

Shale Stabilizer KDF035

1. Introduction

Clay inhibitors or shale stabilizers are generally used in drilling fluids to reduce clay swelling and cutting dispersion in order to improve wellbore stability and minimize post-treatment cost while drilling reactive formations.

KDF035 is a nano-sized multi-functional additive to provide superior shale inhibition, fluid loss control and lubricity in addition to strengthening wellbore stability and increasing fracture breakdown pressure in sandstones and shales in drilling fluid systems such as EcoDrill. KDF035 can also disperse into drilling fluids easily with enhanced suspension capacity.

2. Physical Properties and Hazards

Additive	Form	S.G.	Water Solubility	Melting/Flash Point (°C)	Health Hazard	Physical Hazard	pH
KDF035	Milky Liquid	1.00-1.15	Soluble	-	Skin	-	7.0-9.0

3. Chemical Properties and Application

The nano-sized nature (D50: 190nm) and modified surface makes KDF035 superior shale stabilization performance because KDF035 plugs and seals the formation pores and micro-fractures to prevent water molecules from invasion into the formation matrix.

KDF035 can also reduce the fluid loss of drilling fluids because of the above plugging effect. KDF035 can also reduce the pressure drop across the filter cake and further improve the wellbore stability by the plugging effect described above.

Maximum shale stabilization and clay inhibition properties comparable to OBMs are expected when KDF035 is used together with KDF005, KDF015 and KDF047.

Chemical Nature: A Surface Modified Nano-material
 Solubility: Readily dispersible in fresh water or seawater.
 Temperature Stability: Stable up to 177°C (350°F) in the laboratory.

4. Treatment

Typical concentrations in the range from 10 to 30 kg/m³ are good enough to provide the required properties.

5. Packaging

KDF035 is supplied in 55 GAL drum or IBC tote.

Keep it away from extreme conditions such as places near flames or direct sunlight.