KLA-FREE®

ProductDataSheet

LIQUID POLYAMINE SHALE INHIBITOR

Description

KLA-FREE® - liquid polyamine shale inhibitor. It is a mildly cationic low molecular weight polymer supplied as a highly active aqueous solution. Protects water-sensitive shales and clays by decreasing the shale tendency to absorb water, suppress clay minerals hydration. Inhibition mechanism is similar to K+ ions, but in this case NH4+ plays a role of an agent that suppress interlayer water absorption.

Ammonium cation easily penetrates the pores and serves as a K+ ions substitution at a much lower concentration.

Lab tests show that 14-17 kg/m3 of KLA-FREE® provide the inhibition level equivalent to 6% of KCl. But unlike KCl polyamine shale inhibitor KLA-FREE® remains effective at high NaCl concentration.

KLA-FREE® is not toxic, does not contain organochlorides.

Applications/Functions

- improves clay and shale stability
- suppresses clay minerals hydration, prevents from swelling
- coats wellbore wall and cuttings with the protective film, prevents cuttings disintegration
- coats metal surfaces with the protective film, prevents bit and BHA balling
- prevents metal corrosion

Advantages

- unlike KCl does not negatively influence logging results
- unlike KCl – less transportation and storage costs
- unlike KCl does not harm the environment

Recommended treatment

2-7 ppb (5-20 kg/m3) depending on the desired inhibition properties. 5-6 ppb (14-17 kg/m3) of KLA-FREE® corresponds to 6% KCl with regards to the inhibition level. It is not recommended to use KLA-FREE® if the mud MBT value is higher than 49 kg/m3. It is recommended to keep the pH level less than 10 to avoid ammonia gas smell release.

Typical properties

Dark brown to black liquid

Handling

Please refer to the MSDS for specific instructions

Packaging

KLA-FREE® liquid polyamine shale inhibitor is packaged in 55-gal (200 l) drums

Disclaimer: Prior to using this product, the user is hereby informed and cautioned to make their own determination and assessment of the safety and applicability of the product for the specific job. It is the final responsibility of the user to ensure that the product is suitable and the information is applicable to the user's specific application.

KAOTO

Россия, 163012, г. Архангельск, ул. Кировская 10/2, info@cloto.ru

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