

# Flowback Additive KHF007

## 1. Introduction

Surface active reagents were generally used in aqueous-based stimulation fluids to lower the interfacial tension that restricts fluid flow in the rock matrix. KHF007 surfactant lowers the capillary pressure by both improving the wettability of the pore throat and reducing the interfacial tension.

Both laboratory testing and field results have shown that KHF007 can provide superior cleanup due to the wetting properties and surface tension reduction that leads to lower capillary pressures. The use of KHF007 results in less swabbing time, faster cleanup and more complete recovery of stimulation fluids.

## 2. Physical Properties and Hazards

Additives	Form	S.G.	Water Solubility	Health Hazard	Physical Hazard	pH
KHF007	Light yellow liquid	1.00-1.05	Soluble	Eyes, skin, inhalation	Fire	N/A

## 3. Chemical Properties and Application

KHF007 promotes fracturing fluid cleanup of the proppant pack and the invaded rock matrix because the contact angles resulting from the use of KHF007 are higher than those for other conventional cleanup surfactants. In addition, the surface and interfacial tension values from the use of KHF007 are also lower than most conventional surfactants used. This leads to significantly lower capillary pressures which reduces the force required to initiate flow of the stimulation fluid and therefore, KHF007 should provide better and quicker fluid recovery following a stimulation treatment.

KHF007 are compatible with all additives used in Guar-based fracturing fluids such as OPTiFrac. Lab testing indicates that KHF007 can be used for temperature applications up to 350°F.

KHF007 can reduce the surface tension to as low as 19 Dynes/cm.

## 4. Treatment

The CMC value for KHF007 is low. However, 1-2 Gal/1,000 Gal is the generally recommended concentration for most fracturing fluids.

## 5. Packaging

KHF007 is supplied in 55 gallons high density polyethylene (HDPE) drums or 265 gallons HDPE totes. Keep it away from extreme conditions such as places near flames or direct sunlight.