



Drilling Fluids, Inc.

Lubricant	CFR
Description	CFR is a proprietary blend of fatty acids and petroleum distillates primarily designed to enhance lubricity in all types of water base drilling fluids.
Benefits	In comparison with other products currently used to improve mud lubricity, CFR out performs them all. CFR has been tested in comparable concentrations versus all other commercially available products. CFR has out-performed these products in all instances.
Treatment	CFR is added directly to the mud pit or through the mud hopper. Treatments of 1.5 to 2.0 ppb are normally sufficient to reduce the coefficient of friction significantly. The best results are achieved by not attempting to emulsify the CFR product. Reductions of 50% are not uncommon. Additional treatments are required on deep hot holes as the product becomes emulsified.
Function	CFR acts as a surfactant to coat the steel tools and well bore creating a lubricating layer. Addition of cement and/or Caustic Soda decreases the ability of CFR to remain in the water phase and it becomes ineffective. Attraction of the CFR molecules to drill solids and Barite reduces the interaction of these solids improving flow properties.
Typical Physical Properties	Physical Appearance: ...Yellow to dark brown liquid Specific Gravity:.....0.93 Bulk Density.....38 lb/ft ³ pH in water.....N/A Low Freeze Point.....Operates below 32°F Flash Point.....182°



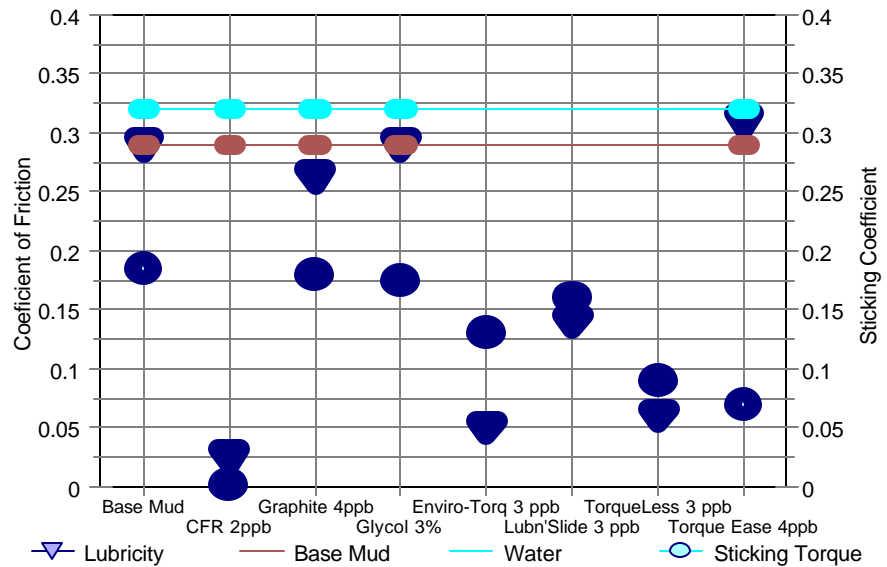
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Lubricant

CFR (Continued)

Lab Test Results

Lubricity Testing



Safe Handling
Recommendations

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

Packaging

CFR is available in 220 to 330 gallon totes or 5 gallon plastic pails.