



# BIO-BORE™

## Horizontal Directional Drilling Fluid Concentrate

**Description** BIO-BORE™ Horizontal Directional Drilling (HDD) fluid concentrate, when mixed with fresh water, provides a clay-free, biodegradable fluid for use in various drilling applications, particularly in situations where clay-based drilling fluids are restricted.

**Applications/Functions** *The use of BIO-BORE drilling fluid concentrate promotes the following:*

- Provide a clay-free drilling fluid
- Minimized formation damage
- Maximized recovery rate of contaminants during remediation
- Enhanced viscosity for hole cleaning
- High yield point and gel strength for effective suspension and transport
- Reduce filtration rate in poorly consolidated formation
- Improve borehole stability for easy well installation

- Advantages**
- Soluble in water and disperses easily with moderate shear
  - Compatible with wide range of make-up waters
  - Does not form filter cake on the wellbore
  - Stable and yet biodegradable within a reasonable time frame depending on the surrounding environment
  - Preserve with addition of small quantity of 5.25% sodium hypochlorite solution (½ to 1 pint per 100 gallons of BIO-BORE slurry)
  - Breakdown chemically by calcium hypochlorite

- Typical Properties**
- |                                      |                    |
|--------------------------------------|--------------------|
| • Appearance                         | White powder       |
| • Bulk density (lb/ft <sup>3</sup> ) | 42.5 (as packaged) |
| • Specific gravity                   | 1.2                |
| • pH (4% solution or 15 lb/bbl)      | 6.4                |

**Recommended Treatment**

Approximate Amounts of BIO-BORE drilling fluid concentrate Added to Fresh Water		
Boring Applications	lb/100 gal	kg/m <sup>3</sup>
<b>Normal Boring Conditions</b>	<b>25-30</b>	<b>30-36</b>
<b>Unconsolidated Formations</b>	<b>30-35</b>	<b>36-42</b>

---

**Recommended Degradation Treatment** To bring about the degradation of a BIO-BORE™ slurry, utilize 1 to 2 pounds of 65% active calcium hypochlorite per 100 gallons (or 1.2 to 2.4 kg per m<sup>3</sup>) of BIO-BORE slurry.

---

**Packaging** BIO-BORE drilling fluid concentrate is packaged in a 50-lb (22.7-kg) white, multiwall bag. The bag is sturdy, moisture resistant and easy to handle and transport.

---

**Safety** Drilled cuttings exposed to BIO-BORE drilling fluid concentrate should be treated with calcium hypochlorite to break down the polymers before the cuttings can be confined or stored in a vented, sealed container or drum.

---

**Availability** BIO-BORE HDD fluid concentrate can be purchased through any Baroid Industrial Drilling Products Retailer. To locate the Baroid IDP retailer nearest you contact the Customer Service Department in Houston or your area IDP Sales Representative.

**Baroid Industrial Drilling Products**

**Product Service Line, Halliburton**

3000 N. Sam Houston Pkwy E.

Houston, TX 77032

**Customer Service** (800) 735-6075 Toll Free (281) 871-4612

**Technical Service** (877) 379-7412 Toll Free (281) 871-4613

---