



ETİDOT-67

Disodium Octaborate Tetrahydrate ($\text{Na}_2\text{B}_8\text{O}_{13}\cdot 4\text{H}_2\text{O}$)

CAS Number: 12280-03-4

Technical Grade: Powder

Packaging: 20 kg, 30 kg, 400 kg, 600 kg, 950 kg (with or without pallet)



General Information:

Etidot-67, 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 Etidot-67 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: Etidot-67 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.

Fire retardant: It is the basic form of borate-based fire retardants which are used to reduce the kindling rate of burning substances. In the recent years, it has become important for giving fire retardant properties to resin-based wooden composite panels and for being used as a protective material in timber and solid wooden products.

Wood protection: It is used as a fungicide in order to protect wooden materials against harmful organisms.

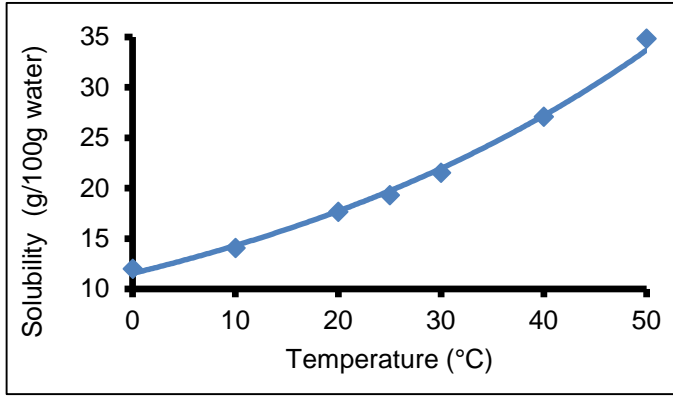
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Physical Properties:

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)

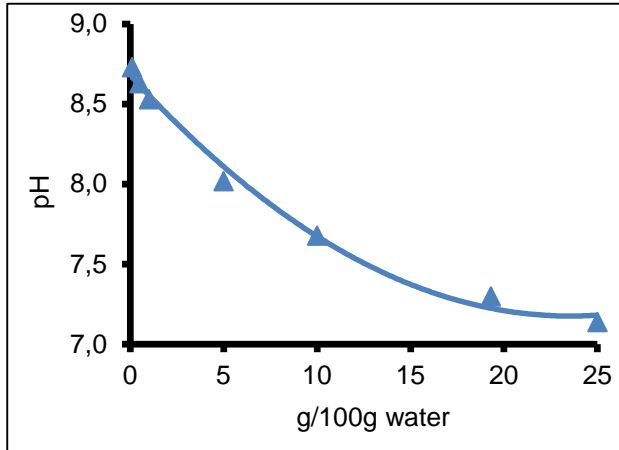
^a Applies to a representative sample.

Solubility^{b,c}:



Temperature (°C)	Solubility (g/100g water)
0	12.01
10	14.06
20	17.65
25	19.29
30	21.52
40	27.08
50	34.83

Solution pH values:

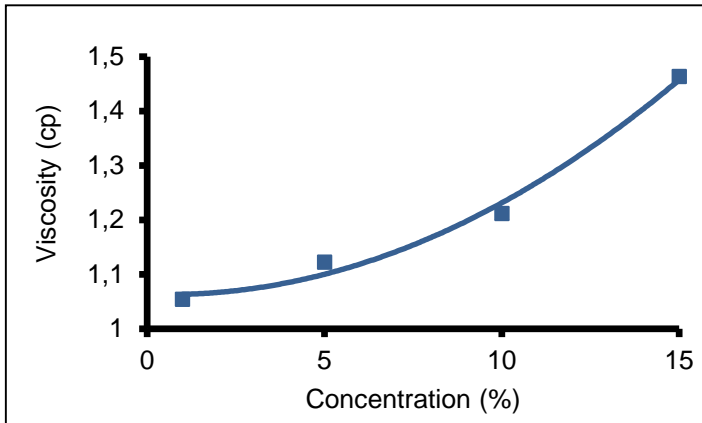


Solution (g/100g water)	pH (±0.1 / 25°C)
0.1	8.73
0.5	8.63
1	8.53
5	8.02
10	7.68
19.29 ^c	7.30
25	7.14

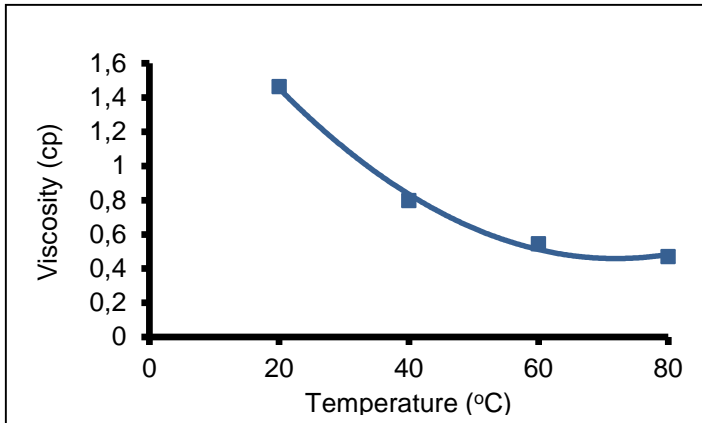
^b Factors affecting the dissolution rate, such as the particle size of material to be dissolved, the mixing speed of the solution are effective on the time to reach the saturation point. The values on the table should be evaluated by taking this into account.

^c Saturation value of Etidot-67 at 25°C in 100g water is 19.29g.

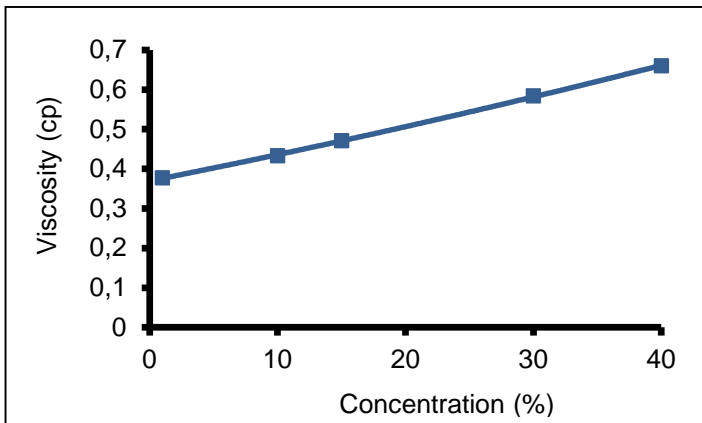
Solution viscosity values:



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:

Components	Content
Equivalent $\text{Na}_2\text{B}_8\text{O}_{13}\cdot 4\text{H}_2\text{O}$	99.25% min
B_2O_3	67.00% min
B	20.81% min
Water-soluble B	20.81% min
Na_2O	14.92% min

Heavy metal content:

Components	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

X-Ray Diffraction Analysis:

