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# INFORMATION

ESSINA CHEMICALS

# PUREGEL

API Spec 13A Section 5 NONTREATED BENTONITE

## DESCRIPTION

PUREGEL is a premium-quality API Spec 13A Section 5 nontreated natural bentonite selected and mined from scarce deposits of the world's finest montmorillonite clay. Unlike most API bentonites, no additives of any kind are used in the processing of PUREGEL.

Extremely high sodium montmorillonite content and a preponderance of very fine submicron-sized crystal lattice particle fractions give PUREGEL superior performance characteristics.

PUREGEL is a finely powdered material, ranging in color from cream through yellow to buff rose.

## ADVANTAGES

- High viscosity yield, meeting or exceeding API specifications for untreated bentonite.
- Proper balance of yield point to plastic viscosity, due to lack of artificial extension.
- Balanced gel strength development.
- Excellent filtration control, typically exceeding API specifications by a wide margin.
- Superior extensibility when treated at wellsite with a variety of bentonite extenders (Poly-Ben, Ben-Ex, etc.), allowing preparation of true low-solids muds.
- Superior stability and predictability in mud systems, especially at elevated temperatures. No erratic response to thinners/deflocculants.

## APPLICATION

PUREGEL functions as primary viscosifier, wall-cake building medium, filtration control agent, and thixotropic component for a variety of water-base muds. PUREGEL may be added directly to fresh water from which excess calcium has been removed. Polymeric bentonite extenders such as Poly-Ben can increase the yield of PUREGEL, by a factor of 2 to 4.

In brackish, sea and salt water muds, best results are achieved by prehydrating PUREGEL in a small amount of fresh water, then adding this concentrate to the mud system.

PUREGEL is also useful in preparation of diesel oil-bentonite "gunk" squeezes and diesel oil-bentonitecement (DOBC) squeezes for control of lost circulation.
PUREGEL is especially suitable for use as an oilwell cement extender, far outperforming conventional API bentonites in this application. In fact, additives commonly used in API bentonites can render them ineffective as cement extenders, jeopardizing the quality of cement jobs.

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## RECOMMENDED TREATMENT

Conventional freshwater muds: 15 to 25 ppb (43 to 71 kg/m$^3$). Polymer-extended low-solids muds: 8 to 16 ppb (23 to 46 kg/m$^3$). In inhibitive (e.g. KCl) muds, 3 to 6 ppb (9 to 17 kg/m$^3$) may be used (either prehydrated or added dry) to improve filter cake. In sea and salt muds, 6 to 20 ppb (17 to 57 kg/m$^3$) prehydrated.

PUREGEL should be added through a hopper, at 1 to 10 minutes per sack, taking care to avoid lumping.

## PACKAGING

PUREGEL is packaged in 100-lb multi-ply bags. In selected markets, bulk is available.