



ETİFERT-B15

ETİFERT - B15

 $\text{Na}_2\text{B}_4\text{O}_7 \cdot 5\text{H}_2\text{O}$

CAS Number: 12179-04-3

Technical Grade: Granular

Packaging: 25 kg

[with or without pallet]



General Information:

Etifert-B15 [Borax Pentahydrate] ($\text{Na}_2\text{B}_4\text{O}_7 \cdot 5\text{H}_2\text{O}$) is a form of sodium borate containing 5 mol H_2O molecules which are widely used in the industry. It is obtained in powder or crystal form from Tincal [$\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$] ore extracted by the Kırka Boron Works. Production process includes dissolving, settlement with various flocculants [anionic, etc.], centrifugation, filtration, crystallization and drying stages.

Usage and Benefits:

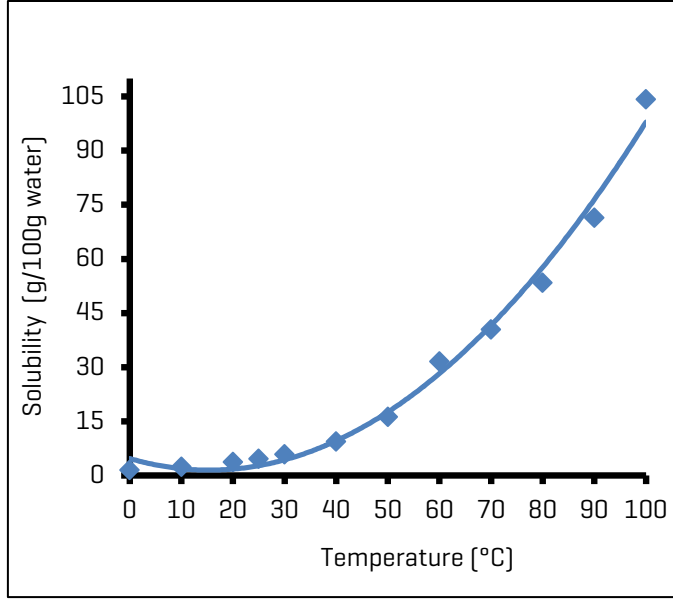
Agriculture: Boron is an element that must be present in soil for the growth and development of plants. Etifert-B15 is used to increase agricultural productivity and to obtain higher quality products. It is used as the boron source in fertilizers containing boron.

Physical Properties:

Specific weight	: 1.815 g/cm ³
Pour (bulk) density^a	: 0.966 g/cm ³ [Granular]
Molecular weight	: 291.35 g/mol
Melting point	: 741°C
Boiling point	: 1575°C
Heat capacity	: 7.6 J/g°C
Thermal conductivity	: 0.647 W/mK
Specific surface area	: < 1 m ² /g
Diffusion coefficient	: 1.0x10 ⁻⁵ cm ² /s
Surface tension	: 67.19 mN/m [1.0% aqueous solution by weight]
Colorimetry test	: 91.92 [average L value]

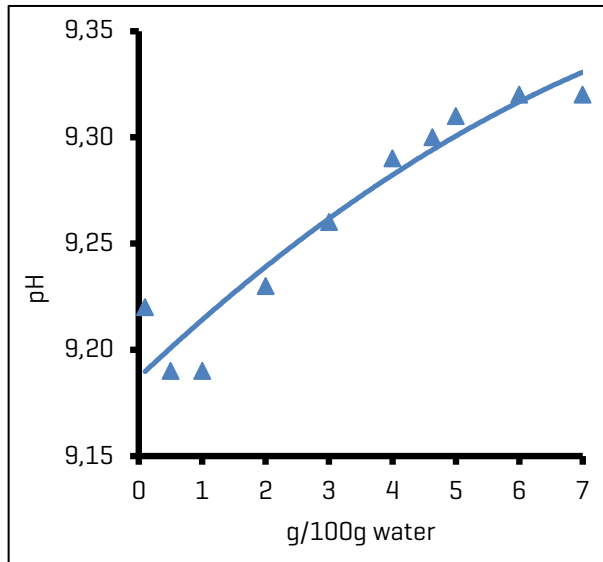
^a Applies to a representative sample.

Solubility^{b,c}:



Temperature [°C]	Solubility [g/100g water]
0	1.53
10	2.41
20	3.72
25	4.63
30	5.83
40	9.41
50	16.20
60	31.56
70	40.39
80	53.35
90	71.39
100	104.20

Solution pH values:

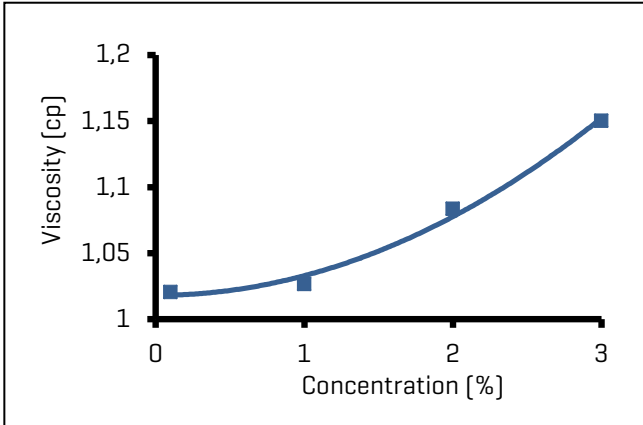


Solution [g/100g water]	pH [±0.03 / 25°C]
0.1	9.22
0.5	9.19
1	9.19
2	9.23
3	9.26
4	9.29
4.63 ^c	9.30
5	9.31
6	9.32
7	9.32

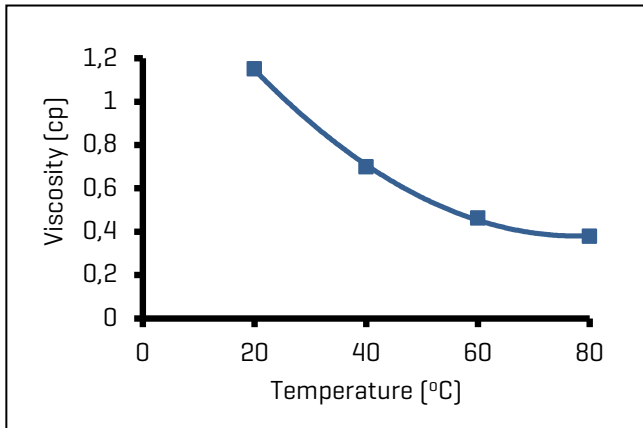
^b Factors affecting the dissolution rate, such as the particle size of material to be dissolved, the mixing speed of the solution are effective on the time to reach the saturation point. The values on the table should be evaluated by taking this into account.

^c Saturation value of Etifert-B15 at 25°C in 100g water is 4.63g.

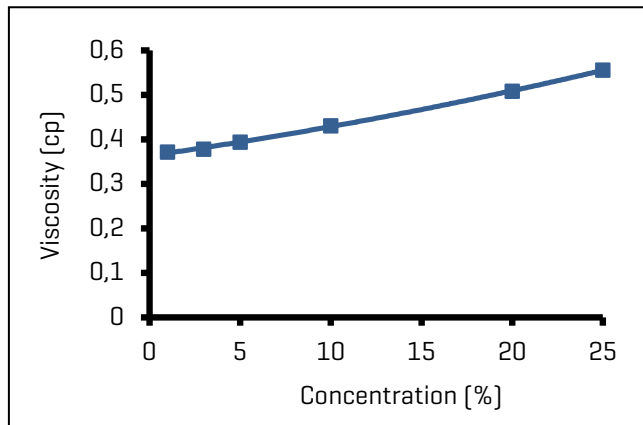
Solution viscosity values:



Temp. [°C]	Conc. [%]	Viscosity [cp]
20	0.1	1.02
20	1	1.03
20	2	1.08
20	3	1.15



Temp. [°C]	Conc. [%]	Viscosity [cp]
20	3	1.15
40	3	0.70
60	3	0.46
80	3	0.38



Temp. [°C]	Conc. [%]	Viscosity [cp]
80	1	0.37
80	3	0.38
80	5	0.39
80	10	0.43
80	20	0.51
80	25	0.56

Chemical content:

Component	Content
	Granular
B	15% min
Water-soluble B	15% min

Heavy metal content:

Component	Content [mg/kg]
As	<0.010
Cd	<0.005
Pb	<0.010
Cr	<0.005
Hg	<0.010

Particle size:

Size	Content
+1.180mm	4% max
-0.075mm	5% max