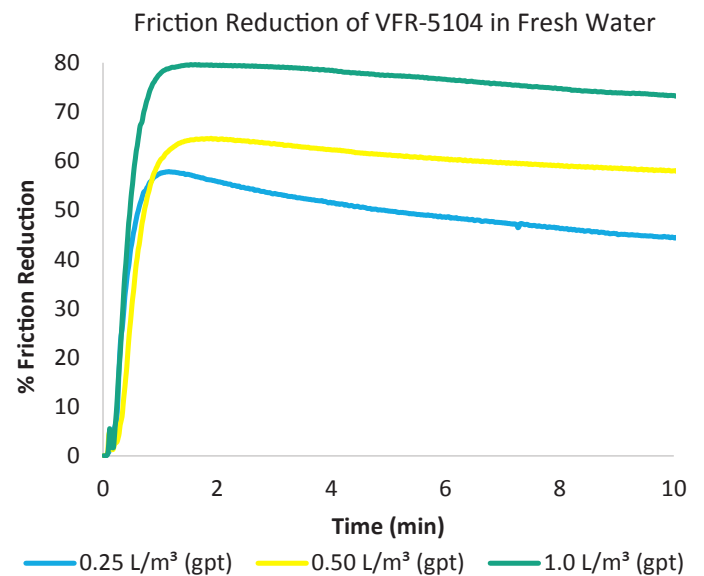


## ArkSlick VFR-5104 | High Viscosity Friction Reducer

ArkSlick VFR-5104 is an economical anionic friction reducer (FR) developed for use in fresh water systems. The product generates viscosity equivalent to linear gel systems at relatively low loadings. ArkSlick VFR-5104 provides rapid and sustained viscosity and friction reduction performance.

Arkon Solution's friction reducer products are evaluated under field relevant Reynolds numbers, velocities and differential pressures. Illustrated in the graph to the right is the friction reduction provided by ArkSlick VFR-5104 in ½ inch diameter tubing at a volumetric flow rate of 57 L/min (15 gpm). ArkSlick VFR-5104 provides significant friction reduction at loadings as low as 0.25 L/m<sup>3</sup> (gpt).



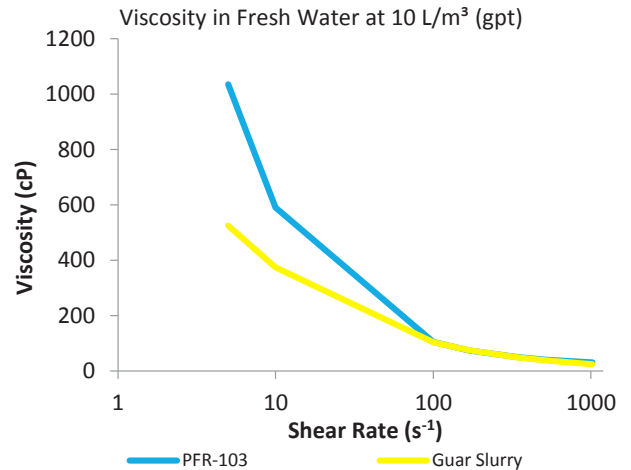
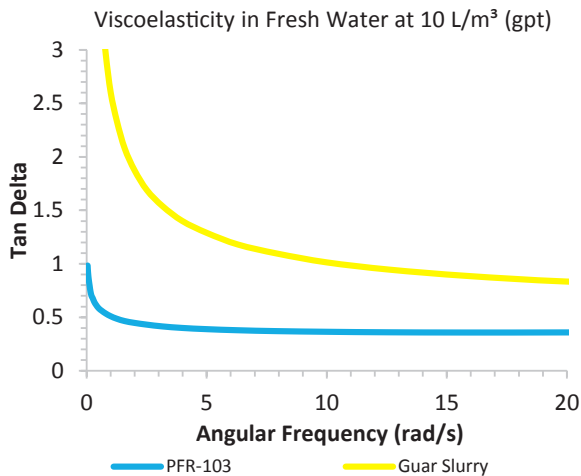
## Highlights

- + Anionic emulsion friction reducer
- + Effective friction reduction at low concentration
- + Excellent viscosifying and viscoelastic properties
- + Shear-thinning
- + Broad compatibility with fracturing additives
- + Economic option for fresh water applications
- + Non-hazardous
- + **Typical loading: 0.5 – 10.0 L/m<sup>3</sup> (gpt)**



# Friction Reducer

ArkSlick VFR-5104 demonstrates improved viscoelasticity and viscosity when compared to a standard guar slurry, both of which play an important role in proppant carrying capacity. As a high viscosity friction reducer (HVFR), VFR-5104 combines the proppant carrying capacity of crosslinked gels with the pressure reduction of traditional slickwater treatments into a single versatile product.



## Physical Properties

- + **Appearance** White viscous liquid
- + **Odor** Oily
- + **Specific Gravity** 1.05
- + **Flash point** >93.3°C (200°F)
- + **Pour point** ~ -15°C (5°F)

## Packaging

- + **1000 L totes** 1040 kg (2293 lb) net weight
- + **200 L drums** 210 kg (463 lb) net weight



### Where Chemistry Intersects With Innovation

Arkon Solutions is a manufacturer providing technically advanced and cost effective chemical solutions to the global marketplace. We offer a large and diverse array of chemical solutions to meet the needs of any industry. We invest in our technology to ensure we continually deliver leading-edge chemical products and solutions to our clients. Speak with one of our expert technical sales team about how we can help formulate the right solution for you.