

### 1. GENERAL INFORMATION

S-ES PAC LV is a pure grade, low molecular weight PolyAnionic Cellulosic polymer (PAC) manufactured to meet the API Specifications 13A / ISO 13500. It is primarily used as a fluid loss reducer and shale inhibitor in a variety of drilling fluids.

### 2. APPLICATION

S-ES PAC LV is a high-performance product, readily dispersible in water base drilling muds ranging from fresh water to saturated salt water and KCL drilling fluids. It is mainly used in weighted systems to avoid an uncontrollable viscosity build up. It is effective in a wide range of pH.

In weighted/high solids systems, rheology, fluid loss and the shale inhibition are closely related to the presence of the polymer in the water phase and to the absorption onto solids. Consequently, a replacement of the polymer lost on drilled cuttings has to be carefully considered.

S-ES PAC LV can also be used in combination with S-ES PAC LV when a reduction in fluid loss value without unnecessary increase in viscosity is required.

S-ES PAC LV builds up a thin, pliable, and resilient filter cake.

Temperature resistance is dependent on different variables such as pH, oxygen content, salt and concentrations of salts present, fluid shear rate and exposure temperature.

S-ES PAC LV has been successfully field used up to 300°F (150°C).

### 3. TREATMENT

S-ES PAC LV should be mixed slowly through conventional jet type mud hoppers. Best results are obtained when the product is mixed at uniform rate, no faster than the mixing equipment can handle (normally 10-20min/sk). Avoid dumping the polymer into the hopper (slugging), as this promotes the formation of lumps or fisheyes which retard dispersion and reduce efficiency. S-ES PAC LV is compatible with virtually all additives for water-based systems.

S-ES PAC LV can tolerate monovalent salts, such as sodium and potassium, at any concentration; divalent salts, such as calcium and magnesium, are tolerated (Ca < 1000 ppm and Mg < 2500 ppm) by S-ES PAC LV in lower pH range (< 9.5). At higher pH the product tolerates lower concentrations of these ions.

S-ES PAC LV is not subject to degradation from microbiological attack.

Suggested concentrations of S-ES PAC LV are in the range of 0.5-2.0 ppb (1.5-5.7 kg/m<sup>3</sup>).

### 4. TYPICAL PROPERTIES

Appearance:	whitish free flowing powder
Moisture (max.):	10%
pH 1% solution:	8 approx.
Bulk density:	700 kg/m <sup>3</sup> approx.
Toxicity:	non toxic

### 5. PACKAGING

25 kg multi wall paper bags (internal PE), palletized, shrink wrapped (40 bags per pallet).

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