

BIOVIS-HT

HIGH TEMPERATURE VISCOSIFIER

DESCRIPTION

BIOVIS-HT is a dry, free flowing powder that is a new specially selected and modified biopolymer. It is of high molecular weight, and is slightly anionic in charge. The most distinctive features are that it produces high viscosity fluids which withstand significantly higher temperatures and resist thermal degradation at high temperatures. These fluids are also stable to pH and salt, and are resistant to typical drilling or workover contaminants H₂S, CO₂, drilled solids, formation brines and crudes, etc.

APPLICATION

BIOVIS-HT solutions provide excellent high temperature thixotropic properties, and are highly shear thinning fluids. Over 55% (of a 1 ppb solution in seawater, pH 9) of BIOVIS-HT room temperature suspension viscosity (low shear rate viscosity) is maintained at 300° F, and in workover and completion fluids. BIOVIS-HT provides long term suspension and filtrate control up to 310° F static conditions. In circulating drilling fluids, BIOVIS-HT performs at even higher bottom hole temperatures. BIOVIS-HT provides excellent hole cleaning and carrying capacity and is recommended in concentrations of 1/2 to 2 ppb. To typically produce a yield point of 15 in fresh water, seawater, 3% KCl solution or saturated sodium chloride salt solution, 1 ½ ppb of BIOVIS-HT is required.

ADVANTAGES

- BIOVIS-HT, compared to commonly used viscosifying polymers, withstands significantly high temperatures and degrades slower.
- BIOVIS-HT solutions are stable when contaminated by Portland cement slurries CO₂, H₂S, formation brines and drilled solids.
- BIOVIS-HT may be used to stabilize and stiffen foams at high temperatures as well, and it improves foam tolerance to salt water or crude flows and helps maintain a homogeneous foam.
- BIOVIS-HT solutions are stable over a pH range of 2 to 13, subject to limitations mentioned below.



LIMITATIONS

Avoid pH values above 12 when calcium or magnesium is present above 10,000 mg/L. The product is most stable at temperature at a pH of 8-10. Some cationic materials may be incompatible with BIOVIS-HT, and pilot testing is recommended before using those materials.

BIOVIS-HT is not recommended for use in saturated heavy brines such as CaCl₂ and/or CaBr₂, or in CaCl₂ brines of greater than 15% concentration.

MIXING PROCEDURES

BIOVIS-HT should be mixed by adding relatively slowly through a mixing hopper (30 minutes/sk). At moderate shear full hydration is achieved within 30 minutes, however high salinity, cold water, or low mixing shear can delay hydration.

PACKAGING

BIOVIS-HT is packaged in 25 kg bags.

BIOVIS-HT is a Messina trademark

