



SAND GRENADE XL

SAND GRENADE XL is a concentrated anionic liquid friction reducer dispersion designed for high viscosity/hybrid slick water hydraulic fracturing specifically in brackish waters and high TDS brines. It contains 60% active product of a high-performance anionic polyacrylamide – which produces significant viscosity in fresh water and in brines with high TDS and high concentrations of divalent ions. SAND GRENADE XL will remain elastic and produce viscosity in brines exceeding 250,000 TDS and maintain elastic properties to effectively carry proppant. Typical concentrations for use in brines are 1 to 3 GPT. Additionally, SAND GRENADE XL can be used as a friction reducer for slick water stages and is effective at low concentrations of 0.3 to 0.8 GPT in fresh water or high TDS brines.

Appearance.....	Tan liquid
Pour Point	<-13°F
Flash Point	Does not flash
Charge	Anionic
Density	9.2-9.3 lbs/gal
Solubility in water	100% Dispersible
pH (0.5% in water)	7.0
Typical dosage	0.3 – 3 GPT
Typical water quality	0 – 250,000 mg/L TDS

Advantages:

- Rapid release into water and instant viscosity generation.
- Able to maintain viscosity and elasticity even in very high TDS brines containing high concentrations of divalent ions.
- Easy to work with suspension that has a pour point of -13°F and is stable at temperatures greater than 130°F.
- Dual purpose product – can be used as friction reducer and a water viscosifier simply by adjusting dosages.
- AMPS-free, clean-degradable polymer can be broken with conventional oxidizers.
- Logistical savings – high activity means less product is required lowering treatment costs and reducing traffic

Storage and Handling Notes:

- Store in a cool (<100 °F), dry location. Extended exposure to higher temperatures could reduce the shelf life of the product.
- If stored in tightly sealed packaging and mixed monthly, SAND GRENADE XL will have a shelf life of 2 years.
- Avoid freezing SAND GRENADE XL as freeze/thaw cycles can have a negative effect on the product.
- Refer to the Safety Data Sheet for more detailed information.