

Study for the availability of “Filtering Clay” in Bulgaria

The “Filtering Clay” is generated mainly from two industries in Bulgaria. Recyclers of waste oils and Vegetable oil refineries.

Recyclers of waste oils – Usually waste management companies or the recyclers itself collect small quantities of waste oils from car workshops, facilities, plants and etc. They buy the waste oils in prices between [REDACTED] BGN/tone. After that the waste oils are transported to the recyclers. In a certain stage of their process the recyclers are filtering the waste oils through natural product “clay” which is mainly “bentonite”. The “bentonite” is extracted in only one place in Bulgaria ([REDACTED]). After the clay is fully saturated, it is replaced by new one. The saturated clay containing a percentage of oil is classified as waste (waste code: 19 11 01*).

The clays are generated from companies, which recycle waste oils and then produce oils. In Bulgaria they are few, which is convenient by logistics point of view and the biggest recycler is the biggest generator of clays. At state level clays of around [REDACTED] tones per year is generated. [REDACTED] tones per year are generated only from one recycler - “[REDACTED]” which have the most modern recycling installation for waste oils. The rest [REDACTED] tones are generated by other four companies. The recyclers suffer from the high recovery prices and the absence of alternative for the recovery of the “Filtering Clay”.

In present the “Filtering Clay” is recovered in “[REDACTED]” for a gate fee of [REDACTED] BGN/tone or stored. Landfill is not allowed.

The “Filtering Clay” is compatible with our raw materials and usually contains around [REDACTED] % oils.

[REDACTED] Laboratory Analysis:

Filtering Clay	
Moisture	[REDACTED]
LOI	[REDACTED]
NCV	[REDACTED]
Oil content	[REDACTED]
Volatile	[REDACTED]
Ash	[REDACTED]
Sulfur	[REDACTED]
	[REDACTED]
CaO	[REDACTED]
SiO ₂	[REDACTED]
Al ₂ O ₃	[REDACTED]
Fe ₂ O ₃	[REDACTED]
MgO	[REDACTED]
SO ₃	[REDACTED]

test to feed the “Filtering Clay” During the trials, in total we recovered tones at gate fee of BGN/tonne.

Savings:

Total Savings: EUR per year.

Other generator of “Filtering Clay” is the , The Company generates around tones per year “Filtering Clay” from recycling of their own oils.

Because of no alternative for recovery, the company stores the “Filtering Clay” in their own site and the available quantity in tones. The “Filtering Clay” that generates is two types, silicate based and cellulose based (50/50% from each in the total quantity). In general, the cellulose clay is preferable, but the technology gives them the opportunity to use in one of their machine’s silicate clays, which is cheaper. After the process both clays are stored mixed in single storage place, if we require, there is possibility to be stored separately. The difference in the analysis between both clays is as follows:

Filtering Clay - Alcomet			
Silicate Basis		Cellulose Basis	
Moisture		Moisture	
NCV		NCV	
Volatile		Volatile	
Ash		Ash	
Sulfur		Sulfur	

Vegetable oil refineries – during the production of vegetable oil, at certain stage of the process the oil is filtered through natural product “clay” which is mainly “bentonite”.

Filtering is made, because of quality reasons – to change the color or the quality of the vegetable oil. The saturated clay is classified as waste and it is replaced by new one. The “bentonite” used in the food industry and respectively for vegetable oil production is imported. The local “bentonite” () is not used because it’s quality characteristics. The import of “bentonite” for tones. From this import around tones is “Filter Clay” generated from the vegetable oil refineries, the other tones “Filter Clay” is used in processes for production of Beer and Wine and do not have calorific value.

The quantity of the generated “Filtering Clay” is determined by the market of vegetable oil. In Bulgaria there are [REDACTED], which works non constant, depending on demand of vegetable oil.

The “Filtering Clay” generated from the refineries consist around [REDACTED] % vegetable oil and often self ignite when is stored. The natural product “bentonite” is compatible with our raw materials.

In present the waste “Filter Clay” is [REDACTED]
[REDACTED]
