Surfactant KCM035

1. Introduction

Most drilling fluids are not designed for easy displacement and are not compatible with cement slurry. A buffer generally called pre-flush or spacer must be placed between the drilling fluid and cement slurry to avoid the contacts with each other, by adding certain materials such as KCM035 or other materials in the pre-flush or spacer to alter the properties and compatibility with both drilling fluids and cement slurry.

KCM035 is a surfactant compatible with cement slurries and most of oil based or synthetic based drilling fluids. It is mixed with water to form a chemical wash solution and can also be incorporated into the spacers.

2. Physical Properties and Hazards

Additive	Form	S.G.	Flash Point (°C)	Health Hazard	Physical Hazard	pH
KCM035	Colorless liquid	0.90-1.00	>32	Moderate to Eyes	Moderate to Eyes fire	5.0-6.0

3. Chemical Properties and Application

KCM035 is recommended to be mixed with fresh water or possibly with seawater and generally concentration is at 48 L/m^3 of chemical wash (2gal/bbl.), to achieve good mud removal. It is recommended to use a volume corresponding to at least a 10 min contact time. The compatibility test should be performed according to ISO-10426-2 (API-RB10B-2) with actual sample of materials. The reverse emulsion test should be performed if it is used with oil-based mud (OBM) or Synthetic based mud (SBM).

4. Treatment

KCM035 is generally recommended at 48 L/m^3 of chemical wash or spacer.

5. Packaging

This product is supplied in 55-gallon high density polyethylene (HDPE) drums.

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

Phase Reversible Agent KCM036

1. Introduction

Mud and its filter cake formed on formation and casing surfaces create barriers for cement to be bonded with formation and casing. KCM036 is normally used to penetrate and disintegrate mud and filter cake to have good bonding strength between casing, cement and formation. KCM036 can be added into chemical washes, spacers, or both to achieve the above objectives.

2. Physical Properties and Hazards

Additive	Form	S.G.	Water Solubility	Melting/Flash Point (°C)	Health Hazard	Physical Hazard	pH
KCM036	Colorless liquid	0.85-0.95	Soluble	-75/66	Eyes/Skin	Fire	N/A

3. Chemical Properties and Application

KCM036 is a multi-functional surfactant which is very effective in facilitating fluid flow, breaking emulsions, and preventing water blocks. It can be used for most applicable chemical washes and spacers at various well conditions. KCM036 in Power Wash chemical washes and spacers will penetrate mud and filter cakes, reduce surface tension of water and interfacial tension of water oil interfaces, and reverse the wettability of solid surfaces from oil-wet to water-wet. It is especially effective in removing oil-based muds/synthetic-based muds and their filter cakes.
KCM036 is compatible with most additives in both chemical washes and spacers. Lab testing is required if it is used in cement slurries.

4. Treatment

5-10%vol is typically enough for effective mud and filter cake removal. 10%vol is considered optimum concentration in most fluid designs.

5. Packaging

KCM036 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.

Defoamer and Anti-foaming Agent KCM043

1. Introduction

Foams formed while mixing cement slurry cause many problems such as lower and wrong density reading, poor particle wetting and hydration efficiency, and pumping difficulties due to pump cavitation and loss of suction. Defoamer or antifoaming agent is often required in cement slurry to avoid problems described above, especially for Latex Slurries.

2. Physical Properties and Hazards

Additives	Form	S.G. (20°C)	Water Solubility	Flash Point (°C)	Health Hazard	Physical Hazard	pH
KCM043	White emulsion	0.92-1.12	dispersible	>93	Eyes	None	6-8

3. Chemical Properties and Application

Due to its chemical nature and high content of active ingredient, KCM043 is an effective foam breaking agent in most cement slurries. It can also function as good foam preventer such as KCM003.
KCM043 has been found to be compatible with most additives in cement slurry design without density and temperature limitations. KCM043 is also very effective in latex gas migration control systems and salt-tolerant cement slurries especially in salt-saturated systems.

4. Treatment

0.01-0.05 gal/sack of cement is required in most cement slurry applications.

5. Packaging

This product is supplied in 5 gallons high density polyethylene (HDPE) pail.
Keep it away from extreme conditions such as places near flames or direct sunlight.