**Kla-Cure II**

**Kla-Cure** II shale-control additive combines the benefits of the organic **Kla-Cure** hydration suppressant together with a mild detergent to help keep the bit and bottom-hole assembly clean.

It is specially designed for drilling reactive shale formations. **Kla-Cure** II additive may be used in freshwater, seawater or salt muds.

**Typical Physical Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical appearance</td>
<td>Amber liquid</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.19 @ 60°F (15.6°C)</td>
</tr>
<tr>
<td>pH (2% solution)</td>
<td>6.5 ±1</td>
</tr>
<tr>
<td>Solubility in fresh water</td>
<td>100%</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt;200°F (93°C) (PMCC)</td>
</tr>
<tr>
<td>Pour point</td>
<td>0°F (-17.8°C)</td>
</tr>
</tbody>
</table>

**Applications**

**Kla-Cure** II additive may be added directly to any water-base mud system. It is recommended to treat the system with **Kla-Cure** II additive at 4 to 8 lb/bbl (11.4 to 22.8 kg/m³) prior to drilling into reactive shale formations. Maintenance treatments of 0.5 to 1.5 lb/bbl (1.43 to 4.30 kg/m³) per thousand feet are suggested depending on hole size, bit design and shale reactivity. Methylene Blue Test (MBT) values, as well as changes in cuttings size and appearance, can be used to gauge maintenance requirements. Adequately treated systems show only small increases in MBT values through shale formations. Rapid drilling through gumbo shales may require increased maintenance treatments.

The product is most effective when used in fluids with a pH in the 8 to 9 range. Drill cuttings tend to be non-sticky and easily removed when using **Kla-Cure** II additive.

In non-dispersed and high-solids systems, **Kla-Cure** II additive may initially cause flocculation. Dilution or treatments with thinners may be necessary to control excess viscosity.

**Advantages**

- Improved form of **Kla-Cure** additive for reduced severity of bit-balling
- Effective shale-hydration suppressant in all water-base mud systems
- Environmentally acceptable for offshore and onshore use in drilling fluids in the U.S. and other countries
- Mixes easily without special shearing equipment
- Temperature-stable in excess of 300°F (149°C)
- **Kla-Cure** II systems have low MBT values, reducing dilution and chemical treatment costs

**Limitations**

- **Kla-Cure** II additive limits clay hydration. All M-I GEL* additions for viscosity and fluid loss should be pre-hydrated in freshwater.
- In non-dispersed and high-solids systems, **Kla-Cure** II additive may initially cause flocculation. Dilution or treatments with thinners may be necessary to control excess viscosity.
- Although dilution requirements will be naturally reduced, attempts to minimize dilution can ultimately restrict product performance.
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).

Packaging and Storage
Kla-Cure II additive is packaged in 55-gal (208-L) drums.

Store at moderate temperatures in dry, well ventilated area. Keep in original container.