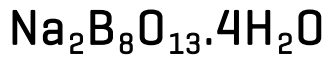




ETİFERT-B20

ETİFERT - B20



CAS Number: 12280-03-4

Technical Grade: Powder

Packaging: 20 kg

[with or without pallet]



General Information:

Etifert-B20, the chemical formula of which is $\text{Na}_2\text{B}_8\text{O}_{13}\cdot 4\text{H}_2\text{O}$, theoretically contains 14% Na_2O , 67% B_2O_3 [20.9% B by weight] and 19% H_2O . It is called disodium octaborate tetrahydrate. Even though Etifert-B20 is slightly alkaline in low concentration solutions, it becomes neutral in high concentration solutions. Boric acid and borax decahydrate are used as raw material in its production.

Usage and Benefits:

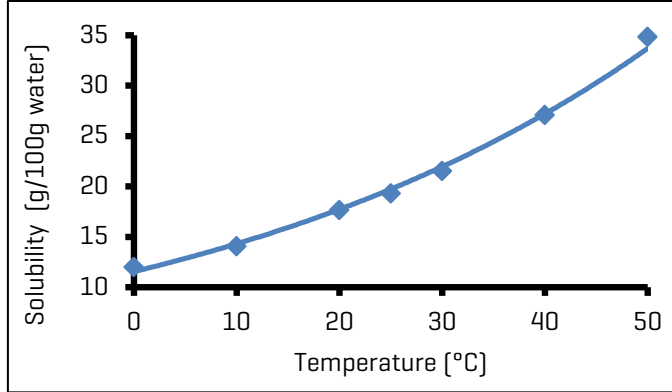
Fertilizer: Etifert-B20 is a boron containing fertilizer developed particularly for agriculture and it can be used as solid or liquid on soil and foliar applications. Its solubility is higher than similar compounds. It is produced in powder form but applied to soil or leaves as a solution or a spray.

Physical Properties:

Specific weight	: 2.26 g/cm ³
Pour (bulk) density^a	: 0.51 g/cm ³
Molecular weight	: 412.52 g/mol
Melting point	: 815°C
Heat capacity	: 7.3 J/g°C
Thermal conductivity	: 0.167 W/mK
Specific surface area	: 5.45 m ² /g
Diffusion coefficient	: 1.2x10 ⁻⁵ cm ² /s
Surface tension	: 67.8 mN/m [1.0% aqueous solution by weight]
Colorimetry test	: 96.87 [average L value]

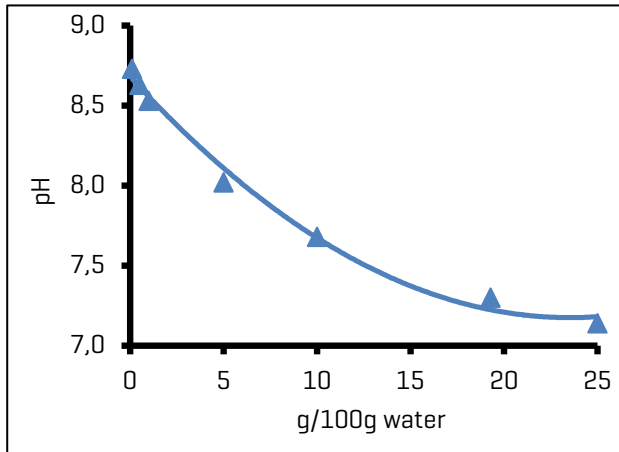
^a Applies to a representative sample.

Solubility^{b,c}:



Temperature [°C]	Solubility [g/100g water]
0	13.65
10	16.36
20	21.43
25	23.90
30	27.42
40	37.14
50	53.44

Solution pH values:

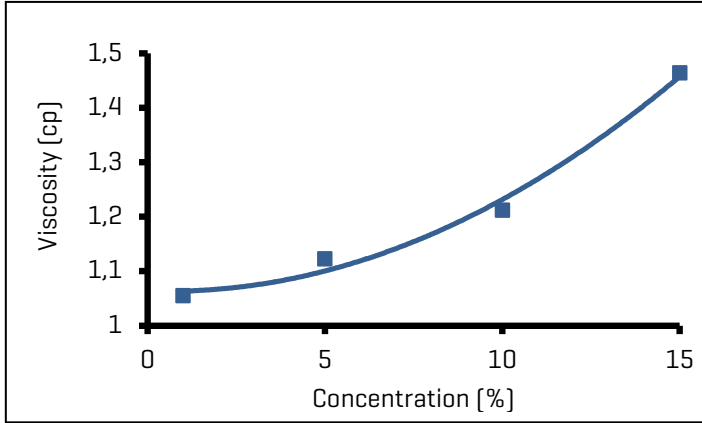


Solution [g/100g water]	pH [±0.1 / 25°C]
0.1	8.73
0.5	8.63
1	8.53
5	8.02
10	7.68
19.29 ^c	7.30
25	7.14

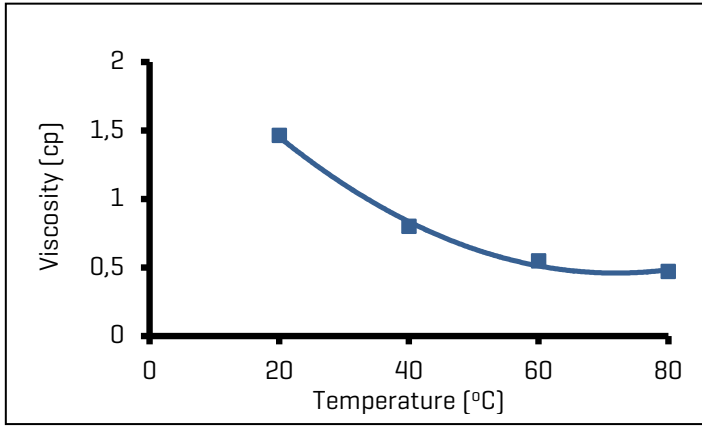
^b Factors affecting the dissolution rate, such as the particle size of material to be dissolved, the mixing speed of the solution are effective on the time to reach the saturation point. The values on the table should be evaluated by taking this into account.

^c Saturation value of Etifert-B20 at 25°C in 100g water is 19.29g.

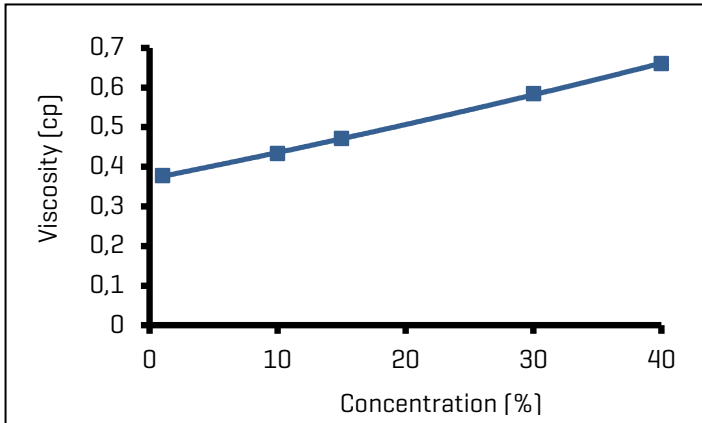
Solution viscosity values:



Temp. [°C]	Conc. [%]	Viscosity [cp]
20	1	1.05
20	5	1.12
20	10	1.21
20	15	1.46



Temp. [°C]	Conc. [%]	Viscosity [cp]
20	15	1.46
40	15	0.80
60	15	0.55
80	15	0.47



Temp. [°C]	Conc. [%]	Viscosity [cp]
80	1	0.38
80	10	0.43
80	15	0.47
80	30	0.58
80	40	0.66

Chemical Content:

Component	Content
B	20.5% min
Water-soluble B	20.5% 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
-0.090mm	50% min