



ETİMADEN
İŞLETMELERİ GENEL MÜDÜRLÜĞÜ

PRODUCT TECHNICAL DATA SHEET

ETİCOL-CERAMIC

ETİCOL
CERAMIC

$2CaO \cdot 3B_2O_3 \cdot 5H_2O$

CAS Number: 1318-33-8

Form of Sale: Powder

Packaging: 1000 kg, 1050 kg,

1200 kg, 1250 kg

[with or without pallet]



etimaden.gov.tr

General Information:

Eticol-Ceramic is the most commonly available boron mineral. Its B_2O_3 content is $42 \pm 1.00\%$. It dissolves slowly in water and rapidly in acidic medium.

The ore is enriched in concentrator plant to obtain concentrated product. The concentrated product is passed through crushing and grinding processes respectively to obtain milled product. It is then packaged in a packaging unit and ready for sale.

Some Areas of Use and Benefits:

Glass and Ceramics Industry: It is used as an agent to lower the fusing point and to increase resistance against thermal shocks and the thermal expansion coefficient in glass production. Furthermore, it is used in ceramic and enamel glaze formulations. Due to the fusing temperature being close to those of the other components in the

blend, it provides a stable structure, homogeneous fusing and low segregation. Eticol-Ceramic is also used for the production of glass fiber [textile grade glass fiber].

Since sodium is not desired in the production of textile grade glass fibers, boric acid and Eticol-Ceramic are preferred over other boron products.

The colemanite used for this purpose:

- Decreases the mixture fusing temperature.
- Enables low viscosity at fusing temperature.
- Prevents crystallization.
- Has positive effects on the physical and chemical properties of the glass product.

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Physical Properties:

Specific weight	: 2.50 g/cm ³
Pour (bulk) density^a	: 0.971 g/cm ³
Molecular weight	: 411.08 g/mol
Heat capacity	: 15.4 J/g°C
Thermal conductivity	: 0.526 W/mK
Specific surface area	: 3.30 m ² /g
Surface tension	: 64.78 mN/m [1.0% aqueous solution by weight]
Colorimetry test	: 88.53 [average L value]

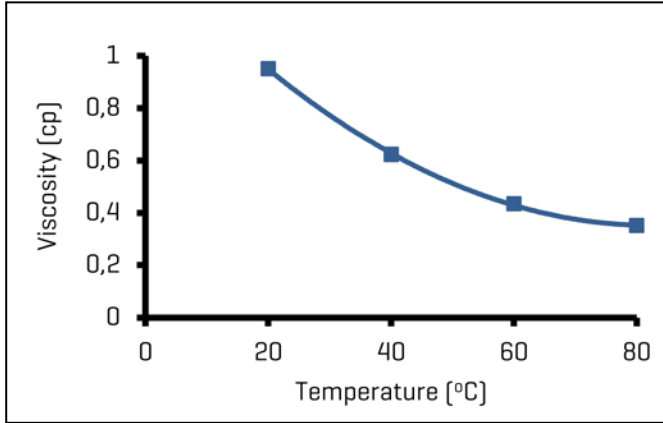
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^a: Applies to a representative sample

Solubility:

It is slightly soluble in water.

Solution viscosity values:

Temp. [°C]	Conc. [%]	Viscosity [cp]
20	0.05	0.95
40	0.05	0.62
60	0.05	0.43
80	0.05	0.35

Chemical Content:

	-75 Micron
B_2O_3	42.00 ±1.00 %
CaO	23.00 -26.00 %
SiO_2	3.00 -7.00%
SO_4	0.80% max.
Fe_2O_3	0.12-0.30%
Al_2O_3	0.40-0.80%
MgO	1.50-3.00%
Moisture	1.00% max.

Heavy metal content:

Components	Content [mg/kg]
As	600 max.
Cd	<0.005
Pb	<0.010
Cr	<0.005
Hg	<0.010

Particle size:

Size	Content
-75 µm	82% min

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