

## Product Description

**DF-EB LUB™** lubricant is an Ester base liquid additive used to improve lubricity in water-based fluids, highly effective, biodegradable and environmentally friendly for WBM, temperature stable, easily dispersed into a properly conditioned WBM and mixes well with other lubricants

## Application Areas

- Can be used to decrease the friction wear on the bit bearings, drill string, mud pump pistons, liner parts.
- Can be used to help to reduce rotational torque and drag.
- Maintain lubricity under high pressure and high temperatures

## Advantages

- Can reduce drill string, down hole torque and drag on highly deviated and horizontal wells by providing optimal extreme pressure and borehole lubricity.
- Increases drilling penetration rates (ROP)
- Biodegradable and environmentally friendly
- Extend bit life and can reduce the number of trips to replace bits

## Properties

- Appearance.....Brown color liquid
- Specific Gravity ..... .90 – 0.93
- Flash Point ..... >190 C<sup>0</sup>
- Pour Point..... – 25 C<sup>0</sup>

## Recommended Treatment

- **DF-EB LUB™** recommended treatment is 1 to 3 % v/v, depends on, mud type, density and coefficient of reduction required.
- Higher concentrations may be needed for pills and special applications.
- After initial treatment, periodic treatments should be made to maintain the desired concentrations.
- Should be added directly to the suction pit at a moderate rate.
- If a sudden **high** torque occurs, occasionally when drilling into weak formations, pump a 50–100 bbl. pill containing 4–8% v/v

## Packing

**DF-EB LUB™** is packaged in 55-gal steel drum containing (180 kg.net weight )

## Safe Handling

Utilize normal precautions for employee protection when handling chemical products. Utilize appropriate respirator, gloves, goggles and apron while mixing. Refer to the Material Safety Data Sheet (MSDS) for this product prior use it.