Removal of the HP/NT filter cake by combining a substance that reacts with the mutual dissolution/hydrochloric acid/brine

**Investigation of the filter cake destructor**

- One liter of a solution containing an acid-type destructor was prepared according to the following formulas:
  - a substance reacting with one another
    - dissolution (U66) (bbl) 0.200 (EGMBE)
  - HCl (35-36%) (bbl) 0.215
  - Насыщенный раствор KCl (bbl) 0.580
  - A100(CROMOX265) (bbl) 0.005

- To confirm the effectiveness of the destructor in relation to the filter cake, the following test method was used:
  - The filtration residue from HP / HT cells was divided into two halves
  - 1 half was placed in a plastic Petri dish and poured 25 ml of the destructor solution
  - Observation of the action over time

**SULFEX® ADDITIVE ASSISTS TO REMOVE THE FILTRATION SEDIMENT**

(No. 1 CONTAINS 5 RDV SULFEX® ADDITIVES, No. 2 CONTAINS 1.5 RDV POLYMER LIQUID)

- Filtration sediment after testing

A = Untreated filter cake

B = Filtration sediment after 2 hours soaking in an acid-type destructor solution at room temperature.
OTHER ADDITIVES FOR FILTRATION CONTROL DO NOT HELP TO REMOVE FILTRATION SEDIMENT (No. 3 WITH ADDED 2.5 RDV POLYMER ADDITIVES FOR FILTRATION CONTROL, No. 4 WITH ADDITION OF EMULSION COMPLEX)

SULFEX® in a synthetic solution and a solution based on a low-toxic oil

Filtration sediment after testing

![Filtration sediment after testing](image)

A = Untreated filter cake
B = Filtration sediment after 2 hours soaking in an acid-type destructor solution at room temperature.

FILTRATION SEDIMENT NO.5 CONTAINS 5.0 RGV GILSONITE (LOW SOLUBILITY OF FILTRATION SEDIMENT SHOULD BE NOTED)

SULFEX® in a synthetic solution and a solution based on a low-toxic oil

Filtration precipitate

![Filtration precipitate](image)

A = Untreated filter cake
B = The filter cake after 2 hours of soaking in an acid-type destructor solution at room temperature

Note: If the SULFEX® additive is included in a solution on a synthetic or hydrocarbon-based system, the same solution of the destructor can be used as a liquid to release the stuck column to break the structure of the clay layer in areas prone to sticking under the effect of pressure drop.
CONCLUSION

These tests show that the use of the SULFEX® additive in hydrocarbon-based drilling fluids helps to remove the filter cake more efficiently than other additive.

The SULFEX® product is an additive to drilling fluid that is perfectly compatible with the environment. The SULFEX® additive is a highly modified product that does not contain polycyclic aromatic hydrocarbons.

The unique formula of the SULFEX® additive means that the same product can be used in solutions both water-based and highly effective in drilling muds on a hydrocarbon and synthetic basis.