

# BIODRILL TM300

## Environmentally friendly deflocculant for the oil & gas drilling industry

Borregaard's BioDrill TM300 is a temperature stable and contaminant tolerant chrome free deflocculant for water-based mud systems.

BioDrill TM300 is a temperature-stable and contaminant tolerant chrome-free iron lignosulfonate dispersant and deflocculant for water-based mud systems. It is effective over a wide alkaline pH range, particularly at pH levels above 9, and it also functions to reduce fluid-loss.

BioDrill TM300 is part of the OSPAR List of Substances Used and Discharged Offshore which are Considered to Pose Little or No Risk to the Environment (**PLONOR**)

### DEFLOCCULATING ABILITY:

- Thermal stability: Dispersant/deflocculant function at bottom hole temperatures up to approximately 250°F (120°C) in water-based drilling muds.
- Recommended treatment: 2 - 12 lb/bbl (5.7 – 34.2 kg/m<sup>3</sup>).

### FUNCTION WITH CONTAMINANTS:

- Calcium & magnesium tolerant.
- Salt tolerance: Can be used in fresh water, brackish water, seawater.

### EASE OF USE:

- Wide range of pH alkalinities.
- Most effective at pH levels above 9.
- Solubilises readily in water.

### SECONDARY FUNCTION:

- Secondary product function: Reduces fluid-loss.

**Example: Deflocculant Evaluation in Sea Water Base Muds:**

The test format serves to evaluate a product’s deflocculation and fluid loss control properties in sea water (see Figure 1.) and sea water-gypsum mud (see Figure 2.). Dosage 5 lb/bbl (14.2 kg/m<sup>3</sup>) in 9.4 ppg mud (1.127 sp. gr.), hot rolled 16 hours at 150°F (65°C).

<b>Sea Water Mud – Aged 16 hrs @ 150°F</b>		
	BioDrill TM300	Competitor
Apparent Viscosity, cps	6	5
Plastic Viscosity, cps	5	5
Yield Point, lb/ft <sup>2</sup>	2	0
10" Gel, lb/ft <sup>2</sup>	2	0
10' Gel, lb/ft <sup>2</sup>	7	3

Figure 1. Evaluation in Sea Water mud

<b>Sea Water-Gypsum Mud – Aged 16 hrs @ 150°F</b>		
	BioDrill TM300	Competitor
Apparent Viscosity, cps	9	10
Plastic Viscosity, cps	7	5
Yield Point, lb/ft <sup>2</sup>	3	10
10" Gel, lb/ft <sup>2</sup>	4	7
10' Gel, lb/ft <sup>2</sup>	11	19

Figure 2. Evaluation and Sea Water and Gypsum mud