

NISGA Breaker KMA052

1. Introduction

Carbonate formations are generally heterogeneous and acids tend to treat high permeability zones instead of low permeability ones. Either mechanical or chemical diversion are therefore required in acidizing treatment of carbonate reservoirs. In-situ gelled acid such as NISGA (Non-Iron Self-diverting Gelled Acid) is one of the chemical diversion techniques used for carbonate acidizing.

Formation damage is introduced by the polymeric gelling agent used in NISGA fluids. The degree of formation damage depends on polymer type, molecular weight and concentration of the polymer, NISGA formulation and well conditions. Spent gelled acid is even more difficult to break or flow back if it is not broken effectively. KMA052 is a breaker specifically developed for use in NISGA fluids in order to minimize the formation damage introduced by the crosslinked gelled acids.

2. Physical Properties and Hazards

Additive	Form	Specific Gravity	Water Solubility	Melting/Flash Point (°C)	Health Hazard	Physical Hazard	pH
KMA052	Yellow Granules	1.75-1.95	Insoluble	-	Eyes, Skin	None	N/A

3. Chemical Properties and Application

KMA052 is an inorganic compound introduced into NISGA systems to catalyze the breaking reactions of NISGA fluids. The new chemical equilibrium established between KMA052, crosslinker KMA050 and gelling agent KMA051 will break the crosslinked gel more effectively and facilitate the flow back of the spent acids. It is approved that KMA052 is effective up to 300°F in NISGA fluids. Further laboratory tests are required if it is used for higher temperature.

KMA052 can be used not only in NISGA fluids, but also in other metal crosslinked polymeric self- diverting gelled acids. It is compatible with most additives used in these systems.

4. Treatment

Typical concentration of 2.0-10.0 lbs/Mgal is recommended for NISGA systems.

5. Packaging

KMA052 is supplied in plastic-lining bag placed in bucket with net weight of 25 KG.

Keep it away from extreme conditions such as places wet and humid or direct sunlight.