



Integrated Chemical Specialties

- a division of Integrated Traffic Systems USA



BENTOPURE™

B E N T O N I T E

bringing **solutions**  to **complex** chemistry

BentoPure™ chemistry forms the basis for a range of next generation High Performance Water Based Mud Systems.

Our **BentoPure™** chemistry is specially reacted from natural materials to create polymer chains which interact and cross-link. By carefully controlling the **BentoPure™** chemistry, Integrated Chemical Specialties have been able to offer a range of viscosity grades, all with a unique membrane forming ability and surface-active properties.

The base **BentoPure™** drilling fluid system provides superior shear thinning and drag reducing characteristics, developing very low ECDs and optimized hydraulic horsepower at the bit. Its use significantly improves hole cleaning and ROP's, particularly in large diameter and long lateral sections.

The unique **BentoPure™** membrane forms a very effective, non-invasive, solids free, slick filter cake. This effectively stabilizes challenging formations and reduces the risk of differential sticking, whilst maintaining reservoir protection. The **BentoPure™** membrane also generates excellent shale stability and lubricity, minimizing torque and drag, positively impacting Non-Productive Time.

Furthermore, the **BentoPure™** membrane with its surface-active structure, provides excellent shale encapsulation characteristics –

reducing cuttings degradation.

Utilizing a **BentoPure™** High Performance Water Based Mud Systems, drilled cuttings are removed from the hole more efficiently, with a larger particle size. In addition, with **BentoPure™** low screen blinding tendencies; finer shaker screens can be run. The net effect is lower mud consumption and reduced waste disposal costs, resulting in significant cost reductions for the operator.

BentoPure™ chemistry is compatible with a wide range of commonly used oilfield chemicals and it can be used in a wide density range of monovalent and divalent brine types.

BentoPure™ provides a safe and easy to manage drilling fluid system. This enables rapid mixing of a highly stable mud system, which is tolerant of a wide range of typical oil-field contaminants such as cement, calcium, magnesium, carbonate and low gravity solids.

In short **BentoPure™** chemistry forms the base for a highly effective, ultra-high-performance water based mud system which can be used to drill the entire well from top hole to reservoir section, whilst providing optimum environmental protection.



The real benefits of the **BentoPure™** High Performance Water Based Mud Systems include:

- Lower ECD's / significantly reduced risk of down hole losses
- Optimized hole cleaning, higher ROP's and reduced NPT
- Reduced torque and drag
- Improved lubricity
- Significantly reduced formation damage through enhanced reservoir protection
- Proven to optimize gas/oil recovery rates in low permeability reservoirs
- Superior shale inhibition
- Improved wellbore stability
- Solids free fluid loss control
- Non-toxic and easy to use
- Environmentally friendly performance

DESCRIPTION

Granules made from natural, organic free, high-swelling bentonite. Designed for use in the groundwater monitoring industry to form a chemically resilient, highly impermeable and flexible seal. Clear Solutions bentonite granules isolate screened intervals of monitoring wells and provide an excellent seal for abandoned boreholes.

FUNCTIONS

- Provide a highly impermeable well seal.
- Does not shrink or crack.
- Easy to pour to depth.
- Easy to use.
- Uniform size helps prevent bridging.
- Chemically stable.
- Self-sealing, remain flexible when saturated and will rehydrate.

BENEFITS

Disperse rapidly in water and can be mixed to around 30% high solids with a conductivity of 0.65 W/m²K. Sand can be added to increase the solids content to 70% while still remaining pumpable to give a thermal conductivity up to 2.10 W/m²K.

TYPICAL PROPERTIES

Test Parameter	Unit
Permeability range	1x 10 ⁻⁷ to 1x10 ⁻⁹ cm/s
Free Swelling Volume	>500% (after 48 hrs)
Contained Swelling Volume	>70% (after 48hrs)
Setting Velocity	15cm/s
Swelling Onset	15 minutes
Passing 6mm	97 %

Test Parameter	Unit
Passing 4.75mm	80 %
Passing 1.0mm	6 %
Passing 0.5mm	1%
Bulk Density	1.05-1.10 g/ml
Specific Gravity	2.2-2.5g/ml
Colour	Light Grey

Typical Chemical Analysis		Composition (by XRD Analysis)	
SiO ₂	65.3%	Montmorillonite Clay	Major (ca. 65%)
Al ₂ O ₃	11.7	Calcite	Some
Fe ₂ O ₃	6.36	Feldspar	Minor
TiO ₂	.63	Alpha Quartz	Minor
CaO	1.01		
MgO	3.35		
K ₂ O	1.7		
Na ₂ O	4.90		
Loss of ignition	5.7		
H ₂ O	14-18%		

RECOMMENDED TREATMENT

For shallow applications, pour **BentoPure™** bentonite granules slowly and steadily to prevent blocking and bridging. For deep applications, bentonite granules may be tremied into place – add bentonite granules to the tremie pipe and quickly chase with wate or air to deliver the granules quickly and accurately to the desired depth.

Refer to **BentoPure™** SDS for health & safety guidance before handling and mixing.

PACKAGING

Packed in 20 kg plastic bags, 50 bags per pallet. All pallets are stretch wrapped.



ABOUT



Integrated Chemical Specialties

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Integrated Chemical Specialties comprises a competent team of professionals who strive hard to ensure the highest level of quality and service in our business. It is our goal to deliver every product meeting the quality and consistency that our customers expect, irrespective of its origin. Our specialty chemicals are used in a variety of applications and industries. We offer customized solutions through formulated products and excellent technical support.


We consider ourselves a versatile and customer centric company that works closely with its customers to provide them the products they need. Our dedication and motivation have made us who we are today, as that also shapes our future.


At Integrated Chemical Specialties, we believe building solid partnerships with our customer is critical to our success. We as a company endeavor to follow the right path, which will allow us to continue meeting new challenges and exceeding expectations.


YOUR SAFETY OUR CONCERN

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