

Acid Gelling Agent KMA027G

1. Introduction

In-situ crosslinked polymeric acids such as SGA (Self-diverting Gelled Acids) are normally utilized in carbonate acidizing or acid fracturing treatment because of its diversion and cost effectiveness.

KMA027G is an effective gelling agent for gelled acid systems. The in-situ rheological profile build-up of KMA027G-based SGA systems not only provide superior performance in acid diversion but also help to reduce the friction loss while pumping the acids along the tubulars.

2. Physical Properties and Hazards

Additive	Form	Specific Gravity	Water Solubility	Melting/Flash Point (°C)	Health Hazard	Physical Hazard	pH
KMA027G	Milky Liquid	1.05-1.15	Soluble	>100	Eyes	Water Slick	6.0-7.0 (1%)

3. Chemical Properties and Application

Linear KMA027G acid solution provides less viscosity to reduce the pumping friction. The polymer will react with non-iron crosslinker and increase the fluid viscosity when pH of the spent acid reaches to certain level. The viscous spent acids will divert the coming fresh acids from high permeability zones to low permeability zones in order to homogeneously stimulate the carbonate formations. The de-crosslink mechanism introduced into the SGA systems later on will reduce the fluid viscosity to water-like and facilitate the spent acids flow back and minimize the risks of potential formation damages.

KMA027G can be dispersed in acids either continuously or by batch-mixing. It is compatible with most acid additives including surfactants, corrosion inhibitors, and iron control additives. Formation damage caused by KMA027G is generally minimal because of the de-crosslinker used in SGA systems, which can be used up to BHST 325°F.

4. Treatment

The 20 to 30 Gal/Mgal loading is generally recommended for SGA design depend on the bottom hole temperature and the concentration of acids. Typically, the higher is the temperature, the more KMA027G is required in SGA systems.

5. Packaging

KMA027G is supplied in 55 gallons high density polyethylene (HDPE) drums or 265 gallons HDPE totes. It should be stored in shaded areas with good ventilation. Keep it away from high temperature and direct sunlight.