Flo-Trol filtration-control additive is a special starch derivative used in FloPro* systems.

When used in conjunction with a bridging agent such as sized calcium carbonate or sized salt, it provides a thin, pliable, easily removed filter cake. Flo-Trol additive is a non-ionic material especially suited for fluids containing salts or ion-sensitive additives. Flo-Trol material acts synergistically with Flo-Vis* additive to enhance the Low-Shear-Rate Viscosity (LSRV) of FloPro systems.

**Typical Physical Properties**

- Physical appearance: White powder
- Specific gravity: 1.5
- Solubility in water: 100%

**Applications**

Flo-Trol additive is used to reduce fluid loss in the FloPro system (see Figure 1). It contributes to elevated LSRV compared to conventional fluid-loss additives (see Figure 2). Unlike most Polyanionic Cellulose (PAC) or starch-base additives which thin the FloPro system, Flo-Trol additive actually increases the LSRV.

Flo-Trol additive can be used in most brines including seawater, NaCl, KCl, CaCl₂, NaBr and formate salt systems. It resists calcium contamination over a wide pH range and can be used at temperatures to 250°F (121°C). A thermal extender is recommended to allow the use of Flo-Trol additive in wells with bottomhole temperatures as high as 300°F (149°C).

Recommended Flo-Trol additive concentrations range from 1 to 4 lb/bbl (2.85 to 11.4 kg/m³) for most applications. Special ultra-low, fluid-loss formulations require higher concentrations.

![Fluid Loss Reduction](Figure 1)

![Effect on LSRV](Figure 2)
Advantages
• Provides a thin, pliable, easily removed filter cake which minimizes formation damage and facilitates cleanup during completion
• Acts synergistically with Flo-Vs additive to enhance LSRV
• Not adversely affected by salinity and functions over a wide range of water chemistry

Limitations
• Begins to degrade thermally at temperatures above 250°F (121°C)
• Subject to bacterial degradation. A biocide is recommended to prevent fermentation in fluids which are not saturated with salt.

Toxicity and Handling
Bioassay information is available upon request.
Handle as an industrial chemical, wearing protective equipment and observing the precautions described in the Material Safety Data Sheet (MSDS).

Packaging and Storage
Flo-Trol additive is packaged in 50-lb (22.7-kg), multi-wall, paper sacks.
Store in a dry, well-ventilated area. Keep container closed. Store away from incompatibles. Follow safe warehousing practices regarding palletizing, banding, shrink-wrapping and/or stacking.