StarPak® M

StarPak® M is a highly derivatized, complexed polyose specifically developed as a non-toxic filtration control additive for drilling and completion fluids used in the Canadian drilling industry. It is particularly suited for drilling in areas sensitive to Canadian Microtox testing issues. And, StarPak M is acceptable for use in Land Spreading While Drilling (LWD) operations.

Advantages
• Easily passes Canadian Microtox specifications
• Compatible in a wide range of water-based fluids
• Cost effective alternative for PAC/CMC
• Enzyme resistance
• Fermentation resistance
• Inhibition/Encapsulation of clay surfaces
• Pseudoplastic properties

Appearance
StarPak M is an off-white, free-flowing granular powder. Aqueous solutions are translucent

Effect of Solids Concentration on Viscosity

Microtox Testing
StarPak M has been tested for microtoxicity according to G50 guidelines promoted by the Alberta Energy Utility Board (AEUB). StarPak M passes Canadian MicroTox specifications with MTX Threshold Values 100-200 times higher than other starch-based products

Preservation
Biocide addition is normally not necessary when using StarPak M by virtue of the chemical modifications made during processing. However, certain conditions may necessitate biocide addition.

Storage, Handling and Safety
StarPak M exhibits good storage stability if kept dry in its original package. Shelf life can be affected by storage conditions such as temperature, humidity and overall surroundings of the storage area. A Safety Data Sheet is available from Chemstar and should be consulted prior to handling or use.

Availability
StarPak M is available in 50 lb or 25 kg multi-wall poly-lined paper bags for truckload and LTL shipments. For additional information, samples, or technical assistance in using StarPak M or any other Chemstar product please contact 1-800-328-5037 or info@chemstar.com.
## Typical Analysis

<table>
<thead>
<tr>
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<th>StarPak M</th>
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<tbody>
<tr>
<td>Viscosity (cP), 5% Solids</td>
<td>500 – 1,500</td>
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<tr>
<td>LVT, 60 RPM, #4 Spindle</td>
<td></td>
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<tr>
<td>pH (5% Solids)</td>
<td>10 – 11.5</td>
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<tr>
<td>Percent Moisture (%)</td>
<td>12 Max</td>
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<tr>
<td>Bulk Density (lb/ft³)</td>
<td>30 – 45</td>
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<tr>
<td>Particle Size (% thru)</td>
<td>75 (-) 180 micron</td>
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