



## Material Safety Data Sheet

### Section 1: Product And Company Identification:

**Product Name:** Bentonite  
**Synonyms:** Bentonite/Swelling Clay/Montmorillonite /Smectite  
**Chemical Name:** Magnesium and Aluminium Silicate /Phyllosilicate  
**Producer's Name:** Yellowstar Bentonite (Pty)Ltd  
**Address:** 25 Boom Street  
Parys  
Free State  
South Africa  
**Telephone Number:** (+27) 11 794 2202

### Section 2: Hazardous Ingredients:

Bentonite is a natural material consisting of variable proportions of various minerals, including Montmorillonite, quartz and mica.

Hazardous Ingredient:	Approximate Weight %:	CAS no:
Montmorillonite	65	1318-93-0
Quartz	30	14808-60-7
Plagioclase	2	68476-25-5
Mica	<2	12001-26-2
Kaolinite	<2	1318-74-7
Calcite	<2	13397-26-7

### Section 3: Hazards Identification:

#### Potential acute health effects:

Hazardous in case of eye contact (irritant) or inhalation.  
Slightly hazardous in case of skin contact (irritant) or ingestion.

#### Potential chronic health effects:

Hazardous in case of inhalation.  
Wet material is very slippery.

### Section 4: First Aid Measures:

**Eye contact:** Flush with generous amount of fresh warm water. Eyelids may become sticky. Do not rub eyes. If irritation develops, seek medical attention.

**Skin contact:** Wash with soap and water. Bentonite is a desiccant and may cause dry skin. If irritation develops, seek medical attention.

**Inhalation:** Move to dust free fresh air. In case of respiratory distress, seek medical attention.



**Ingestion:** No adverse effect expected. Do not swallow large quantities. Rinse mouth out with water. Seek medical attention if significant quantities have been ingested.

## Section 5: Fire Fighting Measures:

<b>Flammability:</b>	Non-flammable
<b>Explosion Data:</b>	Non explosive
<b>Extinguishing Media:</b>	Bentonite will not burn
<b>Flammability:</b>	Not applicable
<b>Flash Point:</b>	Not applicable
<b>Auto ignition:</b>	Not applicable

## Section 6: Accidental Release Measures:

### Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on any contaminated surface and dispose of according to local and regional authority requirements.

### Large Spill:

Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow evacuating through the sanitary system. Wear dust mask, safety gloves and goggles. Avoid entering into drains, rivers or lakes.

## Section 7: Bentonite and Handling:

Yellowstar Bentonite is stored as open air stockpiles and is safe to handle. Avoid inhalation of dust. Also note, it is slippery when wet.

## Section 8: Exposure Control/Personal Protection:

**Ventilation:** Use exhaust ventilation to keep airborne dust concentration below exposure limits. Local exhaust ventilation is recommended where dust may be released.

**Respiratory protection:** Use appropriate engineering controls to avoid dust oration or accumulation. Ensure all occupational exposure limits are maintained (5 mg/m<sup>3</sup> on TWA 8 hours for alveolar dust, and 10 mg/m<sup>3</sup> on TWA 8 hours for total inhalation dust).

**Skin protection:** Use gloves, protective clothing, goggles and dust mask.

**Eye protection:** Use goggles and dust mask. Eyewash should be available.

## Section 9: Physical and Chemical Properties:

<b>Physical State</b>	Solid
<b>pH</b>	8.1 - 10.5
<b>Bulk density</b>	1.18g/cc
<b>Specific gravity</b>	2.5g/cc
<b>Appearance and odor</b>	Grey, yellow, green brown
<b>% Soluble in water</b>	0
<b>Melting point</b>	1200°C



<b>Boiling point</b>	n/a
<b>Vapour pressure</b>	n/a
<b>Vapour density</b>	n/a
<b>Flash point</b>	n/a
<b>Freezing point</b>	n/a

### Section 10: Stability and Reactivity:

<b>Chemical stability:</b>	Stable
<b>Compatibility with other substances:</b>	Compatible with all substances
<b>Conditions to avoid:</b>	None
<b>Hazardous decomposition by product:</b>	None expected

### Section 11: Toxicological Information:

Bentonite has no determined acute toxic effects. Long-term exposure to moderate or high concentrations of Bentonite dust may affect nose and respiratory tract and chest health. No toxicological effects are expected if respirable dust concentrations are maintained below the occupational exposure standards. Repeated contact with skin may cause dry skin and irritations.

Repeated eye contact may generate irritations. No adverse effects are expected when ingested.

#### Acute Health Hazards:

Eye contact may cause mechanical irritations if exposed to excessive amount of Bentonite. Skin contact may aggravate existing dermatitis. Inhalation from prolonged and continuous exposure may aggravate existing asthmatic or respiratory conditions.

#### Chronic Health Hazards:

Prolonged inhalation of excessive levels of Bentonite dust may cause a simple pneumoconiosis condition, not normally associated with a decrement in lung function. In cases of long-term exposure to externally high levels of dust, complicated pneumoconiosis with lung function impairment may occur.

#### Carcinogenicity:

None known

#### Mutagen city:

None known

#### Leratogenicity:

None known

#### Reproductive effect:

None known

### Section 12: Ecological Information:

Bentonite is unlikely to have any long term adverse effect on the environment, although it is persistent and non-biodegradable.

<b>Mobility:</b>	Solid, non-volatile, insoluble in water.
<b>Degradability:</b>	Non-biodegradable. Persistent.



**Accumulation:** No bioaccumulation or bio-magnification identified.  
**Ecotoxicity:** Non-toxic to aquatic living organisms and animals.  
Non-toxic to aquatic plants.  
Non-toxic to soil organism.  
Non-toxic to aerobic and anaerobic plants.  
Non-toxic to aerobic and anaerobic living organisms and animals.

### **Section 13: Disposal Considerations:**

Can be disposed of as non-toxic and inactive materials. Rehabilitation results in natural dam on farms.

### **Section 14: Transport Information:**

Bentonite may be transported in accordance with the standard **local authority** regulations and is not classified as dangerous for transportation.

### **Section 15: Regulatory Information:**

Bentonite is not classified as dangerous for supply under EEC regulations. No labelling required for safety or risk information.

Refer to all applicable local, national and international regulations.

### **Section 16: Other Information:**

<b>International regulations:</b>	No products were found
<b>Other special considerations:</b>	Not applicable
<b>Contact information:</b>	Etienne Dreyer, Yellowstar Bentonite 079 457 5050

Date: 03 March 2012 Signature: E.G.Dreyer