TRAMFLOC, INC.
6046 FM 2920 Road #615, Spring, TX 77379-2542 Voice: 888-929-8973 Fax: 480-383-6895

Technical Information Bulletin

TRAMFLOC® 1000 SERIES DRILLING FLUID ADDITIVES
FRICTION REDUCER, SHALE/CLAY STABILITY INHIBITOR, FLUID LOSS CONTROLLER

Product Description

The Tramfloc® 1000 series drilling additives include our **148, 129, 280 series and 1019-1022** product formulations. They are highly concentrated aqueous solutions of high molecular weight anionic polyacrylamides. Tramfloc® 1000 and 280 series products are completely water soluble and safe to apply. Tramfloc® 1000 and 280 series products are used to promote hole stability, increase penetration rates, offer better well development, produce consistent mud properties, control fluid loss to the formation, minimize problems with sloughing shales. These formulations are efficient friction reducers when used in water-based fracturing fluids and are capable of reducing pressure losses due to friction by amounts in excess of 70%.

Additional Use Information

Tramfloc® 1000 and 280 series products are designed to improve drilling efficiency in fresh water systems. The products inhibit sticky clay and shale from swelling, prevent bit balling, disperse effectively with minimum shear in fresh water, have high lubricity to reduce torque, flocculate unreactive solids in the reserve pit, promote stability in foam drilling. Tramfloc® 1000 and 280 series products will function across the pH range and are temperature stable to more than 380^0 F. Tramfloc® 1021 is the freeze-protected version of Tramfloc® 1020. Tramfloc® 1022 contains the special multipurpose ATBS monomer. Tramfloc® 1019 is applied to fresh water and light brines. Tramfloc® 1020, 280 series and Tramfloc® 1021 are all applied to fresh water and heavy brines. Tramfloc® 1022 is applied to high TDS brines which contain significant levels of divalent metal ions. Tramfloc ® 129 is the granular version of the emulsion formulations.

Additional Application Information

These formulations create a viscous, very slick drilling fluid. Because of their superior viscosity building and lubricating properties, these formulations can be used alone in water to build the true low-solids drilling fluid. Minimum agitation is needed to mix these formulations with water and they form a very slick drilling fluid for sticky clay and shale drilling. These formulations eliminate balling of cuttings so that they drop into a pit and are not recirculated. These formulations can be used in air drilling as a foam stabilizer. These formulations may be mixed through the hopper or poured directly through the suction for a fast mix. These formulations should be poured slowly to obtain an even mix throughout the mud system.

Mixing and Dosage

For inhibition or a viscosifier, Tramfloc® 1000 and 280 series products should be dosed at the rate of 0.25-3.0 gallons per 1000 gallons of frac fluid. The products mix quickly and produce a rapid yield in fresh water.

Packaging

Tramfloc® 1000 and 280 series frac fluid formulations are available in 450# net weight drums, five gallon pails,

275 gallon tote bins and in bulk.

Handling and Storage

Handle all industrial chemicals with care and consult the material safety data sheet before product use. Tramfloc® 1000 and 280 series products 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® 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® 1000 and 280 series products have 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.