

# TRAMFLOC, INC.

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## Technical Information Bulletin

### TRAMFLOC® 149 DRILLING FLUID ADDITIVE

FRICITION REDUCER, SHALE/CLAY STABILITY INHIBITOR, FLUID LOSS CONTROLLER

#### ***Product Description***

Tramfloc® 149 drilling additive is a granular sulfonated polymer for high temperature, down hole applications. Tramfloc® 149 is completely water soluble and safe to apply. Tramfloc® 149 is used to promote hole stability, increase penetration rates, offer better well development, produce consistent mud properties, control fluid loss to the formation, controls cuttings, minimize problems with sloughing shales. This formulation is an efficient friction reducer when used in water-based fracturing fluids and is capable of reducing pressure losses due to friction by amounts in excess of 70%. Tramfloc® 149 tolerates ~0.005% calcium, magnesium and barium salt concentrations.

#### ***Additional Use Information***

Tramfloc® 149 is designed to improve drilling efficiency in fresh water, light and heavy brine systems. The product inhibits sticky clay and shale from swelling, prevent bit balling, disperses effectively with minimum shear in fresh water, has high lubricity to reduce torque, flocculates unreactive solids in the reserve pit, promotes stability in foam drilling. Tramfloc® 149 will function across the pH range and is temperature stable to more than 400<sup>0</sup> F. Tramfloc® 149 can perform effectively in formate mud systems, can suspend barite post aging and is also applied to high TDS brines which contain significant levels of divalent metal ions.

#### ***Additional Application Information***

This formulation creates a viscous, very slick drilling fluid. Because of its superior viscosity building and lubricating properties, this formulation can be used alone in water to build the true low-solids drilling fluid. Minimum agitation is needed to mix this formulation with water and the product forms a very slick drilling fluid for sticky clay and shale drilling. This formulation eliminates balling of cuttings so that they drop into a pit and are not recirculated. This formulation can be used in air drilling as a foam stabilizer. This formulation should be mixed slowly through the hopper. This formulation should be poured slowly to obtain an even mix throughout the mud system.

#### ***Mixing and Dosage***

For inhibition or a viscosifier, Tramfloc® 149 should be dosed at the rate of 0.50-7.0 PPB or 0.30-3.5 gallons per 1000 gallons of frac fluid depending upon the specific application. The product mixes quickly and produces a rapid yield.

#### ***Packaging***

Tramfloc® 149 is packaged in 25 kgs bags packed 40 bags/pallet.

## ***Handling and Storage***

Handle all industrial chemicals with care and consult the material safety data sheet before product use. Tramfloc<sup>®</sup> 149 should be stored in a cool, dry place.

## ***Safety and Health***

Spills of polymer are extremely slippery. Precautions should be taken to prevent them from entering lakes or streams. Tramfloc<sup>®</sup> Polymer Cleaner 348 can be used to remove residue from equipment and floors. Polymer can be flushed with copious amounts of water and disposed of according to local regulations or treated with an absorbent material, then collected for subsequent legal disposal. Tramfloc<sup>®</sup> 149 has been shown to exhibit a low order of toxicity. Nevertheless, precautions should be taken to prevent inhalation, ingestion or contact with skin or eyes. Observing basic industrial hygiene precautions should prevent any health or safety hazards.

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