



Drilling Fluids, Inc.

## Fluid Loss Control

### Description

## DMA

DMA is a blend of Polyacrylate (PHPA) and Polyacrylamide that is used to control rheology (flow properties and gel strengths) and filtration in non-dispersed water-based drilling fluids. Temperature stable as a fluid loss control agent for fresh and salt water base drilling fluids.

### Uses

DMA is very effective as a filtrate reducer and rheology stabilizer for a wide range of water-base drilling fluids from shallow to deep, cool to hot wells. Chloride limits 3,000-10,000 decreasing in effectiveness as chlorides increase.

### Benefits

DMA is thermally stable in field conditions to temperatures in excess of 400°F. DMA may be used in conjunction with BEN-EX for formulation of minimum solids non-dispersed drilling fluids. It is resistant to bacterial attack. DMA may be used in unweighted or weighted drilling fluids. The use of this product is primarily as a fluid loss agent for both API and HTHP filtration control. Rheology control is a secondary property. Calcium levels up to approximately 400 ppm may be tolerated. DMA produces a shear thinning fluid with controlled solids content. Soda Ash or Sodium Bicarbonate may be used to treat out calcium contamination in the make up water. Light additions of SAPP are occasionally effective in reducing the filtrate hardness.

### Treatment

DMA provides to reduced fluid loss at treatment levels of 0.75 to 2.0 ppb under normal conditions.. Daily tour treatment should provide 1.0 ppb for all new volume as well as 0.1-0.2 ppb for existing volume. Additional treatment should be made to maintain fluid loss at the desired value. Typically 1.0 ppb will provide a 6.0 cc fluid loss in fresh water with 15-20 ppb Bentonite.



**Fluid Loss Control**

**DMA (continued)**

**Function**

DMA provides a combination of moderate molecular weight long chain polymers, which seal the spaces between clay and other drilling fluid solids to form a nearly impermeable wall cake, thus reducing the fluid loss value. DMA polymers are attracted by virtue of their anionic charges to the drilling fluid solids. In particular, the polymers are attracted to cationic sites on active materials such as clays. The charge sites are neutralized, reducing the attraction of particles for one another. This condition reduces yield point and gel strengths of the fluid suspension. The polymer encapsulates the clay solids, preventing their degradation. This can help remove solids at the surface as the particles are larger. In addition, larger particle size results in a lower Plastic Viscosity.

**Typical Physical Properties**

Physical Appearance..... white to cream colored powder.  
Specific Gravity.....1.4  
Bulk Density.....N/A  
Hygroscopic.....moderately  
pH in water..... neutral  
Purity.....≥ 99%

**Safe Handling Recommendations**

Utilize normal precautions for employee protection when handling chemical products. Use of appropriate respirator, gloves, goggles, and an apron is recommended for employee comfort and protection. See Material Safety Data Sheet (MSDS) for this product prior to use. Slip Hazard when wet.

**Packaging**

DMA is packaged in 50 pound multi-wall bags.