles, preventing their undesirable impact on the emulsion.

Advantages:

- Enhances the temperature and rheological stability of the fluid, reducing contamination risk and ensuring filtration control;
- Prevents dispersion of drilled cuttings particles, facilitating their efficient removal in cleaning systems;
- Demonstrates effectiveness both before and after thermal aging at 90–140 °C.

FILTRATION REDUCER SNPH-PF

Specifically for Oil-Based Muds (OBM)

Purified gilsonite effectively reduces filtration of hydrocarbon-based fluids by forming a strong filter cake at low additive concentrations.

Advantages:

- Reduces HTHP filtration under temperatures exceeding 205 °C;
- Easily disperses in hydrocarbon media, ensuring stable filtration performance even under extreme conditions, reducing the risk of collapse by sealing pores and microfractures.



SNPH

ORGANOPHILIC CLAY AND BASE FLUID FOR OIL-BASED MUDS (OBM)

Organophilic Clay SNPH-OFG

Innovative modification:
Chemical modification of natural bentonite with organic compounds ensures easy dispersibility and high electrical stability.

Advantages:

- Provides the required viscosity and thermal stability for OBM
- Enhances aggregation and sedimentation stability.

Base Fluid for OBM SNPH-BM

Ideal composition balance:
A mineral oil–based formulation with functional additives provides excellent lubricity and compatibility with other reagents.

Advantages:

- Minimal toxicity and high biodegradability combined with optimized lubricating properties reduce friction by up to 25% and decrease equipment wear.

SNPH-MRD — RHEOLOGY MODIFIER FOR OIL-BASED MUDS (OBM)

Purpose:

Designed to regulate and stabilize the rheological properties of OBM.Ensures the required plasticity, thixotropy, and system stability when drilling challenging intervals.

Description and Mechanism of Action:

SNPH-MRD is a formulation based on modified fatty acids and surfactants.In the OBM system, the reagent enhances interphase interactions and promotes structuring of the continuous phase, thereby stabilizing the emulsion and creating controlled rheology of the fluid.

Recommended Concentration:

3–8 kg/m³ (adjusted based on fluid density and target rheological parameters).

Advantages:

- **Improved Stability**
  Increases overall drilling fluid stability.
- **Risk Reduction**
  Minimizes risks of solid phase settling and sticking.
- **High Resistance**
  Resistant to high temperatures and salinity.
- **Optimal Rheology**
  Enhances fluid rheological properties at low shear rates.



REAGENTS FOR WELLBORE STABILIZATION

Filtration Reducer SNPH-PFC

An AMPS-based product that significantly reduces fluid loss in cement slurries, promoting the formation of a strong filter cake and improving adhesion properties.

Plasticizer SNPH-PLC

A polymer based on polycarboxylate ethers that enhances rheological properties by reducing hydraulic resistance and increasing the strength of the cement stone.

PLASTICIZER SNPH-PLC

Improvement of Rheological Properties

A polymer based on polycarboxylate ethers ensures uniform distribution of cement particles, enhancing the rheological characteristics of the cement slurry.

Advantages

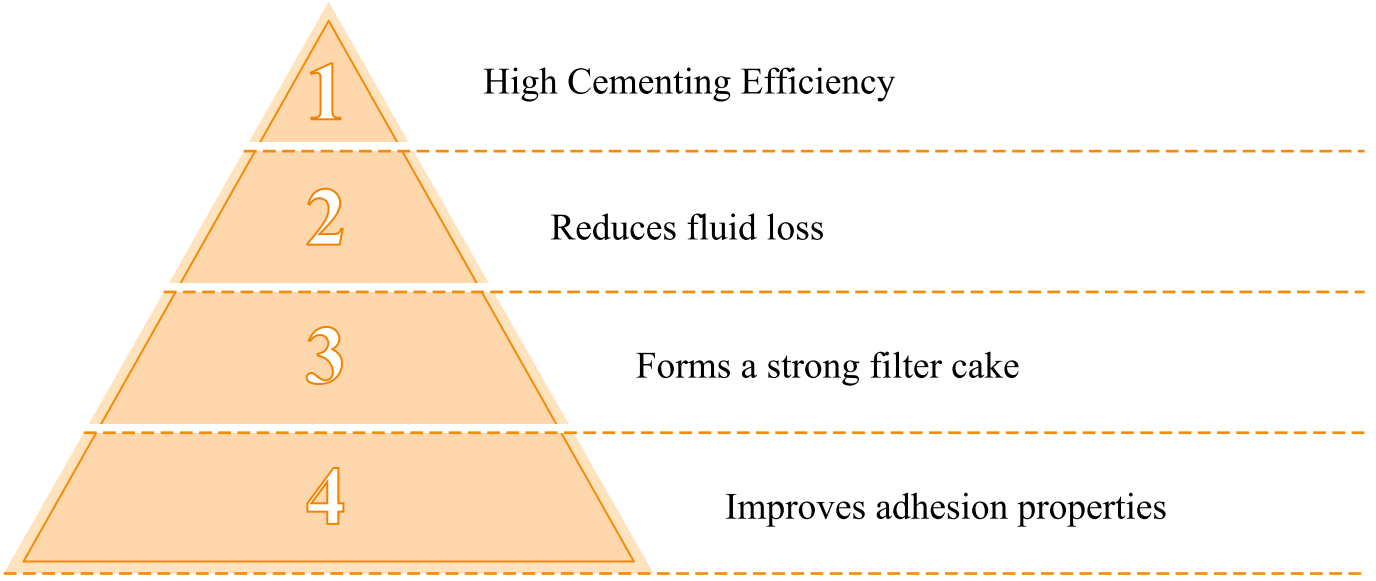
Reduces hydraulic resistance, lowering pumping pressure by up to 25%;

Improves the strength properties of the cement stone, making the wellbore cementing process more stable and reliable.



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SNPH-PFC: FILTRATION REDUCER FOR CEMENT SLURRIES



This AMPS-based product significantly reduces fluid loss in cement slurries, promoting the formation of a durable filter cake.

Advantages:

Compatible with most plasticizers;Enhances the adhesion properties of the cement stone, ensuring reliable wellbore stabilization at minimal dosages.

TEST RESULTS FOR SNPH-PFC FILTRATION REDUCER FOR CEMENT SLURRIES

Reagent Name	SNPH-PFC
Cement Slurry Composition (by mass %):	Cement – 100%, Water – 44%, AMPS – 0.4%

Rheological Properties (Measured with Rotational Viscometer R1 B1 F1.0):

Spindle Speed (RPM)	Reference
300 RPM	168
200 PRM	117
100 PRM	70
60 PRM	45
30 PRM	26,2
6 PRM	6,7
3 PRM	4,2
Gel Strength (10 sec / 10 min), Pa	1,6 / 6,12
Plastic Viscosity (PV), cP	73,5
Yield Point (YP), lbf/100 ft²	10,5
Calculated API Filtration Loss, ml/30 min	44

SNPH

WHY CHOOSE OUR REAGENTS?



Innovative Technologies

Each reagent is developed based on the latest scientific research and tailored to real-world drilling conditions.



Comprehensive Approach

Our product range covers all stages of drilling fluid preparation and operation



Expert Support

Our specialists are always ready to provide technical consultations and assistance

Every product is designed to give you a competitive advantage in the most demanding environments.

Our innovative solutions have already proven effective at fields such as:

- High-temperature wells in Western Siberia;
- Fields in Eastern Siberia, Tatarstan, Udmurtia, Orenburg Region, Samara Region, and others

Notes

Notes



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