

Activator KHF009

1. Introduction

Borate-crosslinked guar based fracturing fluids reach optimum properties while pH is in the range of 10.5-12. Crosslinker KHF008 itself contains no pH buffer and the crosslinking takes place very slowly. Therefore, activator KHF009 is generally used together with KHF008 in guar based fracturing fluids to accelerate crosslinking and improve fluid viscosity and stability.

2. Physical Properties and Hazards

Additive	Form	Specific Gravity	Water Solubility	Melting/Flash Point (°C)	Health Hazard	Physical Hazard	pH
KHF009	Flaky Particles	1.90-2.10	Soluble	318	Eyes, Skin, Inhalation	Corrosive	12.0-14.0 (1 wt.%)

3. Chemical Properties and Application

Activator KHF009 provides the required pH value for KHF008 to crosslink guar or derivatives hydrated in salt or mix-water. It is therefore used together with crosslinker KHF008 in most guar or guar derivative based fracturing fluids in order to improve fluid rheological properties and temperature stability. The pH value is controlled by KHF009 at the range of 10.5-12 at most application conditions.

The guar or guar derivative based fracturing fluids can be stabilized at temperature 325°F (163°C) if the fluid is designed properly.

KHF009, together with KHF008 and KHF010, is generally blended to prepare crosslinker solutions for most guar or guar derivative-based fracturing fluids such as OPTiFrac systems. It is compatible with all additives used in this system.

4. Treatment

The concentration range for the activator KHF009 is 10-20 lbs/Mgal of fracturing fluid. Aqueous solutions of KHF009 (2-50 wt.%) can also be used for most fracturing applications.

5. Packaging

KHF009 is supplied in plastic-lined bags with net weight of 25 kg/bag.

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