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ThruTrol

ThruTrol* filtration-control additive is a specially modified starch derivative used in the FloThru* water-base drill-in fluid system.

When used in conjunction with ThruCarb* bridging agent and properly sized Safe-Carb* calcium carbonate, it provides a thin, pliable filter cake that minimizes infiltration yet promotes oil production without the need of a chemical breaker. ThruTrol starch has a hydrophobic nature that creates organophilic channels within the filter cake.

Typical Physical Properties

Physical appearance	Off-white powder
Specific gravity	0.48 – 0.64

Applications

ThruTrol additive is used to reduce fluid-loss in the FloThru system. ThruTrol additive contributes improved fluid-loss control and enhanced elevated low-shear-rate viscosities when used in conjunction with a biopolymer. ThruTrol works together with ThruCarb organophilic bridging agent to generate a filter cake with hydrophobic channels that readily permit production of hydrocarbons.

ThruTrol additive may be used in freshwater and most brines including seawater, NaCl, KCl, $CaCl_2$, NaBr, and formate salt systems. ThruTrol additive resists calcium contamination over a wide pH range and may be used at temperatures >250°F (121°C).

ThruTrol filter cakes are designed to permit the production of hydrocarbons without the need for a chemical breaker. These cakes permit production flow at lower flow-initiation pressures and with greater percent return permeability in gravel pack completion scenarios when compared with those of conventional water-base reservoir drill-in fluids.

Recommended ThruTrol additive concentrations range from 10 to 15 lb/bbl (28.5 to 43 kg/m³) for most applications.

Advantages

- ThruTrol filtration control additive provides a thin, pliable, oil-permeable filter cake which minimizes formation damage and facilitates cleanup during completion
- Provides filtration control at temperatures to >250°F (121°C)
- Acts together with ThruCarb bridging agent to create an oil-permeable filter cake
- Not adversely affected by salinity, and functions over a wide range of water chemistry

Limitations

- Lower water solubility requires higher concentration than conventional starch additives to generate a given filtration value.
- Subject to bacterial degradation. A biocide is recommended to prevent fermentation in fluids that 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 as described in the Material Safety Data Sheet (MSDS).

Packaging and Storage

THRUTROL additive is packaged in 50-lb (22.7-kg) or 25-kg (55.1-lb) 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.

MS-C12001 8/05

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