HEC
(Hydroxyethylcellulose)

(HEC) Hydroxyethylcellulose is a non-ionic water-soluble polymer designed specifically to increase the viscosity of water-based fluids used in workover and completion operations. The resulting polymer solutions are clear, viscous and residue-free.

Typical Physical Properties

Physical appearance ..... Off-white free flowing powder
Solution viscosity ..... > 3,500 cPs
pH of 1% solution..... 6.0-8.5
Bulk density 450-500 kg/m3

Applications

HEC is used to viscosify single salt CaCl2 brines and all mono-valent-salt brines such as NaCl, NaBr, KCl, KBr, and NH4Cl.

Oilfield fluids containing HEC exhibit high apparent viscosity, high yield point and low fragile gel strength. Its shear-thinning behaviour known as pseudoplasticity help both increase penetration rates under high shear and provide excellent suspending action for optimum hole cleaning under low shear while viscosity is regained.

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

Packed in 25 kgs or 50 lbs paper sacks.

Store in dry, well-ventilated area. Keep container closed. Keep away from heat, sparks and flames. Store away from incompatibles. Follow safe warehousing practices regarding palletizing, banding, shrink-wrapping and /or stacking.

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Advantages

- Highly effective viscosifier, with minimal treatments producing significant results
- Shear-thinning rheological profile for improved hydraulics
- Minimum frictional pressure losses for additional hydraulic horsepower at the bit and low, high-shear-rate viscosity for max penetration rates
- Viscous laminar flow in the annulus for improved wellbore stability with maximum hole-cleaning and suspension capacity
- Mixes easily

Limitations

- Trivalent ions such as chromium and iron may cause biopolymer precipitation and loss of viscosity or crosslinking
- Not tolerant of high-pH or high-calcium-ion conditions Duo-Vis systems should be pre-treated with either sodium bicarbonate or SAPP and possibly citric acid prior to drilling cement
- Subject to bacterial degradation, a biocide should be used to prevent fermentation
- Slightly anionic nature of Duo-Vis additive requires special mixing procedures when mixed with cationic materials

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

Duo-Vis additive is packaged in 25-lb (11.3-kg) or 25-kg (55.1-lb), plastic-lined, multi-wall, paper sacks.

Store at room temperature in a dry, well-ventilated area. Keep in original container. Keep container closed. Store away from incompatibles

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