

High Viscosity Friction Reducer KHF027LV

1. Introduction

Friction resistance is very 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) and in order to suspend higher concentrations of proppant, a more viscous or viscoelastic FR is needed. KHF027LV is a more viscoelastic Friction Reducer that is effective in suspending higher concentrations of proppant and further reduce friction pressure during fracturing operations.

2. Physical Properties and Hazards

Additives	Form	S.G.	Water Solubility	Health Hazard	Physical Hazard	pH
KHF027LV	Milky white to pale yellow liquid	1.03-1.08	Soluble	Eyes, skin	Water slick	N/A

3. Chemical Properties and Application

KHF027LV is a slurry of polyacrylamide polymer in a hydrocarbon solvent. The anionic polymer will hydrate into water during pumping and will 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 brines. It is also compatible with most liquid clay stabilizers such as KHF002C. High concentrations of calcium, magnesium and iron in mix water will adversely affect KHF027LV performance.

KHF027LV is not compatible with most cationic surfactant 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.