



Drilling Fluids, Inc.

Petro Drill Oil Base Product

Description

MUL I

MUL I is a primary emulsifier, high temperature stabilizer and supplemental fluid loss control additive for Oil Based Systems. Mul I is specifically formulated for the base oil in use.

Uses

MUL I is used as a primary emulsifier for GEO MUL invert emulsion systems, providing high temperature emulsion and rheological stability for drilling, spotting, packer, and work-over fluids. This product is compatible with the following oils and brines:

OIL

LVT 200
Lease Crude
Diesel

BRINE

CaCl₂ (to saturation)
NaCl (to saturation)

Benefits

MUL I contains a copolymer, which is activated by lime to form molecules of soap to stabilize water droplets in the oil phase. The small, stable droplets lend filtration control, viscosity, and emulsion stability to the drilling fluid. MUL I is stable to 400° F when used in sufficient quantities.

Treatment

As an emulsifier below 250°F:	2 - 4 ppb
For supplemental fluid loss above 250°F:	3 - 6 ppb

Packer, work over, and spotting fluids may be formulated on an individual basis at the GEO Drilling Fluids, Inc. lab facility in Bakersfield, California.

Function

Emulsification polymers contain a grafting of a water-soluble molecule and an oil-soluble molecule. The molecules arrange themselves on the surface of droplets, creating a stable solution, when present in sufficient concentration. The particular makeup of the range of molecules in MUL I are active and stable in a wide range of temperatures and salinities making them ideal for make up and long term storage of drill-



Drilling Fluids, Inc.

**Petro Drill Oil Base
Product**

**Typical Physical
Properties**

**Safe Handling
Recommendations**

Packaging

MUL I (continued)

Physical Appearance.....Yellow Liquid
Specific Gravity @60°F.....0.92
Flash Point.....450°F

Storage and transportation must be in accordance with federal, state, and local regulations. Additional information on safety, storage and handling is included in the Material Safety Data Sheet

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.

Sold by the gallon in 330-gallon reusable "tote tanks", or 55-gallon drums. Normal storage precautions for industrial chemicals apply.