

HiRate™ Plus Liquid Friction Reducer



Delivering lower pumping pressures, higher pump rates with far less product – in nearly half the time.

Slickwater fracturing systems depend largely on high performance friction reducers (FR) to achieve the pump rates required for proppant transport and suitable fracture geometry. While simple to use onsite, traditional emulsion-based friction reducers have reached the limits of their performance and affordability. To overcome these existing FR limits, Innospec Oilfield Services (OFS) took on the challenge to develop an affordable, high efficiency FR that also maintains operational simplicity without need of any special pumping equipment.

Introducing HiRate Plus, the ultra-fast hydrating FR system that incorporates proprietary chemistry to extend its friction reduction efficiency

OFS' HiRate Plus is an invert polymer emulsion-based FR that is specifically designed for ultra-fast inversion and hydration, imparting significantly improved friction reduction efficiency. Easy to mix and meter, the HiRate Plus system— unlike conventional emulsion-based FRs—is based on a higher polymer activity that allows less product per stage, thereby saving operators time and money. If chasing pump rate, the product has a better pressure to rate ratio than the conventional FR's, allowing higher treating rates.

Product Application

Using an anionic, high molecular weight polyacrylamide, this product's typical loadings can range from 0.15 to 0.70 gpt. In a hybrid fluid system, loadings can also be increased in the latter portion of the job to enhance the fluid viscosity -- without having to rely on guar-based fluids. HiRate Plus performs optimally in fresh water, but is also designed to tolerate up to about 60,000 ppm TDS waters.

Features

- Provides less pressure using less product
- Treatment loading is about half that of conventional friction reducers
- In a hybrid process, enhances fluid viscosity with zero reliance on guar-based fluids

Technical Properties

Appearance	Off white to tan liquid
Density	1.073 g/cm ³ (20°C (68°F))
pH	n/a
Flash Point	>93.3°C; >199.9°F
Specific Gravity	1.075

Storage and Handling

Store in a dry, cool and well-ventilated area, away from incompatible materials.

Always wear appropriate protective equipment. Do not get in eyes or on skin or clothing.

About Innospec Oilfield Services (IOFS)

An integral part of Innospec (NASDAQ: IOSP), Innospec Oilfield Services (IOFS) is headquartered in Englewood, Colorado. The company's presence in North America is a highly focused one: Delivering the best possible chemical technologies and superior efficiencies along with the superior level of service vital to support drilling, completions, and production projects in all major U.S. oil and gas basins.

Founded in 1938, Innospec Inc. has evolved into a leading international specialty chemicals company with approximately 1,900 employees operating in 23 countries. Innospec has major regional centers in the U.S., UK and Singapore, with production plants located in countries including the U.S., UK, France, Germany, Spain, and the Philippines.

Innospec manufactures and supplies a wide range of specialty chemicals to markets in the Americas, Europe, the Middle East, Africa, and Asia-Pacific. In addition to designing, formulating, and producing oilfield chemicals for drilling, completions, and production applications, the company's other business segments are Fuel Specialties, Performance Chemicals and Octane Additives.

Contact Innospec Oilfield Services

For more information on how the Innospec Oilfield Services team can work for you, please contact your regional IOFS sales office, or visit us online at www.innospecinc.com.