



Certificate of Analysis

Trade Name: Ghassoul Clay
INCI: Moroccan Lava Clay
Batch Number: 4357009
Best Before Date: April 2022
No.: Country of Origin: Morocco

ANALYTICAL DETAILS	UNIT	RANGE	RESULTS
Appearance		Fine powder	Complies
Colour		Grey to Brown	Complies
Odour		Odourless	Complies
Granulometry	µm	<500	Complies
pH 10% Solution		7.8 – 8.6	Complies

Storage:

Store in original packaging in a dry, cool and well-ventilated place.
Keep away from heat, sparks and open flame.
Protect from moisture and direct sunlight.

Shelf Life: 10 years

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SAFETY DATA SHEET

Review date 20.07.2017

Date of print 24.10.2016

GENERAL INFORMATION

Item Name	Ghassoul Clay
INCI	Montmorillonite
Chemical Formula	Si _{3.78} Al _{0.22} Mg _{2.92} Fe _{0.09} Na _{0.08} K _{0.08} O ₁₀ (OH) ₂ 4H ₂ O. (magnesium Montmorillonite)
Supplier	MADAR Corporation Ltd. 19-20 Sandleheath Industrial Estate Fordingbridge Hampshire SP6 1PA
Tel	01425 655555
E-mail	sales@madarcorporation.co.uk

1.4. Emergency telephone number

Emergency contact number (office hours)	01425 655555
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INGREDIENTS/IDENTITY INFORMATION

Ingredient:	Minerals and Trace Elements
CAS Number	12417-86-6
Physical/Chemical Characteristics	
Appearance and Odour:	Brownish Fine Powder, un-fragranced.
Vapour Pressure (MM Hg/70 F):	negligible
Vapour Density (Air=1):	N/A
Specific Gravity:	
Evaporation Rate	N/A
Solubility in Water:	None, but absorbs water.
Percent Volatiles by Volume:	0 %

FIRE AND EXPLOSION HAZARD DATA

Flash Point	N/A
Lower Explosive Limit	Unknown
Upper Explosive Limit	Unknown
Extinguishing Media	Water
Special Fire Fighting Procedures:	None
Unusual Fire and Explosion Hazards	None

REACTIVITY DATA

Conditions to Avoid (Stability)	N/A
Materials to Avoid	None
Hazardous Decomposition Products	None (biodegradable)
Can Hazardous Polymerisation Occur	No

PROTECTION DATA

Signs/Symptoms of Overexposure

Lungs	Move to fresh air
Eyes:	Flush with plenty of water for about 15 minutes. Seek medical care if symptoms persist.
Skin contact:	N/A

PRECAUTIONS FOR SAFE HANDLING AND USE

Steps if Material is Released/Spill	Scoop up powder, mop up wet clay.
Waste Disposal Method	MAINS DRAINAGE, or LANDFILL
Precautions-Handling/Storing	Store in a dry and well ventilated room in a closed container.

CONTROL MEASURES

Respiratory Protection	Use dust mask or respirator
Ventilation	Provide adequate ventilation
Protective Gloves	Type as required for task
Eye Protection	Safety goggles
Other Protective Equipment	As required to prevent prolonged contact
Occupational Exposure limit	Not determined.
Carcinogen	Not determined.

Transportation Data

Ship as a foodstuff, not to be loaded with incompatible materials including poisons.

CHEMICAL COMPOSITION AND PHYSICAL CHARACTERISTICS.

9.1 Information on the basic physical and chemical properties

The Ghassoul is a purely natural mineral product mostly composed of stevensite. It is a clayey mineral made of magnesium silicate.

Optical microscope aspect.	Under the optical microscope the prepared Ghassoul looks like a grey shapeless colloidal base on which we can see fine micelles. No trace of vegetable waste has been observed.
Electron microscope aspect.	The electron microscope shows that the Ghassoul crystalline structure is similar to the other minerals belonging to the stevensite and the montmorillonites group.
Density	The rough Ghassoul density is around 1.7 in the pycnometer
Water content	The water content is found at 180 degrees Celsius by attaining a constant weight. The loss of weight by desiccation is nearly 13% of the total weight.
Ashes content	The total ashes resulting from a complete combustion at 600 degrees Celsius, in a

ceramic crucible containing the sample already dry by desiccation at 180 degrees Celsius is about 18% of the total weight.

Chemical analysis:

The silicon contents formulated in silicate represents 55% of the Ghassoul.

Echt	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	FeO	TiO ₂	CaO
N°	%	%	%	%	%	%
Beige	58.38	2.21	0.89	0.22	0.17	2.21
MgO	Na ₂ O	K ₂ O	MnO	P ₂ O ₅	P_Feu	Total
%	%	%	%	%	%	%
25.75	0.53	0.67	<0.01	0.02	8.65	99.69
Ag	AS	Ba	Be	Bi	Cd	
Ppm	ppm	ppm	ppm	ppm	ppm	
<0.5	<10	56	14	<5	<5	
	Ce	Co	Cr	Cu	Li	
	ppm	ppm	ppm	ppm	ppm	
	34	8	25	7	940	
Mo	Nb	Ni	Pb	Sb	Sr	
ppm	ppm	ppm	ppm	ppm	ppm	
<5	<5	25	14	<10	191	
		V	Y	Zn	Hg	
		ppm	ppm	ppm	ppb	
		45	<5	60	<10	
	Indice de Blancheur	Humid %	Indice de Gonflement	pH 1/10	Matière Organique %	
	51.05	10.96	12ml	8.2	<0.01	

Indice de sédimentation (en ml)

1H	2H	3H	24H	48H	72H
20.0	18.0	17.0	15.0	15.0	15.0

This information is based on our present knowledge and is intended to describe our products from point of view of the safety requirements. It should not be construed as guaranteeing specific properties.

The user must satisfy himself that the product is entirely suitable for his purpose.



**Chemical analysis:
The silicon contents formulated in silicate
represent 55% of the Rhassoul**

Écht N°	SiO ₂ %	Al ₂ O ₃ %	Fe ₂ O ₃ %	FeO %	TiO ₂ %	CuO %
Beige	58,38	2,21	0,89	0,22	0,17	2,21

MgO %	Na ₂ O %	K ₂ O %	MnO %	P ₂ O ₅ %	P_Feu %	Total %
25,75	0,53	0,67	<0,01	0,02	8,65	99,69

Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Cd ppm
<0,5	<10	56	14	< 5	< 5

Ce ppm	Co ppm	Cr ppm	Cu ppm	Li ppm
34	8	25	7	940

Mo ppm	Nb ppm	Ni ppm	Pb ppm	Sb ppm	Sr ppm
< 5	<5	25	14	<10	191

V ppm	Y ppm	Zn ppm	Hg ppb
45	<5	60	<10

Indice de Blancheur	Humid %	Indice de Gonflement	pH 1/10	Matière Organique %
51,05	10,96	12 ml	8,2	<0,01

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