

Medium Temperature ELViS additive KCM006

1. Introduction

Spacers are engineeringly designed 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.

Specialty spacers sometimes contain additives, which help to improve cement bonding with casing and formation rocks.

2. Physical Properties and Hazards

Additives	Form	S.G.	Water Solubility	Melting/Flash Point (°C)	Health Hazard	Physical Hazard	pH
KCM006	Red-brown powder	1.86-2.06	Soluble	>93	Eyes	Dust	N/A

3. Chemical Properties and Application

KCM006 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 KCM006 viscous spacer MT. The criteria are to keep density and viscosity of KCM006 system between those of drilling mud system and cement slurry by adjusting the concentration of KCM006.

Compatibility laboratory of the spacer MT with drilling fluids and cement slurry are required and must be tested in laboratory before field applications.

Specialty additives are sometimes added to the KCM006 system to improve cement bonding and mud removal efficiency.

4. Treatment

Typical concentrations range from 4.0 lbs./bbl. to 20.0 lbs./bbl. For high salt formations, higher loading is required to provide fluid loss control.

Mixing water: Fresh or saltwater

Concentration: Generally, 12-55 kg/m³. For salt formations, higher concentration is required to improve fluid loss control. For example, to control fluid loss for spacers containing high concentration (20%) of sodium chloride (or KCl), KCM006 concentration should be greater than 25 kg/m³.

Density: 1.20-2.40 S.G. Calcium Carbonate 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.

Temperature: KCM006 can be used up to 110°C. Lower viscosity and settling are generally observed if the temperature is higher than 110°C.

5. Packaging

KCM006 is supplied in plastic-lining bags with net weight of 25kg/sack. It should be stored in shaded areas with good ventilation. Keep it away from high temperature, humidity and direct sunlight.