

Hydration Aid KHF023

1. Introduction

Proper polymer hydration is important for achieving optimum fluid properties. Ideally the polymer should be at least 85% hydrated before the crosslinker is added. At hydration levels less than 85%, some of the polymer especially CMHPG left under-hydrated, significantly reduces the effective polymer concentration.

The pH should be below 6.0 for proper hydration of the polymer. Since normal fracturing water has a pH of above 7.0, it requires pH adjustment during hydration. KHF023 is used to adjust the fluid pH for proper hydration of the polymer, and this is more important in the case of CMHPG fracturing fluids.

2. Physical Properties and Hazards

Additives	Form	S.G.	Water Solubility	Health Hazard	Physical Hazard	pH
KHF023	Colorless liquid	1.05-1.10	Miscible	Eyes, skin	Moderate-Fire	4.5-5.5

3. Chemical Properties and Application

Complete hydration of the polymer is necessary to obtain the maximum fluid stability, and the degree of hydration is dependent on the pH of the hydrating fluid. The buffered effect of seawater and other mix water require the addition of KHF023 to control the fluid pH low during hydration.

KHF023 can be added directly to water. For most water sources, a KHF023 concentration of up to 2 Gal/1,000 Gal maintains the fluid pH within the recommended range of 6.0 to 7.0 during polymer hydration. The KHF023 concentration may require adjustment depending on the water source. Most fresh water requires only 0.5 Gal/1,000 Gal and needed to be added before the addition of polymer, high pH buffer and crosslinker.

The guar or guar derivative based fracturing fluids can be stabilized easily at temperature 350°F (177°C) if the fluid is designed properly.

4. Treatment

Typically, a KHF023 concentration of 0.5 to 2 Gal/1,000 Gal is sufficient for the proper hydration of the polymer. Sea water is usually buffered, and the pH is above 8, and when using sea water, the use of Hydration Aid KHF023 is very critical.

5. Packaging

KHF023 is supplied in 55 gallons high density polyethylene (HDPE) drums. Keep it away from extreme conditions such as places near flames or direct sunlight.