



MSDS and Technical Data Sheet Ghassoul

GENERALITY:

Ghassoul or rhassoul, a generic name which comes from the Arabic word ghassala or rhassala and which means to wash, is a smectic clay consisting mainly of lithiniferous stevensite which is a mineral of the group of magnesian montmorillonite of brown, black or beige color. It is a clay that has natural properties such as absorbent, swelling, saponiferous, detergent and degreasing.

Ghassoul, of lacustrine sedimentary origin, is found in formations of Tertiary age. The synonyms of ghassoul are: hectorite and stevensite.

After exploitation, the ghassoul undergoes a natural treatment: drying of the raw ghassoul, washing with water to remove impurities, filtering the dissolved ghassoul, spreading on large flat surfaces and drying in the sun, which gives a ghassoul product in the form of platelets.

CHEMICAL COMPOSITION:

The essential constituents of ghassoul are SiO₂ and MgO compounds, with low content of Al₂O₃, CaO, etc. (SiO₂ + MgO 70%).

Echt. N°	SiO ₂ . %	Al ₂ O ₃ %	Fe ₂ O ₃ %	FeO %	Ti O ₂ %	CaO %	Mgo %	Na ₂ O	K ₂ O %	MnO %	P ₂ O ₅ %	P-Feu %	Total %
1	54,71	2,62	0,7	0,39	0,18	2,27	23,36	0,48	0,62	<0,01	0,03	14,55	99,91
2	56,16	2,18	0,7	0,28	0,16	2,15	24,19	0,46	0,56	<0,01	0,02	13,09	99,95
3	55,62	3,49	0,96	0,42	0,24	3,19	21,22	0,12	0,82	<0,01	0,04	13,82	99,94
4	59,29	1,32	0,69	<0,01	0,09	1,94	27,43	0,19	0,26	<0,01	0,02	8,69	99,92

PHYSICO-CHEMICAL PROPERTIES:

* The density of raw ghassoul, determined with a pycnometer, is around 1.7.

* The water content at 180°C is about 13% (weight loss).

* The cation exchange capacity is 75.1 meq/100g.

* The exchangeable cations are: Mg⁺⁺ = 55 meq / 100g; Na⁺ = 17 meq / 100g

K⁺ = 3 meq / 100g; Ca⁺⁺ = 2 meq / 100g

* Property: saponifiers, detergents, degreasing, foaming, depilidant actions, etc.

* Adsorption power: 1 g of ghassoul adsorbs 80 mg of methylene blue.

* Water absorption capacity: 15 g of ghassoul absorb 25 g of water (1.66 times the weight of ghassoul).

* Differential thermal analysis:

- Significant endothermic phenomenon between 120°C and 160°C which corresponds to the departure of interfollicular water from the montmorillonites.

Ekokoza s.r.o.

Fryčovice 297, 73945, Fryčovice IČ: 07508247, eshop@ekokoza.cz



- The recrystallization minerals obtained after heating at 1000°C and 1200°C are cristobalite (SiO₂) and enstatite (SiO₂ - MgO)
- The differential thermal analysis curve and the recrystallization minerals are typical of a very magnesian montmorillonite.

USES:

* For hair and scalp care:

- + Ghassoul is used as a natural cleansing and degreasing shampoo for the hair and scalp. It gives exceptional shine and suppleness to the hair:
- Realization of the shampoo for greasy hair
- Realization of shampoo for dry hair
- Realization of baby shampoo
- Realization of the anti-dandruff shampoo
- + Ghassoul is used for making soap.
- + Ghassoul has the power to remove dirt impurities from the hair and scalp, such as:
- Fatty substances secreted by the sebaceous glands.
- Organic and mineral derivatives resulting from the evaporation of sweat.
- Keratonic residues from desquamation of the scalp.
- Remains of cosmetic products used to maintain or fix the hairstyle.

* For body care:

- + Ghassoul diluted in lukewarm water forms a pasty mud which is then applied as a light poultice to the interested parts (face, ankles, calves, thighs, hips, saddlebags, stomach, waist, etc.).
- + Ghassoul can be considered a first-rate natural cosmetic product, of higher quality than other clays. It is used for making anti-wrinkle masks, acne masks, for making anti-fringe cream, etc.
- + As a medicine against gastric acidity, ghassoul is commonly used, orally as a pill, by pregnant women in the countryside.

* Other industrial uses:

- + Ghassoul can be used for the manufacture of foundry molds as an addition <10% to silica sand.
- + In civil engineering: for the creation of sealing veils for excavations, the injection of cement grout (the presence of ghassoul allowing the cement to be kept in suspension)
- + For the manufacture of drilling muds.
- + For making iron ore pellets.
- + It can be used for decolorizing oils and as a catalyst support.

Ekokoza s.r.o.

Fryčovice 297, 73945, Fryčovice IČ: 07508247, eshop@ekokoza.cz