



**KUNAL EXIM**

## **PRODUCT DATA SHEET**

**Product Name: BENTONITE**

**Bentonite is a hydrated aluminum silicate crystalline mineral formed over many millions of years by the hydrothermal decomposition of granite rocks. It is a white soft mineral composed primarily Kaolinite mineral having chemical composition of  $(Al_2O_3 \cdot 2SiO_2 \cdot 2H_2O)$  with minor amounts of quartz, feldspar and sheet silicate minerals (mica, Illite, smectite).**

**Hard and soft clays are characterized by its fine particle size, platy or lamellar particle shape and chemically inertness. Clays having fine particle size are described as hard clay. Phyllosilicates being a sub group of silicate minerals that has typically less than  $2\mu m$  in diameter. The combination of platy shape and fine particle size results in improved processibility, improved reinforcement, tensile strength, abrasion and tetra strength.**

**After mining the above mineral ore is dressed, dried, pulverized, air-floated, water washed (levitated), calcined and surface modified. As per the application the grades are selected by the end user. Bentonite has high swelling properties along with good viscosity and liquid limit. These properties are highly valued in most of the industrial applications. Sodium bentonite is well suited as a binder in the preparation of pellets, and in foundry and oil - well drilling mud.**

**Bentonite also acts as a suspending agent in oil - well drilling fluids. Bentonite exhibits good green strength along with high hot and dry strength which helps in preventing moulds from breaking or cracking during the pouring or cooling process in the foundry industry. Owing to high green strength resulting from its property to absorb and then release moisture, bentonite is used in iron ore palletisation. Sodium-based bentonite of 75 mm size finds suitability in iron ore palletisation for bonding by user industries. Bentonite has also remarkable colloidal and waterproofing properties.**

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- **Application:**
  - **Rubber & Polymers**
  - **Paints & Pigments**
  - **Ceramics & Insulation**
  - **Paper & Boards**
  - **Printing Inks**
  - **Ultramarine Blue**
  - **Adhesives & Sealants**
  - **Fiberglass**
  - **Pharmaceuticals**
  
- **Chemical Analysis**

<b>PARAMETERS</b>	<b>RESULTS (%)</b>
<b>SiO<sub>2</sub></b>	<b>50 To 60%</b>
<b>Al<sub>2</sub>O<sub>3</sub></b>	<b>13 To 15%</b>
<b>Fe<sub>2</sub>O<sub>3</sub></b>	<b>1 to 7%</b>
<b>CaO</b>	<b>1 To 5%</b>
<b>MgO</b>	<b>Traces Loss on ignition : 16.07%</b>
<b>Bulk Density</b>	<b>0.5 to 0.6 Gm/CC</b>
<b>pH</b>	<b>8 to 10 %</b>
<b>Moisture</b>	<b>5 to 6%</b>

- **Packaging:** 25 KG Bag on Pallet, Jumbo Bags (Loose and Packed in 25/50 KG Bag)
- **Country of Origin:** India
- **Preparation Information:** This PDS has been prepared by KUNAL EXIM on 1<sup>st</sup> December, 2017.

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