

**High Viscosity Friction Reducer SL-HVFR0660****○ Product Description**

SL-HVFR0660 is a suspension concentrate of anionic polymer in mineral oil. It has been developed to work in a wide range of friction reduction applications and can be used in both slickwater and high viscosity friction reducer (HVFR) applications. And can provide excellent proppant distribution compared to traditional treatments using guar or crosslinked gels.

Compare with common emulsified friction reducers, it has more active polymer, the time required to obtain the appropriate viscosity is shorter, not needing as many hazardous and expensive chemicals on location and have a lower cost.

SL-HVFR0660 can be run at high pumping rate and low viscosity fluid, and significantly higher regained conductivity of the produced fractures due to much lower residue being left than we see in gel jobs.

It has become widely used in a variety of well types including oil, gas, water, and injection wells.

**○ Technical & Engineering Information**

SL-HVFR0660 is suitable for hydraulic fracturing from any source water, fresh water or high salinity water. It is easier to meter, disperse and hydrate in water. There are no fish eyes during the preparation process, and the solution viscosity is released quickly.

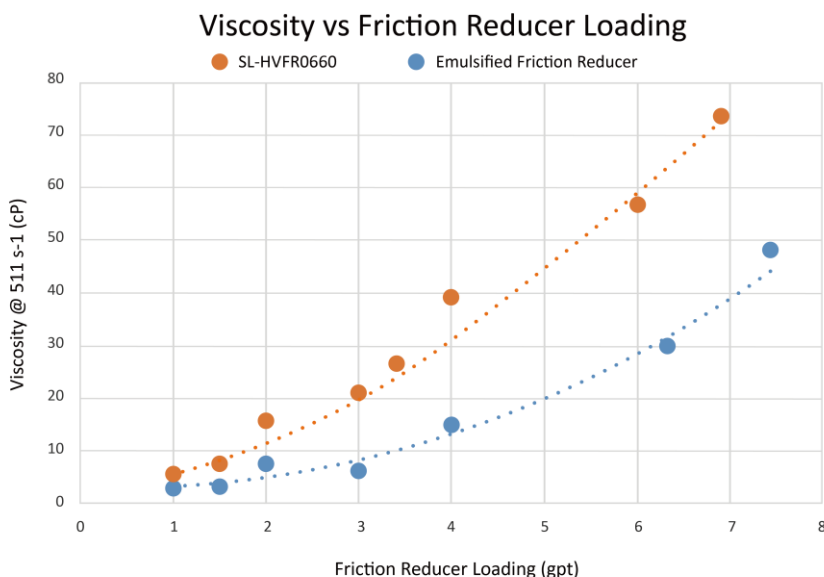
SL-HVFR0660 show insignificant residue and low damage, which means that the formation permeability can be restored successfully. The low molecular weight slippery water system causes less than 10% damage to the core.

When crosslinked gel is needed, a lab test is high recommended. Use organic zirconium crosslinker and acid PH buffer could obtain a high elastic-viscosity fracturing fluid.

**○ Technical Indicators****Technical Indicators of SL-HVFR0660**

Item	Indicator
Appearance	Uniform viscous liquid
Colors	Milky white
Specific Gravity	1.0-1.1
Solubility in water	Soluble and Viscous
Solubility in 10000 TDS brines	Soluble and Viscous

The ability to run lower loadings on SL-HVFR0660 when compared to emulsified friction reducers while maintaining the same apparent viscosity. Details data be shown in the attached table.



## Recommended Treatment

At low concentrations (2-6 gal/1000 gal), the high-salinity SL-HVFR0660 can be used as a friction reducer for high- rate slickwater treatments.

At high concentrations (8-13 gal/1000 gal), the high-salinity SL-HVFR0660 generates higher viscosities than conventional friction reducing agents, improving proppant transport.

High-rate hydraulic fracturing operations using freshwater to high-TDS brine and produced water.

Open hole or cased hole completions.

Refracturing operations.

Hydraulic fracturing operations in shale, carbonate, tight sandstone, and coalbed methane reservoirs.

Producers and injectors.

Ability to use ISO tanks improves product handling and reduces product costs

## Packing and Storage

SL-HVFR0660 is supplied in 53gallon (200L) high density polyethylene (HDPE) drums or 265gallon (1000L) IBC. Keep it away from extreme conditions such as places near flames or direct sunlight.

Shelf life: 1 year.