

GLYDRIL GP

GLYDRIL* GP polyalkylene glycol is a broad cloud-point and wide molecular weight range additive designed for medium-to-low salinity polyglycol mud systems.

It delivers improved shale stability, lubricity, high-temperature filtration control, while reducing dilution rates and bit balling. While polyglycols are most effective when used in conjunction with an inhibitive salt in non-dispersed polymer systems, they can be used as additives in most water-base systems.

Typical Physical Properties

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|-------------------------------|------------------------|
| Physical appearance | Clear to amber red |
| Specific gravity @ 25°C | 1.060-1.112 |
| pH (2% solution) | 8-11 |
| Solubility in water | Variable |
| Flash point | 430° F (221° C) (PMCC) |

Applications

GLYDRIL GP has application in polyglycol systems with fresh-to-medium salinity makeup water and can be used in wells with low formation temperatures. This low cloud-point additive helps stabilize troublesome shales by reducing the liquid phase activity and plugging shale pores, thereby preventing the equalization of hydrostatic pressure away from the wellbore.

Polyglycol muds generally are low-to-medium density, non-dispersed polymer systems that use an electrolyte to activate the cloud-point polyglycol. They have applications in drilling troublesome water-sensitive shales and can be used in lieu of oil-base systems for certain applications. GLYDRIL GP is effective in Thermally Activated Mud Emulsion (TAME) applications (near the cloud point) or in situations where it is insoluble (above the cloud point).

Normal concentrations of GLYDRIL GP range from 2 to 5% or 7 to 17.5 lb/bbl (20 to 50 kg/m³). After the initial treatment, periodic treatments should be made to maintain the desired concentration. Two field test methods are available to monitor the concentration of GLYDRIL GP.

“Cloud point” is the temperature where polyglycol additives change from being soluble (at lower temperatures) to being insoluble (at higher temperatures). Shale inhibition is improved when the polyglycol is insoluble or “clouded out.” The cloud-point temperature can be reduced by increasing salinity (or other electrolytes) and/or by increasing the concentration of GLYDRIL GP. Upon request, Technical Services in Houston can provide cloud point data

Advantages

- Improved wellbore stability and shale inhibition
- Improved lubricity
- Improved high-temperature filtration control
- Wide molecular weight range covers wide temperature range
- Reduced dilution rates and mud consumption
- Reduced bit balling potential
- Low toxicity

Limitations

As an insoluble liquid it causes a slight increase in plastic viscosity

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

GLYDRIL GP is packaged in 55 gal (208 L) drums and in bulk.

Store in a 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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