

POWERVIS

Linear biopolymer viscosifier

APPLICATIONS

Viscosification and solids suspension in POWERPRO CT* coiled tubing debris-removal fluid

ADVANTAGES

- Higher thermal stability
- Tolerant of cement
- Provides the low-shear-rate viscosity (LSRV) equivalent to xanthan gum but at a lower polymer concentration
- Lower plastic viscosity (PV) and yield point (YP) compared with xanthan gum
- Lower equivalent circulating density (ECD)
- Lower pump pressure
- Lower free-spin pressures for coiled tubing
- Extended life of coiled tubing fluids

The POWERVIS* linear biopolymer viscosifier is a rheology-modifying agent used to provide viscosity and solids suspension in POWERPRO CT fluid systems. It can also be used as a viscosifier in FLOPRO NT* water-base reservoir drill-in fluid in fresh-water or low-salinity drilling fluids where enhanced hole cleaning is desired, and in SAFETHERM* aqueous-base water-miscible insulating packer fluid applications.

The unique rheology profile of POWERVIS viscosifier delivers lower pump pressures and ECD, making it an ideal alternative for coiled tubing drilling or any applications where a solids-free system is being used.

The viscosifier produces LSRVs similar to xanthan gum biopolymer but at lower concentration levels. Lower PVs and YPs have also been observed when POWERVIS viscosifier is used in place of xanthan gum. In coiled tubing operations, lower ECDs, lower pressure loss, and lower free-spin pressures are the result of the rheological properties provided by POWERVIS viscosifier.

Compared with xanthan gum, POWERVIS viscosifier is also more resistant to thermal degradation while tolerating cement and higher pH, thus making it an alternative for drilling fluids.

The amount of POWERVIS viscosifier required depends on the specific application. For coiled tubing and solids-free fluids, a 0.875- to 1.25-lbm/bbl [2.4- to 3.6-kg/m³] concentration is recommended. For other applications, the concentration level of POWERVIS viscosifier depends on the amount of viscosity desired. Pilot testing is highly recommended.

Typical Physical Properties

Physical appearance	Free-flowing white to tan powder
Relative density	1.5

Limitations

- Bacterial degradation
- Not for use with divalent brines, sodium bromide brines, and mixed brines
- Density limitations of >9.4 lbm/galUS [1.13 relative density] sodium chloride brine
- Do not use hydrochloric acid as a breaker; use an oxidizer such as hypochlorite, peroxide, or persulfate
- Temperature limitations of >325 degF [163 degC]

Toxicity and handling

Bioassay information is available upon request. Handle as an industrial chemical, wear protective equipment, and observe the precautions described in the material safety datasheet (MSDS).

Packaging and storage

The POWERVIS viscosifier is packaged in 25-lbm [11.3-kg] multiwall paper sacks. Store in a dry location away from sources of heat or ignition, and minimize dust.