

Retarding Agent KMA026A

1. Introduction

Organic or emulsified acids are often used to acidize or acid fracture the carbonate reservoirs at high temperature. The slow reactions between the acids and carbonate formations help to maximize the worm-holing process and improve the acid efficiency in carbonate acidizing or acid fracturing treatment.

Single phase retarded acid (EcoAcid) can be used as an alternative to emulsified or organic acid systems. It not only provides slow reaction kinetics for optimized worm-holing but also becomes much more cost-effectiveness and environmentally friendly compared with emulsified or organic acids.

KMA026A acts as one of the retarding agents in EcoAcid systems by leveraging the acidity and controlled release of protons in hydrochloride acids.

2. Physical Properties and Hazards

Additive	Form	Specific Gravity	Water Solubility	Melting/Flash Point (°C)	Health Hazard	Physical Hazard	pH
KMA026A	Clear to Light-yellow Liquid	1.32-1.37	Soluble	189	Eyes	Corrosive, Fire	<1

3. Chemical Properties and Application

Three mechanisms introduced by KMA026A and other retarding agents into EcoAcid systems make the EcoAcid to be effective in high temperature carbonate acidizing or acid fracturing treatment: (1) slow proton release rate in acid matrix (2) adsorption film around the rock surface to create a barrier between acids and formation (3) synergistic effect between surfactant, corrosion inhibitor and acid diverter.

KMA026A is compatible with most additives in HCl acids. It creates synergistic effects in acid worm-holing process of carbonate formations together with KMA26B, KMA054, KMA033 and KMA001S in EcoAcid systems, which is proved to be effective up to BHST 325°F.

4. Treatment

Typical KMA026A concentrations range from 100 to 300 Gal/1,000 Gal (100 to 300 L/m³) of acid depend on acid, strength, additives and application temperature.

5. Packaging

KMA026A 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.