SP-101

SP-101* sodium polyacrylate copolymer is a mediummolecular-weight, anionic additive used to reduce fluid loss in freshwater and seawater muds.

This synthetic additive has a high temperature limit and is not subject to bacterial degradation.

TYPICAL PHYSICAL PROPERTIES

Physical appearance	Off-white to cream flakes (powder)
Specific gravity	0.7-0.8
pH of 1% solution	7
Bulk density	24.5 lb/ft3 (392 kg/m3)

APPLICATIONS

SP-101 copolymer is an effective additive for reducing fluid loss and stabilizing rheology in a wide range of water-base systems, including low-solids, non-dispersed and dispersed weighted systems. It is most effective in freshwater fluids that are low in soluble calcium. SP-101 additive is used most often in low-solids, non-dispersed polymer systems such as the Poiy-PLUS* system and in high-temperature applications. Normal treatments range from 0.5 to 1 lb/bbl (1.43 to 2.85 kg/m3).

A viscosity “hump” can occur in non-dispersed or high-solids systems with the initial addition of SP-101 additive (when the concentration is low, ~0.1 lb/bbl [0.29 kg/m3).

Subsequent treatments reduce this viscosity “hump” in clean, low-solids muds. SP-101 additive attaches to clay particles and helps to form a protective colloid on exposed shales and encapsulated cuttings.

SP-101 additive is also effective as a deflocculant and high-temperature stabilizer in low-solids systems at concentrations greater than 1 lb/bbl (2.85 kg/m3). Pilot tests are recommended prior to treating with SP-101 additive.

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).

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PACKAGING AND STORAGE

SP-101 additive is packaged in 50-lb (22.7-kg), multi-wall, paper sacks.

Store in a dry, well-ventilated area. Keep container closed. Store away from incompatibles. Follow safe warehousing practices regarding palletizing, banding,

shrink-wrapping and/or stacking.

APPLICATIONS

- Reduces fluid loss and improves filter-cake quality
- Thermally stable to >400°F (>204°C)
- Not subject to bacterial degradation
- Stabilizes flow properties in hightemperature environments in excess of 400°F (204°C)

LIMITATIONS

- Highly anionic, precipitated by high concentrations of divalent cations such as calcium and magnesium
- Total hardness must be maintained below 320 mg/L with soda ash
- Should not be used in calcium systems such as lime, gyp or untreated seawater muds that have high concentrations of soluble calcium