



## ETİFERT-B11

$\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$

CAS Number: 1303-96-4

Technical Grade: Granular

Packaging: 25 kg

[with or without pallet]

### General Information:

Etifert-B11 [ $\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$ ] is refined in powder or crystal form from Tincal [ $\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$ ] ore. It is a soft, alkaline salt with excellent buffering and flow properties and has a white and crystal form. Production process includes dissolving, precipitation with various flocculants, centrifugation, filtration, crystallization and drying stages.



### Usage and Benefits:

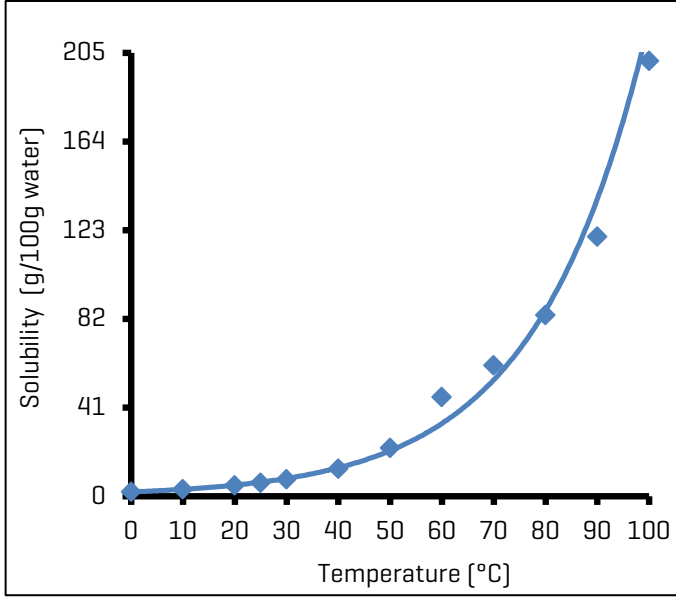
**Agriculture:** Etifert-B11 is used to increase agricultural productivity and to obtain higher quality products. It can be used in solid or liquid state as fertilizer or foliar fertilizer.

## Physical Properties:

Specific weight	: 1.73 g/cm <sup>3</sup>
Pour (bulk) density <sup>a</sup>	: 0.835 g/cm <sup>3</sup> [Granular]
Molecular weight	: 381.37 g/mol
Melting point	: 741°C
Boiling point	: 1575°C
Heat capacity	: 4.0 J/g°C
Thermal conductivity	: 0.740 W/mK
Specific surface area	: 13.55 m <sup>2</sup> /g
Diffusion coefficient	: 0.6x10 <sup>-5</sup> cm <sup>2</sup> /s
Surface tension	: 67.19 mN/m [1.0% aqueous solution by weight]
Colorimetry test	: 91.92 [average L value]

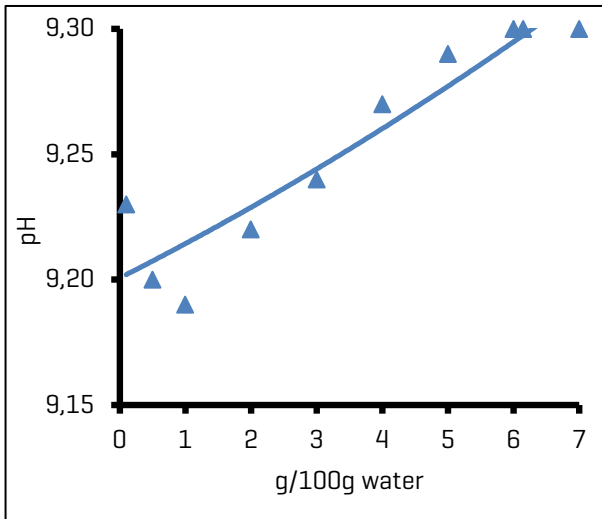
<sup>a</sup> Applies to a representative sample.

## Solubility<sup>b,c</sup>:



Temperature [°C]	Solubility [g/100g water]
0	2.02
10	3.18
20	4.94
25	6.15
30	7.78
40	12.70
50	22.34
60	45.80
70	60.44
80	83.66
90	119.95
100	201.30

## Solution pH values:

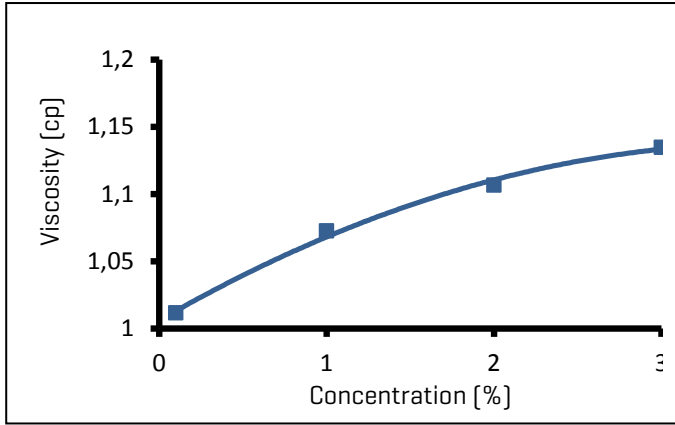


Solution [g/100g water]	pH [±0.03 / 25°C]
0.1	9.23
0.5	9.20
1	9.19
2	9.22
3	9.24
4	9.27
5	9.29
6	9.30
6.15 <sup>c</sup>	9.30
7	9.30

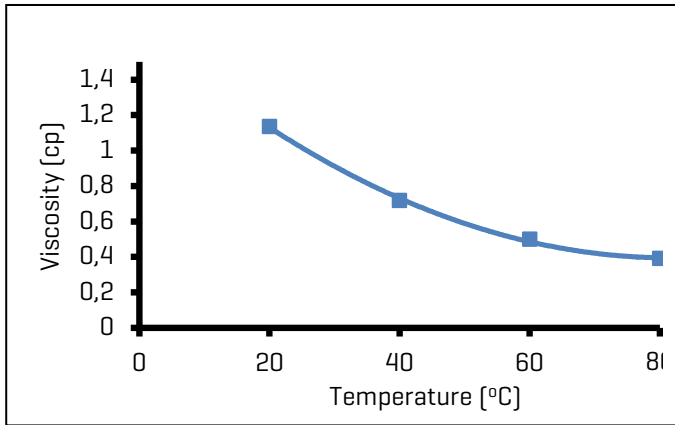
<sup>b</sup> Factors affecting the dissolution rate, such as the particle size of material to be dissolved, the mixing speed of the solution are effective on the time to reach the saturation point. The values on the table should be evaluated by taking this into account.

<sup>c</sup> Saturation value of Etifert-B11 at 25°C in 100g water is 6.15g.

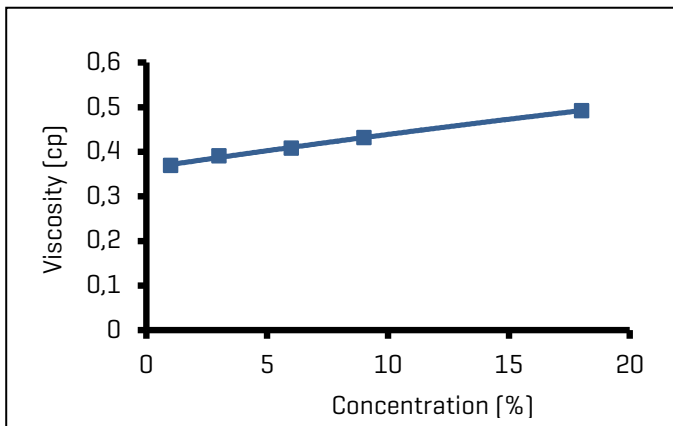
## Solution viscosity values:



Temp. [°C]	Conc. [%]	Viscosity [cp]
20	0.1	1.01
20	1	1.07
20	2	1.11
20	3	1.13



Temp. [°C]	Conc. [%]	Viscosity [cp]
20	3	1.13
40	3	0.72
60	3	0.50
80	3	0.39



Temp. [°C]	Conc. [%]	Viscosity [cp]
80	1	0.37
80	3	0.39
80	6	0.41
80	9	0.43
80	18	0.49

**Chemical Content:**

Component	Content
B	11% min
Water-soluble B	11% min

**Heavy metal content:**

Component	Content
As	<0,010
Cd	<0,005
Pb	<0,010
Cr	<0,005
Hg	<0,010

**Particle size:**

Size	Content
+1.180mm	4% max
-0,063mm	4% max