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PRODUCT DATA SHEET

VEN-BHC™ HT

(Bore Hole Control)

RECOMMENDATIONS

Treat water with soda ash to reduce hardness below 60 ppm (60 mg/l) to improve yield of bentonite. Pre-hydrate Premium (untreated) bentonite for at least one hour before adding caustic soda, mix Peptized (treated) bentonite for at least 15 minutes.

Do not add any chemicals (i.e. fluid loss control additives or thinners) that are not on the formulation list without prior pilot testing. Add pre-hydrated Premium (untreated) bentonite or Peptized (treated) bentonite and Ven-BHC™ when necessary to increase viscosity.

Dilute with water when necessary to decrease viscosity. Maintain pH between 9.0 - 10.0 (to enhance bentonite hydration)

BENEFITS

Achieve higher Rates of Penetration, save on reduced drilling days. Has few system components and is easy to use. Works with Bentonite, Attapulgite and Sepiolite. Can be used with either Premium (untreated) bentonite or Peptized (treated) bentonite. Provides high yield point with low funnel viscosity. Has high 'low end' rheological properties.

Optimizes hole cleaning capabilities, zero 'slip' velocity, has excellent suspension characteristics. Provides excellent shale stability Virtually zero shear stress at borehole. Maintains filtration control in the presence of contaminants. Minimize torque and drag. Environmentally safe fluid system. Requires no special or sophisticated rig equipment, just good solids control.

Solids and fluid are prevented from entering production zones (due to the bridging agents particle size distribution assuring a thin, low permeability filter cake Can be used with anionic fluid loss agents (PAC R)

GENERAL INFORMATION

Ven-BHC™ HT is an inorganic, synthetic gel-strength modifier and shale stabilizer designed for waterbased drilling, milling and completion fluids. Ven-BHC™ HT is a proprietary Poly Hydroxy Silicate technology. Ven-BHC™ HT provides borehole stability and superior hole cleaning for milling of casing and drilling highly deviated or horizontal sections as well as straight hole drilling applications. This fluid is especially effective when drilling unconsolidated, unstable, stressed or faulted formations.

The Ven-BHC™ HT drilling fluid system is capable of remarkable solids suspension, yet exhibits extreme shear thinning flow characteristics. The result is a low-solids fluid system that drills like water, yet forms, almost instantly, a unique gel structure that carries and suspends cuttings in 'near perfect transport' while providing superior shale stabilizing characteristics.

Ven-BHC™ HT is Temperature stable above 325°F.

TYPICAL PROPERTIES

Form	:	Powder
Color	:	White
pH, in water (3% solution)	:	9.0-10.0
Solubility, in water	:	Insoluble, Dispersible
Bulk Density, lb/ft	:	compacted 65-85 uncompacted 45-65

TYPICAL FORMULATION

Soda Ash	Hardness reducer	:	0.05-0.25 lb/bbl, (0.15-0.7 kg/m3)
Premium bentonite or Peptized bentonite		:	8.0-15.0 lb/bbl , (23.0-43.0 kg/m3)
Caustic Soda	Alkalinity	:	as needed for pH
CM Starch	Fluid Loss Control	:	2.0-6.0 lb/bbl, (6.0-17.0 kg/m3)
Ven-BHC™	Rheology Modifier	:	1.0-4.0 lb/lb gel, (0.05 kg/kg gel)

Calcium Carbonate (weight and bridge) As needed Pac R (Anionic Fluid Loss Additive) As needed

PACKAGING

Ven-BHC™ is packaged in twenty-five (25) lb. multi-wall, polyethylene lined bags.

PRECAUTIONS

Some anionic products may cause adverse de-flocculation or dispersion -thinning. To effectively bridge off the production zone 20-30% by weight of the bridging agent should be 1/3 of the pore size in microns. To prevent contamination clean tanks prior to addition of fresh fluids. When milling casing, the old drilling fluid left behind casing may cause de-flocculation or thinning. Keep calcium in make up water levels below 60 ppm (60 mg/l) with soda ash. See the Safety Data Sheet for more detailed information concerning storage, handling, transportation, disposal and safety requirements.