



MATERIAL SAFETY DATA SHEET

BENTONITE OCMA

Section 1 Identification of the substance and the producer/supplier

Product Name / Synonyms	Bentonite OCMA / Sodium Montmorillonte / Hydrated Aluminium Silicate
Grades	Premium grade viscofier in powder status that is treated with soda ash by adding 4-6 % on wet to the bentonite to activate it.
Application of the Product	It is applied in various drilling requirements. It builds a primary filter cake, aids filtrate reduction and suspends drilled solids, and has the advantages of helping to lubricate and cool drilling bits, suspend cuttings, increase viscosity of fluid, reduce fluid loss, reduce soil permeability, minimize formation damage, stabilize borehole walls. It is used in WDF, HDD, piling, diaphragm, and tunneling
Producer / Supplier	MAYN
Address	306 Square Towers, Cairo - Egypt
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Section 2 Composition/Ingredients

Chemical Composition

IUPAC Name	Chemical Formula	Weight (%)
Silicon dioxide	SiO ₂	55.0%
Aluminum oxide	Al ₂ O ₃	24.0%
Iron (III) oxide	Fe ₂ O ₃	8.00%
Magnesium oxide	MgO	3.00%
Calcium oxide	CaO	2.50%
Sodium oxide	Na ₂ O	2.00%
Titanium dioxide	TiO ₂	1.25%
Potassium oxide	K ₂ O	0.60%
Sulfur trioxide	SO ₃	0.30%
Phosphorus pentoxide	P ₂ O ₅	0.11%
Manganese (II) oxide	MnO	0.06%
Chromium (III) oxide	Cr ₂ O ₃	0.01%

Section 3 Possible Hazard Risks

Classification according to directive 67/548/EEC	not hazardous
Classification according to directive 98/24/EEC	not hazardous
Classification according to (EC) No 1272/2008	not classified as hazardous
Inhalation	Inhalation of dust may cause slight irritation. Material is very slippery when wet.

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Eye Contact	Dust or powder may irritate eye tissues. Irritation to the eyes will cause watering and redness.
Effects of Overdose	High concentrations might cause lungs damages.
Skin Absorption	Not known
Skin Contact	Dust or powder may irritate. Reddening, scaling, and itching are characteristics of skin inflammation.
Danger for nature	Not dangerous

Section 4 First aid measures

Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
Eye contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.
Skin contact	In case of contact, flush skin with water. Wash clothing before reuse. Call a physician if irritation occurs.
Ingestion	Rinse mouth. Call a doctor if you feel unwell.

Section 5 Fire-fighting measures

Flammability	Not flammable
Extinguishing media	The product does not burn. Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Combustion products	During fire, gases hazardous to health may be formed.
Fire-fighting procedures	Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Fire/explosion hazards	No unusual fire or explosion hazards noted.

Section 6 Accidental release measures

Personal precautions	Keep unnecessary personnel away. Material can be slippery when wet. Avoid inhaling dust. Avoid dust formation. In case of exposure to dust over regulatory limits, wear a personal respirator in compliance with national legislation. Keep dust levels to a minimum, and ensure that sufficient ventilation or suitable respiratory protective equipment is used (Section 8). Material can be slippery when wet.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground. No special environmental precautions required.
Methods for cleaning up	This product is miscible in water. Stop the flow of material, if this is without risk. Collect dust using a vacuum cleaner equipped with HEPA filter. <u>Large Spills:</u> Wet down with water and dike for later disposal. Shovel the material into waste container. Collect dust or particulates using a vacuum cleaner with a HEPA filter. Avoid the generation of dusts during clean-up. Following product recovery, flush area with water. <u>Small Spills:</u> Sweep up or vacuum up spillage and collect in suitable container for disposal. For waste disposal, (section 13). None necessary. Reduce airborne dust and prevent scattering by moistening with water.

Section 7 Handling and storage

Safe handling advice	Minimize dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. In case of insufficient ventilation, wear suitable respiratory equipment. Practice good housekeeping.
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Storage	No special restrictions on storage with other products. Store in original tightly closed container. Store in a well-ventilated place. Guard against dust accumulation of this material. No special storage conditions required. Keep out of the reach of children. Store away from incompatible materials (Section 10).
Requirements for store rooms/receptacles	Use local and general ventilation. Keep in dry place. Avoid dust formation. Provide training for employees about national precautions and contents of this MSDS.
Do not store in common with	Store away from incompatible materials.

Section 8	Exposure Controls / Personal Protection
Exposure Limit Values	Follow workplace regulatory exposure limits for all types of airborne dust. Respect national regulatory provisions for dust (total dust and respirable crystalline silica dust). For the equivalent limits in other countries, please consult a competent occupational hygienist or the local regulatory authority. Respect national regulatory provisions for dust (total dust and respirable crystalline silica dust).
Occupational exposure controls	Use exhaust ventilation, if required, to maintain dust concentration below recommended exposure limits.
Respiratory Protection	Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P1 (filters at least 80 % of airborne particles, colour code: White).
Hand Protection	Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. • type of material NBR (Nitrile rubber) • material thickness >0,11 mm • breakthrough times of the glove material >480 minutes (permeation: level 6)
Body/Skin Protection	Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.
Eye Protection	Use safety goggle with side protection.
Ventilation Protection	Use exhaust ventilation
Additional protective methods	Keep away from drains, surface and ground water. Emergency showers and eye wash stations should be available. Educate and train employees in the safe use and handling of hazardous chemicals. Wear clean, dry personal protective equipment. If heavily exposed daily, employees must shower.

Section 9	Physical and chemical properties						
Appearance	<table> <tr> <td>Shape</td><td>Solid</td></tr> <tr> <td>Color</td><td>Fine light tan / green dry powder</td></tr> <tr> <td>Odor</td><td>Odorless</td></tr> </table>	Shape	Solid	Color	Fine light tan / green dry powder	Odor	Odorless
Shape	Solid						
Color	Fine light tan / green dry powder						
Odor	Odorless						
Density	2 - 3 g/cm ³						
Sand content	≤ 1%						
Moisture content	9 – 12 %						
PH	9 – 10.8						
Solubility in water	Insoluble						
Solubility in dilute acids	N/A						
Filtrate volume @6.4% Bentonite	≤ 15 ml						
Yield Point (YP) / plastic viscosity (PV) Ratio	≤ 6						

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Suspension Properties

22.4 g Bentonite / 350 ml H₂O ≥ 30 CP

Dial Reading @600/300

Melting point > 1250 °C

Boiling point N/A

Flash point Will not flash

Particle size distribution according to product datasheet

Section 10 Stability and reactivity

Reactivity This material is stable and not reactive under normal ambient conditions.

Chemical stability Stable at normal conditions.

Conditions to avoid Keep away from incompatible materials.

Materials to avoid N/A

Hazardous decomposition products N/A

Section 11 Toxicological information

Acute toxicity
 Inhalation: Inhalation of dust causes discomfort to the upper respiratory tract.
 Eye contact: Dust or powder may irritate eye tissues. Irritation to the eyes will cause watering and redness.
 Skin contact: Dust or powder may irritate. Reddening, scaling, and itching are characteristics of skin inflammation.
 Ingestion: LD₅₀ oral, rat = > 5000 mg/kg
 High ingestion might irritate the gastrointestinal tract.
 This product contains small amounts of crystalline silica. Acute Effects: short term exposure to silica may result in mild to temporary discomfort in the respiratory tract (similar to nuisance dust). Short term exposure to excessive amounts of silica may cause severe inflammation of the lungs possibly coupled with fluid in the lungs, resulting in shortness of breath and low blood oxygen levels. Excessive inhalation of crystalline silica in a short time is a serious health concern. Chronic Effects: long term exposure (10 years - 30 years), may result in pulmonary fibrosis (silicosis). Aggravates bronchitis, asthma and emphysema.

Long term exposure
 Inhalation: Inhalation of dust causes discomfort to the upper respiratory tract.
 Eye contact: Dust or powder may irritate eye tissues. Irritation to the eyes will cause watering and redness.
 Skin contact: Dust or powder may irritate. Reddening, scaling, and itching are characteristics of skin inflammation.

Section 12 Ecological information

This product is an inorganic substance and therefore is not considered biodegradable.
 Shall not be classified as hazardous to the aquatic environment.
 Does not significantly accumulate in organisms.

Section 13 Disposal Considerations

Waste treatment methods Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations, and please Consult the appropriate local waste disposal expert about waste disposal. Do not empty into drains.

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Relevant provisions relating to waste	The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process. Waste catalogue ordinance. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.
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Section 14 Transport information

Not classified as hazardous or dangerous according to transport regulations.
Non-environmentally hazardous acc. to the dangerous goods regulations
Avoid dust spreading by using tight tanks for powders and covered trucks for pebbles.

Section 15 Regulatory information

General	No EC-classification in 67/548/EC Annex 1 No EC-classification in (EC) No 1272/2008
Industrial Safety and Health Law	This product does not contain harmful or controlled hazardous substances under ISHL. It contains <1% crystalline silica.
Toxic Chemical Control Act	This product does not contain chemical substances regulated as toxic, observational, restricted or banned under TCCA.
Dangerous Substance Management Law	This product does not contain chemical substances regulated under DSML.
Waste Management Law	Dispose of this product in accordance with the waste treatment standards prescribed in Waste Management Law.

Section 16 Other Information

Disclaimer: Bentonite OCMA from MAYN is a natural product. Grinding or milling procedures are not carried out during preparation. Bentonite OCMA powder is not hazardous. So this Material Safety Data Sheet is made voluntarily. This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE CONCERNING THE INFORMATION HEREIN PROVIDED. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information nor do we offer warranty against patent infringement. The information presented in this section describes exclusively the safety requirements for the product(s) and is based on the present level of knowledge. It does not constitute a guarantee for the characteristics of the described product(s) as defined by the legal warranty regulations.

Bentonite OCMA is a prepared natural product. All data are approximate values and do not represent any warranty

December 2024

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