

# FLO-VIS PLUS high-yield, premium-grade, clarified xanthan gum viscosifier

Improves drilling performance, reduces formation damage, and lowers overall well costs

## Applications

- Provides superior viscosity in saltwater, including KCl, field brines, seawater, and workover and completion fluids
- Increases viscosity in freshwater
- Can be used in CaCl<sub>2</sub> and formate salt systems with special mixing procedures

## How it improves wells

FLO-VIS PLUS\* high-yield, premium-grade, clarified xanthan gum viscosifier produces elevated low-shear-rate viscosity and high, fragile gel strengths. These properties provide superior hole cleaning and suspension, improved hydraulics, and reduced torque and drag and assist in minimizing filtrate invasion. FLO-VIS PLUS viscosifier helps improve drilling performance, reduce formation damage, and lower overall well costs.

FLO-VIS PLUS viscosifier yields higher low-shear-rate viscosity than other polymers and is more thermally stable; however, salt, thermal extenders, or both can improve performance at temperatures above 250 degF [121 degC]. With a thermal extender, it may be used effectively in wells with bottomhole temperatures up to 330 degF [166 degC].

## Advantages

- Provides lower high-shear-rate viscosity than other viscosifiers while lowering standpipe pressures and minimizes pressure loss, ECD, and surge and swab pressures
- Aids filtration control by slowing the rate of filtration invasion into the formation
- Minimizes formation damage in the production zone by leaving virtually no residue after treatment with an appropriate breaker

## Limitations

- Drilled solids contamination interferes with the unique rheology obtained with FLO-VIS PLUS viscosifier and diminishes its nondamaging characteristics. Low-gravity solids and methylene blue test (MBT) value should be monitored and maintained at the lowest possible level.
- Although FLO-VIS PLUS viscosifier is more resistant to bacterial degradation than other biopolymer viscosifiers, a biocide is recommended to prevent fermentation in fluids that are not saturated with salt.
- Soluble iron can crosslink FLO-VIS PLUS viscosifier, creating a viscous gel. Soluble iron should be chelated with citric acid or precipitated with magnesium oxide.
- High-pH and high-soluble calcium hydrolyze and precipitate FLO-VIS PLUS viscosifier. Cement should be aggressively pretreated with citric acid and sodium bicarbonate or drilled with another system.

## Additional information

FLO-VIS PLUS viscosifier is the primary viscosifier for FLOPRO NT\* water-based reservoir drill-in fluid and FLOPRO SF\* solids-free water-based reservoir drill-in fluid system. It is compatible with strong cationic hydration suppressants such as KLA-STOP\* liquid polyamine shale additive and inhibitor system.

## Toxicity and handling

Bioassay information is available upon request.

Handle as an industrial chemical, wearing protective equipment and observing the precautions as described in the safety datasheet.

Use caution when combining FLO-VIS PLUS viscosifier with cationic additives such as corrosion and scale inhibitors.

## Packaging and storage

FLO-VIS PLUS viscosifier is packaged in 25-lbm [11.3-kg], multiwall paper sacks. Store in a dry location away from sources of heat or ignition and minimize dust.

### Typical Physical Properties

Physical appearance	Free-flowing beige powder
Specific gravity	1.4–1.6

All specifications are subject to change without notice.