

**Technical Data Sheet  
API Grade Bentonite**

Revised 09/25/06

## VOLCLAY<sup>®</sup> PREMIUM GEL

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| <b>Description</b>       | Premium Gel is a 200 mesh, 90 bbl. yield sodium bentonite for freshwater drilling. Complies with American Petroleum Institute drilling fluid specification 13A for bentonite.  |
| <b>Functional Use</b>    | May be used for all types of freshwater drilling where higher solids are required.   |
| <b>Purity</b>            | Hydrous aluminum silicate comprised principally of the clay mineral montmorillonite. Contains small portions of feldspar, calcite, and quartz.                                 |
| <b>Chemical Formula</b>  | Diocahedral smectite, an expanding layer silicate:<br>$(\text{Na,Ca})_{0.33}(\text{Al}_{1.67}\text{Mg}_{0.33})\text{Si}_4\text{O}_{10}(\text{OH})_2 \cdot n\text{H}_2\text{O}$ |
| <b>Advantages</b>        | Mixes quickly and easily<br>Stabilizes the borehole<br>Removes cuttings<br>Cools and lubricates the bit<br>Reduces fluid loss into the formation                               |
| <b>Bulk Density</b>      | Typically 54 lbs./ft <sup>3</sup>  |
| <b>Moisture</b>          | Maximum 12% as shipped.  |
| <b>pH</b>                | 8.5 to 10.5 @ 5% solids.   |
| <b>Dry Particle Size</b> | Minimum 65% passing 200 mesh (74 microns).   |
| <b>Wet Particle Size</b> | Minimum 94% passing 200 mesh (74 microns).<br>Minimum 92% passing 325 mesh (44 microns).   |
| <b>Packaging</b>         | Bulk or palletized in carload and truckload quantities.<br>100 lb. & 50 lb. multiwall, water-resistant bags or 2,000 lb. bulk bags.  |

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