



# BAROID SHUR-GEL®

Drilling Fluid Conditioner



**Description** SHUR-GEL® drilling fluid conditioner is a finely ground, premium sodium bentonite additive designed to improve the properties of existing water based drilling fluids. SHUR-GEL drilling fluid conditioner may be used during well abandonment or as a stabilizer in monitoring or exploration boreholes.

**Applications/Functions** *The use of SHUR-GEL drilling fluid conditioner can assist the following:*

- Enhance freshwater-based drilling fluids to optimize borehole stability
- Form an effective backfill slurry
- Reduce filtration by forming a thin filter cake with low permeability
- Form a low-solids drilling fluid for general drilling applications

- Advantages**
- Cost-effective, single-sack product
  - Easy to mix and quickly reaches maximum viscosity
  - Aids in reduction of rig time and project costs
  - Capable of maintaining stability of exploration boreholes to allow geophysical logging after drilling is complete and rig is removed

- Typical Properties**
- Appearance Tan to gray powder
  - pH (4% slurry or 15 lb/bbl) 10.2
  - Bulk density, lb/ft<sup>3</sup> 68 to 72 (compacted)

- Recommended Treatment**
- Mix slowly through a jet mixer or sift slowly into the vortex of a high-speed stirrer. For optimum yield, pre-treat make-up water with 1 to 2 pounds of Soda Ash per 100 gallons of water (1.2-2.4 kg/m<sup>3</sup>).

Approximate Amounts of SHUR-GEL® fluid conditioner Added to Freshwater			
Application/Desired Result	lb/100 gal	lb/bbl*	kg/m <sup>3</sup>
Borehole Stabilization or Abandonment	25-50	10.5 - 21	42 - 60
Normal Drilling Conditions	15-25	6.3-10.5	18-30
Unconsolidated Formations	25-40	10.5-16.8	30-48
Enhance Fresh Water Drilling Fluids	12-15	5.0-6.3	14-18

\*1 bbl = 42 U.S. gallons

**Borehole Stabilization**

- When adding SHUR-GEL® fluid conditioner to an existing freshwater drilling fluid prior to geophysical logging the fluid properties should be enhanced to meet the following targets:
  - Marsh Funnel Viscosity – Initial viscosity should be increased by 20 sec/quart
  - Yield Point – Minimum value of 20 lb/100 ft<sup>2</sup> (10 Pa)
  - 10 minute Gel Strength – Minimum value of 20 lb/100 ft<sup>2</sup> (10 Pa)
  - API LPLT Filtration Rate – Maximum value of 13.5 ml/30 minutes

**Well Abandonment**

- **The abandonment or plugging material and method selected will depend upon the specific subsurface environment including all prevailing geological and hydrological factors and any existing regulatory requirements. The backfilling process may not be complete until the plugging material is static at the desired level.**
- When mixed and placed at recommended concentrations (see Recommended Treatment chart) SHUR-GEL drilling fluid conditioner can be used as an abandonment fluid to create a low permeability fill from the bottom of the hole to the piezometric water level. The remaining open hole should be abandoned with HOLEPLUG® sealing and plugging material or cement.
- The use of bentonite may not be appropriate in environments where the formation water chemistry has a total hardness greater than 500 parts per million and/or a chloride content of greater than 1500 parts per million.
- If questions arise regarding subsurface environments it is always best to consult your local Baroid IDP representative to determine if the Baroid product of choice is appropriate for the given conditions.

**Packaging**

SHUR-GEL drilling fluid conditioner is packaged in 50-lb (22.7-kg) multiwall paper bags.