

SGA Crosslinker KMA024

1. Introduction

The reaction of hydrochloric acid with calcium carbonate is vigorous especially at high temperature. This results in the stimulation of the highest permeable zones without stimulating other sections of the formation. Diversion using in-situ gelled acid such as SGA is very effective to get uniform stimulation of carbonate formations.

Metal ion crosslinker KMA024 is used in SGA to introduce in-situ crosslink of linear polymer while fresh acids react with calcium carbonate formations. This in-situ viscosity change of SGA will help to divert the newly pumped acid into unstimulated zones and result in the uniform stimulation of the entire pay-zone.

2. Physical Properties and Hazards

Additive	Form	Specific Gravity	Water Solubility	Melting/Flash Point (°C)	Health Hazard	Physical Hazard	pH
KMA024	Red Brown Liquid	1.30-1.40	Soluble	-	Eyes, Skin, Mouth	Corrosive	< 1.5

3. Chemical Properties and Application

The fresh SGA acids are not viscous while iron crosslinker KMA024 is mixed with polyacrylamide gel and a breaker. Spent SGA gains high viscosity when the acid is spent up to the pH around 3. Furthermore, the iron control agent KMA022B will chelate iron and de-crosslink the system at a pH above 5, resulting in low viscosity. This in-situ viscosity change of SGA will help to effectively divert the newly pumped acid into unstimulated zones for uniform stimulation effectiveness.

Normally, 15% to 28% HCl is pumped in stages with SGA system to get homogeneous stimulation. KMA024 is dispersible in acids and compatible with most additives and acid systems. Lab testing is required when acids other than HCl-based are used with SGA. Special attention is required for KMA024 design for sour gas (H₂S) wells.

4. Treatment

The minimum concentration of crosslinker KMA024 used in the field is 2.5 Gal/1,000 Gal.

5. Packaging

KMA024 is supplied in 55 gallons high density polyethylene (HDPE) drums.

Keep it away from extreme conditions such as places near flames, direct sunlight and excessive moisture.