

Chelating Agent KMA018

1. Introduction

CST (Chelate Stimulation Technology) is effective stimulation technologies for carbonate formations such as calcite, dolomite, and chalks. The combination of acids and chelates in KMA018 makes it effective in scale and carbonate acidizing treatment especially at high well temperatures.

In addition, KMA018 provide better protection on tubulars and field equipment and much less tendency in emulsion/sludge tendency with crude oils compared to traditional acid treatment fluids.

2. Physical Properties and Hazards

Additives	Form	S.G.	Water Solubility	Health Hazard	Physical Hazard	pH
KMA018	Colorless to light yellow liquid	1.24-1.28	Soluble	Corrosive-Mild	Corrosive-Mild	3.5-4.5

3. Chemical Properties and Application

KMA018 is mild acidic nature with pH of 3.5-4.5, which provide CST advantages in various aspects of scale removal, carbonate acidizing, corrosion, compatibility and HSE.

KMA018 is combination of acids and chelates to enable CST system to dissolve carbonate scales and formation rocks.

Regarding to matrix stimulation, KMA018 can be used in both calcite and dolomite formations to create effective wormholes in order to maximize the effectiveness. Especially at high temperature wells, KMA018 slow down the reaction rates between stimulation fluids and formation rock so that high density wormholes are created in carbonate matrix.

Due to the chelate nature chemically, KMA018 provide advantages over traditional acid systems in HSE footprint and corrosion inhibition. KMA018 has no emulsion and sludge tendency with typical crude oils. Laboratory testing indicates that KMA018 CST fluids shows much lower corrosion rates than HCl and organic acids such as acetic and formic acids especially at temperature higher than 250°F.

KMA018 is compatible with most OPT acidizing products at typical concentrations such as KMA001S, KMA054, KMA002, and KMA005. Iron reducing and control agents are generally NOT required in CST systems because KMA018 itself is capable of stabilizing both ferric and ferro ions in the solution. Other additives required in CST KMA018 fluids should be tested in FETC or location lab.

4. Treatment

KMA018 is either directly or diluted in 50% solution before used in the fields to stimulate carbonate formations or remove carbonate scales.

5. Packaging

KMA018 is supplied in 55 gallons high density polyethylene (HDPE) drums or 265 gallons HDPE totes. Keep it away from extreme conditions such as places near flames or direct sunlight.