

SGA Iron Control Agent KMA022B

1. Introduction

In acid fracturing treatment of carbonate reservoirs, the fluid efficiency in etching and worm-holing the rock surfaces are essential for treatment effectiveness.

SGA is a self-diverting and leak-off control gelled-acid system used in carbonate acid fracturing operations. KMA022B is specifically designed for use in SGA systems to control the irons during the acid fracturing treatment process.

2. Physical Properties and Hazards

Additive	Form	Specific Gravity	Water Solubility	Melting/Flash Point (°C)	Health Hazard	Physical Hazard	pH
KMA022B	Clear Liquid	1.10-1.15	Soluble	-	Toxic	Corrosive	<1.5

3. Chemical Properties and Application

For the in-situ gelled acid system such as SGA, KMA022B is mixed with the linear polymer and iron crosslinker solution. The fresh SGA acid is not viscous, however, the metal ions crosslink with the polymer and results in high viscosity when the acid is spent to pH around 3. Furthermore, the Iron Control Agent KMA022B will chelate with iron and de-crosslink while SGA is spent till pH around 5, resulting in the breakdown and loss of viscosity.

Normally, 15 to 28% HCl is pumped in stages with SGA to stimulate carbonate zones homogeneously. KMA022B is compatible with most additives and acid systems, but lab testing is required when SGA is used with other acids instead of HCl. Special attention is required for KMA022B design for sour gas (H₂S and CO₂) wells.

4. Treatment

Typical concentration of KMA022B used in the field ranges from 8 to 12 Gal/Mgal.

5. Packaging

KMA022B is supplied in 55 gallons high density polyethylene (HDPE) drums.

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