

# ULTRAHIB

ULTRAHIB\* additive, the primary shale inhibitor in the ULTRADRIL\* system, is a liquid polyamine.

Shale inhibition is achieved by preventing water uptake by clays, and by providing superior cuttings integrity. The ULTRAHIB additive effectively inhibits shale or gumbo clays from hydrating and minimizes the potential for bit balling. The ULTRAHIB inhibitor can be added directly to the mud system with no effect on viscosity or filtration properties.

### Typical Physical Properties

Physical appearance .....	Clear, colorless liquid
Specific gravity .....	0.993 – 1.023
pH .....	9.0 – 9.5 (Neat)
Flash point .....	>200°F (PMCC)
Viscosity.....	80 – 120 cP @ 75°F (24°C)

### Applications

The ULTRAHIB inhibitor is a liquid additive that acts as a clay hydration suppressant by intercalating and reducing the space between clay platelets so that water molecules will not penetrate and cause shale swelling. The ULTRAHIB additive provides outstanding shale inhibition and minimizes dilution rates.

ULTRAHIB chemistry additionally provides a buffered pH in the 9.0 – 10.0 range, eliminating any required additions of caustic soda or potassium hydroxide.

The recommended concentration is 2 – 4% by volume, depending on shale reactivity.

ULTRAHIB inhibitor concentrations should be monitored using a filtrate amine titration method, the procedure for which can be found in the ULTRADRIL Engineering Guidelines. Premix dilution rates should be based on the depletion rates and the polyamine inhibitor concentration in the premix.

It is important to monitor cuttings condition at the shakers during drilling operations. Cuttings should be firm and dry inside. Sticky and balled-up cuttings may indicate insufficient inhibition from a low ULTRAHIB concentration and/or a low ULTRACAP\* concentration. The initial mixture may contain more ULTRAHIB additive than specified in the mud program to act as a buffer against high consumption (e.g., 4 – 5% v/v).

### Advantages

- Provides excellent shale inhibition and limits cuttings dispersion
- Reduces accretion potential and consequently bit and BHA balling
- Proper concentration of the ULTRAHIB agent will provide a buffered pH in the 9.0 – 10.0 range, eliminating any need for additions of caustic soda or potassium hydroxide.
- Tolerant to common contaminants such as: cement, hard water, CO<sub>2</sub>, drill solids and crude oil
- Environmentally acceptable for both offshore and onshore applications
- Can be added to the active system without adverse effects on viscosity and filtration properties

### Toxicity and Handling

Bioassay information is available upon request.

Handle as an industrial chemical, wearing protective equipment and observing the precautions as described in the Material Safety Data Sheet (MSDS).

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### **Packaging and Storage**

The ULTRAHIB additive is packaged in 55-gal (208-L) drums. It is also available in bulk.

Store in a dry location away from sources of heat or ignition.



P.O. Box 42842  
Houston, Texas 77242-2842  
Tel: 281-561-1300  
Fax: 281-561-1441  
[www.miswaco.com](http://www.miswaco.com)  
E-mail: [questions@miswaco.com](mailto:questions@miswaco.com)

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