Liquid Drispac® Polymer

Liquid Drispac® Polymer is a high performance Polyanionic cellulose, suspended in an ultra clean mineral oil. Liquid Drispac® Polymer suspension is uniquely stable, easily handled and useful in both oilfield and non-oilfield applications.

Drilling Specialties’ 40% Liquid Drispac® Polymer will not experience the separation, evident in other suspension products. It is not subject to settling or oil separation under normal storage or transport conditions. Starting with a fine grade mineral oil and utilizing our unique suspension technology, we eliminate settling of the Drispac® Polymer particles while the product remains fully pourable. The long-term stability of the suspension provides for consistent, reliable product properties at your field locations anywhere in the world. Liquid Drispac® Polymer has seen successful application in both warm climates, like the Gulf of Mexico and the Middle East, and in cold climates, like the North Sea and Alaska.

Packaging the Drispac® Polymer as a liquid suspension allows for accurate metering, and provides complete dispersion of the particles in your treating fluids before hydration begins. This eliminates problems of polymer lumping and incomplete viscosity development, even when facing adverse field mixing conditions.

**Advantages**
- Easy to handle and mixes well in low shear environments
- Extremely stable suspension provides reliable properties
- Freeze/thaw cycle does not affect stability or performance of the product
- Highly cost effective
- Controls fluid loss
- Produces a thin, slick, tough filter cake
- Retards drilled solids build up
- Promotes faster penetration rates
- Performs well in fresh water, sea water, brine and saturated salt environments
- Improves mud stability
- Reduces clean up time
- Freeze/thaw cycle does not affect stability or performance of the product

**Benefits**
- Friction reducer and lubricant for horizontal drilling
- Increases resistance of clay muds to contamination
- Eliminates need of preservatives; non-fermenting
- Superior carrying capacity

**Cost**
The performance characteristics of Drispac® Polymer are well established in the oilfield. As a liquid suspension this polymer disperses in water and develops viscosity very quickly.

**Mud Types**
Most water-based mud formulations

**Mixing Requirements**
Mix through a mud hopper or may be added directly to a well agitated pit.

**Handling**
For specific instruction on handling, refer to the MSDS

**Packaging**
Disposable pails, containing a net weight of 40 lbs of product (16 lbs of Drispac® Polymer). There are 3.2 pounds of Drispac® Polymer in each gallon of Liquid Drispac® Polymer. Other packaging options such as 275-gallon totes are available.
Liquid Drispac® Polymer

<table>
<thead>
<tr>
<th>Application</th>
<th>Normal Use Range</th>
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<tbody>
<tr>
<td>Fluid loss control</td>
<td>0.16 to 1.6 gal/BBL</td>
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<tr>
<td>Inhibition/encapsulation</td>
<td>0.50 to 1.6 gal/BBL</td>
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<tr>
<td>Improve filter cake</td>
<td>0.40 gal/BBL</td>
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<tr>
<td>Improved &amp; stabilized rheology</td>
<td>0.40 to 0.8 gal/BBL</td>
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<tr>
<td>Reduced stuck pipe frequency</td>
<td>0.40 to 0.8 gal/BBL</td>
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<tr>
<td>Improve hole cleaning</td>
<td>0.15 to 0.8 gal/BBL</td>
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Before using this product, the user is advised and cautioned to make its own determination and assessment of the safety and suitability of the product for the specific use in question and is further advised against relying on the information contained herein as it may relate to any specific use or application. It is the ultimate responsibility of the user to ensure that the product is suited and the information is applicable to the user's specific application. Drilling Specialties Company does not make, and expressly disclaims, all warranties, including warranties of merchantability or fitness for a particular purpose, regardless of whether oral or written, express or implied, or allegedly arising from any usage of any trade or from any course of dealing in connection with the use of the information contained herein or the product itself. The user expressly assumes all risk and liability, whether based in contract, tort or otherwise, in connection with the use of the information contained herein or the product itself. Further, information contained herein is given without reference to any intellectual property issues, as well as federal, state or local laws which may be encountered in the use thereof. Such questions should be investigated by the user.