

Chelating Agent KDF012

1. Introduction

FCC (Filter Cake Clean-up) is engineeringly designed to clean-up the filter cake created by the Drill-In Fluids (DIFs) used to drill the horizontal or deviated open-holes wells.

KDF012 is a Chelating Agent used in FCC fluids to dissolve calcium carbonate in water based DIFs.

KDF012 combined with enzyme breaker KDF002 in FCC fluids not only removes the filter cake homogeneously (avoid pinholes from strong mineral acid treatment) and effectively but also simplifies the field operations (one-stage instead of multiple-stage treatment) and minimizes the environmental and corrosion footprint for horizontal or deviated open-hole filter cake clean-up process.

2. Physical Properties and Hazards

Additive	Form	S.G.	Water Solubility	Melting/Flash Point (°C)	Health Hazard	Physical Hazard	pH
KDF012	Light-yellow Liquid	1.20-1.30	Soluble	-	Inhalation	None	3.5-4.5

3. Chemical Properties and Application

KDF012 is chemically designed to have pH 3.5-4.5 in order to fit for the pH requirement of KDF002 enzyme breaker. On the other hand, KDF012 is also highly soluble in mono-cation brines in order to be used in brine-based FCC fluids.

KDF012 itself can be used up to 400°F for carbonate dissolution in matrix acidizing, scale removal, and other well production or completion treatment.

KDF012 is compatible with other additives used in FCC fluids, it is also applicable in wide temperature (up to 400°F) and pH ranges of treatment environment. The applicable pH and temperature of FCC fluids are limited by using the bio-compatible enzyme breaker KDF002.

4. Treatment

The typical concentration of KDF012 recommended is 20-80% v/v of FCC fluids. Concentration of KDF012 used in FCC systems is dependent on the pH, calcium carbonate concentration and particle size, soak time and temperature, and components in DIF filter cakes and FCC fluids.

5. Packaging

KDF012 is packed in 55 gallons or 265 gallons coated steels drums or steel drums with an inner lining.

Keep it away from extreme conditions such as places near flames or direct sunlight. Store at temperatures lower than 45°C.