



PRODUCT DATA SHEET

Op-T-Gel FR 1901 Cationic Friction Reducer

General Description

FR 1901 is an advanced cationic friction reducer for water based fracturing and completion fluids and is designed to reduce drag and friction pressures when pumping low viscosity fluids. The high cationic charge of the product enables rapid viscosity development in fresh water which greatly increases the ability to remove downhole cuttings/solids. **FR 1901** is designed for fast break and readily disperses for rapid hydration.

Product Features

- Rapid hydration in brine and high TDS fluids (200,000 TDS)
- Superior performance in low pH, high TDS, or saturated brine systems
- Lowers pumping pressure
- Compatible with amine based slay stabilizers, acid systems and other cationic additives
- Effective at lower concentrations than conventional friction reducers

Properties

Form:	Liquid, Viscous	Water Solubility:	Soluble
Color:	White	Specific Gravity:	1.03 ± 0.05
Flash Point:	>93.3°C (200°F)	Viscosity*:	300-1500 (~600)
pH (0.5%):	6.0-8.0	Solution Viscosity**:	300-1500 (~1280)

* measured with LVT Spindle #3 at 60 rpm

** 0.5% active solution measured with LVT Spindle #3 at 60 rpm; if greater than 2000 with Spindle #3 at 30 rpm

Application

For effective friction reduction, **FR 1901** should be added at 0.5 to 2.0 L/m³ (GPT) in most water based fracturing/workover applications. **FR 1901** should be added at 5.0 to 10.0 L/m³ (GPT) in fresh water systems for viscous sweeps. Pilot testing is recommended to determine optimal dosage.

FR 1901 is compatible in HCl fluid systems and can be used as a friction reducer in fluid systems that contain up to 15% HCl.

Availability

FR 1901 is available in 1000 liter (275 gallon) totes, 1250 liter (330 gallon) totes, or bulk.