

MATERIAL SAFETY DATA SHEET

Bentonite

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	Review Date: 8/8/16

1.0 IDENTIFICATION OF MATERIAL:	
Name of Composition	Bentonite
Chemical Name	Magnesium and Aluminum Silicate/ Phyllosilicate
Molecular Formula	$Al_2O_3 \cdot 4(SiO_2) \cdot H_2O$

CAS NO.	COMPONENT	CONCENTRATION
1318-93-0	Montmorillonite	>90%
14808-60	Quartz	<10%
12001-26-2	Mica	<10%

3.0 PHYSICAL DATA:		
Typical Characteristics	Boiling Point	Specific Gravity (Water = 1)
Light color (grey, pink, yellow, green brown) granules or Powder. Odorless	n/a	2.5 g/cc
Bulk density	Melting Point	pH
1.18 g/cc	1200°C	8.1 to 10.5
Vapor Density (Air = 1)	% Soluble in water:	Physical State
n/a	Nil	Solid

4.0 FIRE AND EXPLOSIVE HAZARD DATA:		
FLASH POINT Not explosive.	FLAMMABLE (EXPLOSIVE) LIMITS (PERCENT BY VOLUME)	
	LOWER EXPLOSIVE LIMIT	UPPER EXPLOSIVE LIMIT
	n/a	n/a
FIRE EXTINGUISHING MEDIA: Product will not burn.		
SPECIAL FIRE FIGHTING PROCEDURE: n/a		
UNUSUAL FIRE AND EXPLOSION HAZARDS: n/a		

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5.0 HEALTH HAZARD DATA: HMIS Hazard Class. Health: 1 Flammable: 0 Reactivity:0

EFFECTS OF OVEREXPOSURE	ACUTE	Bentonite is of low acute toxicity. 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	Long-term exposure to any respirable mineral dust could cause slight effects on the respiratory system. Wet bentonite spillage constitutes a major slipping hazard. 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.

HAZARDS: OES (Occupational Exposure Standard) for respirable Bentonite dust: 5mg/m³ in an 8 hours' time weighted average reference period.

EMERGENCY AND FIRST AID PROCEDURES:

Eye Contact: Flush with copious amount of fresh water. Eyelids may become sticky. Avoid rubbing eyes. If irritation develops, seek medical attention.

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

Inhalation: Move to dust free fresh air. If respiratory distress develops, seek medical attention.

Ingestion: No adverse effect expected. Rinse mouth out with water. Seek medical attention if significant quantities have been ingested.

6.0 REACTIVITY DATA:

GENERAL REACTIVITY:	Non-Reactive
INCOMPATIBILITY (MATERIALS TO AVOID):	None
HAZARDOUS DECOMPOSITION PRODUCTS:	No hazardous decomposition or by products expected
HAZARDOUS POLYMERIZATION:	n/a
CONDITIONS TO AVOID:	none

7.0 SPILL PROCEDURES/DISPOSAL REQUIREMENTS:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:	Collect spillage by vacuum cleaning or other mean whereby dust creation is minimized. If dust levels should exceed the occupational exposure standard, then personal protective equipment is required.
PERSONAL PRECAUTIONS:	Wear dust mask, safety gloves and goggles.
ENVIRONMENTL PRECAUTIONS:	Do not allow the entering into drains, rivers, or lakes.
DISPOSAL CONSIDERATIONS:	Bentonite and waste from reside can be disposed as non-toxic and inactive materials in approved landfill sites in accordance with local regulations. Contaminated packaging can be disposed in approved landfill sites in accordance with local regulations.

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8.0 SPECIAL PROTECTION INFORMATION:

EYE PROTECTION:	Eyewash should be available, but eye protection is not required unless physical working conditions demand it.
GLOVES:	Use gloves to avoid skin irritation.
RESPIRATORY:	Use appropriate engineering controls to avoid dust oration or accumulation. Ensure all occupational exposure limits are maintained (5 mg/m ³ on TWA 8 hours for alveolar dust, and 10 mg/m ³ on TWA 8 hours for total inhalator dust). Wear approved respirator or dust mask in the event of dust creation.
VENTILATION:	Use exhaust ventilation to keep airborne dust concentration below exposure limits. Additionally, local exhaust ventilation is recommended where dusts may be released.

9.0 SPECIAL PRECAUTIONS:

STORAGE REQUIREMENTS:	Store in a dry covered area
HANDLING:	Bentonite is safe to handle. Material is very slippery when wet. Use appropriate controls and ventilation to avoid creating accumulation dust. Avoid inhalation and repeated contacts with eyes or skin
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 respirator dust concentrations are maintained below the occupational exposure standards. Repeated contact with skin may cause dry skin and irritations. Repeated eye contact may generate irritation. No toxicological effects are expected if personal protective equipment is worn. No adverse effects are expected when ingested.

10.0 SHIPPING REGULATIONS (D.O.T. NOMENCLATURE:

Proper Shipping Name:		
Hazard Class	Type of Packaging	Label
Not classified as dangerous for transportation. May be transported in accordance with the standard local authority regulations.	None	Bentonite is not classified as dangerous for supply under EEC regulations. Bentonite does not require labelling for safety information or risk information.
Placard	Marker	Exemptions
None	None	None

11.0 ECOLOGICAL INFORMATION

Environmental Statement	Bentonite has a low impact on environment. Bentonite is persistent and non-biodegradable but it is unlikely to have any long-term adverse effect on the environment.
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Mobility:	Solid, nonvolatile, insoluble in water
Degradability:	Non-biodegradable.
Accumulation:	No bioaccumulation or bio-magnification identified.
Eco toxicity:	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. Bentonite is 5 mg/m ³ respirable dust in a TWA 8 hour's reference period.

12.0 NOTES:

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