



## TECHNICAL INFORMATION

### Highly active bleaching earth

## TONSIL® OPTIMUM 210 FF

### Product description

TONSIL OPTIMUM 210 FF is a highly active bleaching earth used in a wide scope of applications. It is manufactured by acid activation of calcium bentonite.

TONSIL OPTIMUM 210 FF is a fine, yellowish-grey powder showing a highly porous inner structure and a multitude of acid sites upon its surface.

TONSIL OPTIMUM 210 FF possesses an outstanding adsorptive capacity for polar compounds like chlorophyll, carotinoids, phospholipids, peroxides, via chemisorption and acid catalysis.

TONSIL OPTIMUM 210 FF is very suitable for refining vegetable and animal oils and fats, moreover for finishing and/or reprocessing numerous types of mineral oils, paraffins and waxes.

### Physical/chemical characteristics (typical product data)

Apparent bulk density	g/l	550
Free moisture (2 h, 110 °C)	%	~ 10
Loss on ignition (predried, 2 h, 1.000 °C)	%	8,0
pH (10% suspension, filtered)	-	2,2 – 4,8
Acidity	mg KOH/g	4,5
Chloride content	mg Cl/g	0,5
Surface area (B.E.T.)	m <sup>2</sup> /g	200
Micropore volume		
0 - 80 nm	ml/g	0,29
0 - 25 nm	ml/g	0,25
0 - 14 nm	ml/g	0,23

### Filtration properties

TONSIL OPTIMUM 210 FF shows excellent filtration performance as so-called "FF"-grade (**FF** = fast filtration). The filtration time (according to the standard method BE 0013) averages between 40 and 70 seconds. .



### Particle size

Besides other methods, the particle size of TONSIL OPTIMUM 210 FF is characterized by a sieve analysis of the dry powder. The following average values have been determined for the various sieve fractions:

>150 µm	%	5
>100 µm	%	17
>63 µm	%	29
>45 µm	%	40
>25 µm	%	60

### Chemical analysis

TONSIL OPTIMUM 210 FF (dried at 110°C for 2 hours) has the following chemical composition (average values):

SiO <sub>2</sub>	%	66,8
Al <sub>2</sub> O <sub>3</sub>	%	14,2
Fe <sub>2</sub> O <sub>3</sub>	%	3,7
CaO	%	1,1
MgO	%	2,3
Na <sub>2</sub> O	%	0,8
K <sub>2</sub> O	%	2,2
Loss on ignition	%	8,0
Total	%	99,1

### Further information and technical advice

All data mentioned in this leaflet are typical for this product and based on average values. Certain deviations can appear due to the processing of natural clays as a raw material. In no case, are these values to be regarded as specifications. On request, certificates of analysis according to DIN (German standard regulations) for specified values of single properties can be agreed upon.

Detailed information concerning application and handling can be taken from our TONSIL booklet and from our material safety data sheet of TONSIL OPTIMUM 210 FF.

If desired, our Technical Service Department will readily provide further support.

All information in this publication is in accordance with our present experience and knowledge. However, since we have no influence on the way in which our products are treated and used, we can not take any responsibility in this respect. The user must assume responsibility himself for checking whether the products are suitable for the purpose and use proposed by him. All existing proprietary rights, laws and regulations shall be observed.