



NANO Technologies

MATERIAL SAFETY DATA SHEETS

BENTONITE

1. IDENTIFICATION OF SUBSTANCE/PREPARATION AND COMPANY

1.1	PRODUCT NAME:	Bentonite
1.2	GENERIC DESCRIPTION:	HYDRATED ALUMINUM SILICATE.
	MOLECULAR WEIGHT:	NO DATA
	FORMULA:	$(\text{Na}, \text{Ca})_{0.33} (\text{Al}_{1.67} \text{Mg}_{0.33}) \text{Si}_4 \text{O}_{10} (\text{OH})_2 \text{nH}_2\text{O}$
1.3	CAS NO.:	1302-78-9
1.4	SUPPLIER NAME:	Egypt Nano Technologies Co. ENTC.
	ADDRESS:	New Borg El Arab City, 2 nd . Industrial Zone Alexandria, EGYPT.
	FAX:	+2 03 4599644
	CONTACT PERSON:	Mr. Atef Rasheed.
	POSITION:	CHAIRMAN OF BOARD.

2. COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS	%	HAZADROUS DATA
Silica CAS no. 14808-60-7	2-6%	Low concentrations of silica in the form of quartz, cristobalite and tridmite.

3. HAZARDS IDENTIFICATION

- 3.1 INHALATION:
May cause irritation to the respiratory system.
High concentration can cause lung damage.
- 3.2 INGESTION:
Low order of toxicity.
- 3.3 SKIN:
Causes irritation of the skin.
- 3.4 EYES:
Eye irritation.
- 3.5 CARCINOGENICITY:
Contains quartz, which can be carcinogenic.
- 3.6 HAZARD CATEGORY:
IR not classified.





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4. FIRST-AID MEASURES

- 4.1 EYE CONTACT:
Promptly wash eyes with lots of water while lifting eyelids.
Get medical attention if any discomfort continues.
- 4.2 SKIN CONTACT:
Dust off promptly and flush contaminated skin with water.
Get medical attention if irritation persists after washing.
- 4.3 INHALATION:
Remove to fresh air.
Get medical attention for any breathing difficulty.
- 4.4 INGESTION:
Drink plenty of water.
Get medical attention.

5. FIRE-FIGHTING MEASURES

- 5.1 HAZARD CLASS:
ER Not classified.
- 5.2 PROCEDURES:
This material is not flammable.
- 5.3 EXPOSURE HAZARDS:
None noted.
- 5.4 PROTECTIVE EQUIP:
Respiratory and eye protection required.

6. ACCIDENTAL RELEASE MEASURES

- 6.1 PERSONAL PRECAUTION:
Causes slippery surfaces when wet.
- 6.2 ENVIRONMENTAL PRECAUTION:
Inform authorities if large amounts involved.
- 6.3 CLEAN-UP METHODS:
Shovel into dry containers
Cover, move container.
Flush area with water.
Avoid generating dust.





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7. HANDLING & STORAGE

- 7.1 HANDLING:
Do not use in confined spaces without adequate ventilation.
- 7.2 STORAGE:
Keep in cool, dry, ventilated storage in tightly closed containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- 8.1 RESPIRATORY PROTECT:
No specific recommendation made but protection against nuisance dust must be used if general level exceeds 10mg/m³.
- 8.2 HAND PROTECTION:
Use protective gloves.
- 8.3 EYE PROTECTION:
Use eye protection.
- 8.4 SKIN PROTECTION:
Avoid contact with skin as good industrial practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

- | | |
|---------------------------------|---------------------------------------|
| 9.1 BOILING POINT: | Not Applicable. |
| 9.2 MELTING/FREEZING POINT: | > 1250°C. |
| 9.3 DENSITY: | 2.0 – 3.0 (S.G.). |
| 9.4 VAPOUR PRESSURE: | Not Applicable. |
| 9.5 VAPOUR DENSITY: | Not Applicable. |
| 9.6 SOLUBILITY IN WATER: | Insoluble. |
| 9.7 EVAPORATION RATE: | Not Applicable. |
| 9.8 FORM & APPEARANCE: | Powder, dust. |
| 9.9 ODOUR: | No characteristic odour. |
| 9.10 COLOUR: | Green yellow. |
| 9.11 PH: | 9.5 (sat. soln. in H ₂ O). |
| 9.12 VISCOSITY OF LIQUID: | Not Applicable. |
| 9.13 COEFF. THERMAL EXPANS: | No Data. |
| 9.14 FLASH POINT: | Will not flash. |
| 9.15 FLAMMABILITY (SOLID, GAS): | Not Applicable. |
| 9.16 AUTOFLAMMABILITY: | Not Applicable. |
| 9.17 EXPLOSIVE PROPERTY: | None. |
| 9.18 OXIDISING PROPERTY: | None. |
| 9.19 LOG POW: | No Data. |





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10. STABILITY AND REACTIVITY

- 10.1 STABILITY:
No particular stability concerns.
- 10.2 CONDITIONS TO AVOID INSTABILITY:
None.
- 10.3 INCOMPATIBILITY:
None.
- 10.4 CONDITIONS TO AVOID INCOMPATIBILITY:
None.
- 10.5 HAZARDOUS DECOMPOSITION PRODUCTS:
No hazardous decomposition products are expected.
- 10.6 DECOMPOSITION POLYMERIZATION:
Will not polymerize.
- 10.7 CONDITIONS TO AVOID HAZARDOUS POLYMERIZATION:
None.

11. TOXICOLOGICAL INFORMATION

11.1	INHALATION:	No Data	METHOD:
11.2	INGESTION:	TDLo 12.000 g/kg (mouse)	METHOD: Acute oral.
11.3	SKIN:	No Data	METHOD:
11.4	EYE:	Dust irritating	METHOD:
11.5	SENSITIZATION:	No Data	METHOD:
11.6	CARCINOGENICITY:	See note below	METHOD:
11.7	MUTAGENICITY:	No Data	METHOD:
11.8	TERATOGENICITY:	No Data	METHOD:

12. ECOLOGICAL INFORMATION

- 12.1 ACUTE TOXITY:
Rainbow Trout 96 hr LC50 10,000 ppm.
Oyster 192 days LC50 110 ppm.
- 12.2 GROWTH INHIBITION: SPECIES: No Data CONCENTRATION:
- 12.3 INTERFERENCE WITH BIOTREATMENT:
No Data.





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12.4	BIODEGRADABILITY:		
	% BIODEGRADATION:	TIME: No Data	METHOD:
	(AEROBIC)		
	% BIODEGRADATION:	TIME: No Data	METHOD:
	(ANAEROBIC)		

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with Local Authority requirements.

14. TRANSPORTATION INFORMATION

14.1	TRANSPORT HAZARD CLASS:	Not classified	LABEL: None Required.
14.2	U.N. NUMBER:	NA	
14.3	SEA	IMDG. CLASS: NA	PAGE:
14.4	ROAD	ADR CLASS: NA	SUBSTANCE NO.:
14.5	AIR	IACO CLASS: NA	ART NO.:
14.6	RAIL	RID CLASS: NA	SUBSTANCE NO.:

15. REGULATORY INFORMATION

15.1	HAZARD CATEGORY:	Not regulated.
15.2	R - SENTENCE:	

15.3 S - SENTENCE:



16. OTHER INFORMATION

This product contains free crystalline silica, which has exhibited limited evidence of carcinogenicity in humans. Prolonged inhalation of the dust may result in silicosis, a non-cancerous lung disease. Avoid creating dusty conditions and use approved non-toxic dust respirator.

All information, recommendations and suggestions herein concerning our products are based upon tests and data believed to be reliable, however, it is the users responsibility to determine the safety, toxicity and suitability for his own use control, no guarantee, expressed or implied is made by ENTC as to effects of such use, the results to be obtained or the safety and toxicity of the product nor does ENTC assume any liability arising out of the use, by others, of the product referred to herein.

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