

DRILZONE L

DRILZONE^{*}L additive is specifically designed for onshore drilling applications.

This product improves the rate of penetration (ROP) in water-base mud systems, especially when run with polycrystalline diamond compact (PDC) bits. DRILZONE L ROP enhancer employs a special blend of surface-active agents to keep the bit free of solids. The chemical makeup of the DRILZONE L additive helps remove buildup of drill solids below the bit, allowing the cutters to make continuous contact with new formation. DRILZONE L ROP enhancer not only reduces bit and/or bottomhole assembly (BHA) balling, but also lowers torque and drag.

Typical Physical Properties

Physical appearance	Yellow-to-brown liquid
Odor	Very mild hydrocarbon
Specific gravity	0.78-0.85
Solubility in water	Insoluble
Flash point	215.6°F (102°C)

Applications

DRILZONE L enhancer is designed to improve the ROP performance of water-base mud systems. It is especially applicable when drilling medium-to-hard shales in both onshore and offshore operations.

For ROP enhancement, 1 to 2% by volume of the DRILZONE L additive should be introduced directly to the mud system at or near the pump suction over one circulation period. Ideally, the initial treatment should be made before drilling out the casing shoe. Alternatively, treatment can take place after a trip before entering the hole while the bit and BHA are clean. After the initial treatment, the product should be continually added or injected into the mud stream at the pump suction while drilling. The injection rate varies according to hole size, pump rate, dilution rates and ROP.

Typically, addition rates range from 15 to 30 gal (57 to 114 L) per hour of drilling. An injection pump attached to the low-pressure side of the mud pump helps to precisely control addition rates. DRILZONE L additive concentrations of up to 5 to 7% by volume do not affect drilling fluid properties or environmental toxicity.

Advantages

- Effectively increases ROP while drilling all shales
- Improves bit life, reducing the number of trips
- Reduces torque and drag
- Improves mud filter-cake quality and lowers fluid-loss values
- Works well with high-performance PDC bits
- Contains surface-active, metal-wetting agents that reduce the potential for bit and BHA balling
- Does not induce foaming or aeration of the mud system

Limitations

- High-solids and weighted fluids above 14 lb/gal (1.68 g/cm³) can develop slightly higher viscosities and gels
- Optimum performance may not be realized if the material is not added continuously in sufficient concentration while drilling
- Some mud fluorescence is possible at high product concentrations
- Some materials containing gilsonite or asphalts can partially solubilize in the presence of the DRILZONE L additive, which can promote sheening of offshore discharges

Toxicity and Handling

Bioassay information is available upon request.

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

Packaging and Storage

DRILZONE L additive is packaged in 55-gal (208-L) drums and is available in bulk.

Store in a dry, well-ventilated area. Keep container closed. Keep away from heat, sparks and flames. Store away from incompatibles. Follow safe warehousing practices regarding palletizing, banding, shrink-wrapping and/or stacking.



P.O. Box 42842
Houston, Texas 77242-2842
www.miswaco.com
E-mail: questions@miswaco.com

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