THIXAGEL Patented

An Inorganic Rheology Viscosifier for "Bentonite" Based Systems

Description

THIXAGEL, rheologic viscosifier, is a concentrated proprietary mixture of magnesium/aluminum oxides and alkaline salts designed to produce an exceptional, shear-thinning, drilling mud with both high and fragile gels in all types of bentonite-based fluid systems.
THIXAGEL, rheologic viscosifier, utilizes a unique production process to reduce dusting during product use, significantly extend product shelf life, and gain quick dispersion during mixing and application.

Applications/Functions

- Horizontal Directional Drilling
- Large diameter vertical applications
- Drilling of unconsolidated alluvial formations
- Environmental bores
- Milling applications

Advantages

- Excellent cuttings transport
- Fragile gel structures
- Improved suspension characteristics
- Improved borehole stability
- Temperature stable up to 200°F (93°C)
- Non-fermenting

Typical Properties

Appearance	Off white powder
Bulk Density	35-40 lb/ft^3
pH	10-11

Recommended Treatment

Mix and completely hydrate a bentonite concentration of 6.3-10.5 lb/bbl (15-25 lb/100 gallons or 18-30 kg/m^3). Add THIXAGEL, rheologic viscosifier, at 0.6-1.2 lb/bbl (1.5-2.75 lb/100 gallons or 1.75-3.5 kg/m^3) slowly and uniformly through a high-shear, jet-type mixer over one or more cycles of the volume of slurry. Continue to circulate and agitate the slurry for a period of 15-20 minutes to ensure complete hydration and dispersion of the THIXAGEL additive.

Note:

- For best results maintain the following ratio of bentonite to THIXAGEL rheologic viscosifier with respect to the type of bentonite used:
  - If AQUAGEL® or AQUAGEL® GOLDSEAL is used - 13:1
  - If QUIK-GEL® or QUIK-GEL® GOLD is used – 11:1
- Once development of the initial fluid system is completed all subsequent additions of bentonite to the active fluid system should be pre-hydrated prior to addition.
- To improve resultant filtration properties of the THIXAGEL system add a non-ionic potato starch at a concentration of 2.0-4.0 lb/bbl (4.75-9.5 lb/100 gallons or 5.7-11.5 kg/m^3).
- For optimum results from the THIXAGEL system do not incorporate anionic polymers, surfactants or lignite additives to the system.

Packaging

THIXAGEL is packaged in a 25-lb (11.4-kg) multi-wall paper bag. The bag is sturdy, moisture resistant and easy to handle, store and transport.