

Emulsifier KMA036

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.

Emulsified Acid Technology (EAT) is designed for use in stimulation treatment of carbonate reservoirs. It is an oil-external emulsion formed with a 70:30 hydrochloric acid-to-oil ratio, stabilized with an advanced acid emulsifier KMA036.

2. Physical Properties and Hazards

Additive	Form	Specific Gravity	Water Solubility	Melting/Flash Point (°C)	Health Hazard	Physical Hazard	pH
KMA036	Brown Liquid	0.90-0.95	Insoluble	>115	Eyes, Skin, Inhalation	Fire	N/A

3. Chemical Properties and Application

KMA036 is a high-performance surface-active agent for stabilizing acid-internal and oil-external emulsions. It is applicable at wide temperature-range from 60 to 350°F. Typical acid-to-oil ratio for KMA036 application is 70/30 by volume percentage. Higher acid-to-oil ratio will increase friction pressures and lower ratio will decrease acid strength and mineral dissolution capacity. EAT retards the acid reaction rate of 28% HCl approximately 10-15-fold. Even greater retardation (up to 40-fold) is achieved at lower acid concentrations. KMA036 is compatible with most additives in EAT emulsified acid systems. However, additives such as non-emulsifier and corrosion inhibitors have to be tested in the laboratory if used together with KMA036.

4. Treatment

Typical KMA036 concentrations range from 3 to 5 Gal/1,000 Gal of acids depend on acid type, acid strength, other additives in acids, oil phase and application temperature.

5. Packaging

KMA036 is supplied in 55 gallons high density polyethylene (HDPE) drums.

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