

High Temperature ELViS Additive KCM004

1. Introduction

Spacers, together with chemical washes, can be pumped as either turbulent or laminar flow to avoid the compatibility issues between drilling fluids and cement lead slurry. Some spacers also provide good fluid loss control. Some additives present in spacer can help cement bond with casing and formation rocks. KCM004 is a mid to high temperature spacer engineered to assist mud removal by acting as a buffer between cement slurry and drilling fluids with specific density and rheological properties.

2. Physical Properties and Hazards

Additives	Form	S.G.	Water Solubility	Melting/Flash Point (°C)	Health Hazard	Physical Hazard	pH
KCM004	Light-yellow Powder	1.95-2.15	Soluble	ND	Eyes	Dust	N/A

3. Chemical Properties and Application

KCM004 is a viscous spacer designed to displace muds in laminar flow technique. It can be used for both freshwater and saltwater mud systems. Salt can be added into spacer for salt formations and typically a few percent of KCl is good enough to maintain shale stability in most applications.

Laminar flow technique is easily achieved by designing the density and rheological properties of KCM004 viscous spacer. The criteria are to keep density and viscosity of KCM004 system between those of drilling mud system and cement slurry by adjusting the concentration of KCM004.

Compatibility of KCM004 viscous spacer with drilling fluids and cement slurry are required and must be tested in laboratory before field applications. Specialty additives are sometimes added in KCM004 system to improve cement bonding and mud removal efficiency.

4. Treatment

Typical concentrations range from 3.5 lbs/bbl to 9.0 lbs/bbl. For high salt formations, higher loading of KCM004 is required to provide fluid loss control.

KCM004 can be used up to 350°F. Lower viscosity and settling are generally observed if temperature is higher than 350°F. Calcium carbonates is recommended as weighting agent for density range of 10-12 lbs/gal. Barite can be used to extend density to 20 lbs/gal. For density higher than 15.8 lbs/gal, hematite is generally recommended as weighting agent.

5. Packaging

KCM004 is supplied in plastic-lining bags with a net weight of 25 kg/sack.

It should be stored in shaded areas with good ventilation. Keep it away from high temperature, humidity and direct sunlight.