

# SUPER-BORE-TROL

POTASSIUM SULFONATED ASPHALTIC BOREHOLE STABILIZER/MUD CONDITIONER

## DESCRIPTION

SUPER-BORE-TROL is an improved potassium-based sulfonated asphalt product which stabilizes shales and improves mud performance. SUPER-BORE-TROL has a high Potassium (K+) ion content (in excess of 10% by wt.), and offers significant performance advantages over previous sulfonated asphalts. SUPER-BORE-TROL, through selection of the finest grades of raw material, precisely controlled sulfonation, and advanced production processes, provides the performance benefits associated for many years with well-known sulfonated asphalt products, while eliminating the substantial negative aspects of these other products (notably foaming and high mud gel strengths). SUPER-BORE-TROL has become the borehole stabilizer of choice in many areas of the world since 1979. SUPER-BORE-TROL is a brown to dark-brown powder, readily dispersible and soluble in water. The product is also partially soluble in oil. Unlike other sulfonated asphaltic products, such as Soltex, SUPER-BORE-TROL is non-fluorescent. Its typical properties are as follows:

Appearance	Black - dark brown powder, no appreciable odor.
Specific Gravity approx.	1.35
Potassium Content	> 10% (by wt.)
Boiling Point	N/A
Flash Point	Greater than +200° C (PM-OC)

## APPLICATION

SUPER-BORE-TROL finds primary application as a shale stabilizer, while exhibiting many secondary performance attributes which are beneficial to the drilling fluid and the drilling operation. These secondary attributes include:

- Borehole Lubrication - Filtration Control (API and HP-HT)
- Improved Mud Rheology - Control of Gel Strengths
- Thermal Stabilization - Detergency and Emulsification

SUPER-BORE-TROL controls sloughing and swelling of shales by a dual-phase action: The soluble anionic phase of the product satisfies ionic charges on exposed shale faces, thereby reducing the tendency of the shale to imbibe water. The dispersed insoluble resinous phase coats the shale surface with a deformable tough resinous film which plugs microfissures and bedding planes, physically sealing off water contact and preventing water from penetrating the body of the shale to cause hydration and instability.

Competitive sulfonated asphalts are produced by inexact sulfonation processes which result in variable and poorly controlled solubility. The solubility of these competitive products can range from about 65% to 99%, and varies from batch to batch. SUPER-BORE-TROL, on the other hand, is the product of advanced process technology which allows product solubility to be controlled within a very narrow range (65% to 70%). This is of paramount significance - if product solubility is too high, there will be insufficient dispersed asphaltic resin available to form the water-repellent film



downhole which plugs microfissures and prevents water invasion of shale bodies. Borehole lubrication and torque reduction are also largely dependent upon the resinous film, and are thus tied to controlled product solubility as well.

The inexactitude of the manufacturing process of competitive products can be seen in their physical form. Conventional sulfonated asphalts are produced by an inexpensive semi-wet process which results in a product with a wide range of particle sizes, ranging from powder to small lumps or flakes. SUPER-BORE-TROL, on the other hand, is manufactured to produce a uniformly fine product of low moisture.

### **RECOMMENDED TREATMENT**

SUPER-BORE-TROL is normally dosed at 2 to 6 ppb, depending upon the requirements of the individual application. Higher doses may be required to combat a shale problem which has already reached critical dimensions. It is best and most economical to pre-treat the mud with SUPER-BORE-TROL before penetrating a known troublesome shale formation.

### **PACKAGING**

Heavy duty bags with moisture barrier, 50 lb and 25 kg net weight.

SUPER-BORE-TROL is a Messina trademark

