

High Temperature ELViS Additive KCM004

1. Introduction

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. Together with chemical washes, it can be pumped as either turbulent or laminar flow. Some spacers also provide good fluid loss control. Some additives present in spacer can help cement bond with casing and formation rocks.

2. Physical Properties and Hazards

Additives	Form	S.G.	Water Solubility	Melting Point (°C)	Health Hazard	Physical Hazard	pH
KCM004	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 mud at laminar flow technique. It can be used for both freshwater and saltwater mud systems. Salt can be added into spacer for any salty 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 3.0 lbs./bbl. to 15.0 lbs./bbl. For high salt formations, higher loading of KCM004 is required to provide fluid loss control.

KCM004 can be used up to 300°F. Lower viscosity and settling are generally observed if temperature is higher than 300°F. Calcium Carbonates is recommended as weighting agent for density range of 1.2-1.4 S.G. Barite can be used to extend density to 2.4 S.G. For density higher than 1.9 S.G., hematite is generally recommended as weighting agent.

5. Packaging

KCM003 is supplied in 5 gallons high density polyethylene (HDPE) drums or 55 gallons steel drums. Keep it away from extreme conditions such as places near flames or direct sunlight.