

High Viscosity Friction Reducer KHF027LV

1. Introduction

Friction resistance is high when pumping slick water at high rate for unconventional fracturing. Therefore, friction reducers are generally required for high-rate slick water fracturing. Normal Friction Reducers can suspend only 0.5 lbs to 1 lbs per gal of fluid (ppa) proppant. In order to suspend higher concentrations of proppant, a more viscous or viscoelastic Friction Reducer (FR) is needed.

KHF027LV is a High Viscosity Friction Reducer (HVFR) that is effective in suspending higher concentrations of proppant and further reduce friction pressure during unconventional fracturing operations.

2. Physical Properties and Hazards

Additive	Form	Specific Gravity	Water Solubility	Melting/Flash Point (°C)	Health Hazard	Physical Hazard	pH
KHF027LV	Milky to Pale-yellow Liquid	1.03-1.08	Soluble	-	Eyes, Skin	Water Slick	-

3. Chemical Properties and Application

KHF027LV is polyacrylamide synthetic polymer suspended in hydrocarbon solvent. The anionic polymer will hydrate in water during pumping and reduce friction pressure. More than 70% friction pressure can be reduced using KHF027LV. This fluid can also give viscoelastic properties to suspend 3 to 5 ppa of proppant without significant damage of the proppant pack. Ammonium persulfate breakers can be used to break this system to water-like viscosity. KHF027LV has been used in the field for fracturing applications up to 350°F. KHF027LV is generally used in fresh water and/or up to 5% potassium chloride brine. It is also compatible with most liquid clay stabilizers such as KHF002C. High concentrations of calcium, magnesium and iron in mixing water will adversely affect KHF027LV performance.

KHF027LV is not compatible with most cationic surfactants and polymers due to its anionic nature.

4. Treatment

KHF027LV is generally added at the level of 3 to 10 Gal/1,000 Gal for best performance.

5. Packaging

KHF027LV is supplied in 265 gallons high density polyethylene (HDPE) totes.

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