

Linablue®

Natural blue colorant derived from DIC Spirulina patent no.4048420 and 4677250

LINABLUE is a natural blue food colorant of phycocyanin derived from DIC Spirulina. Mixed with red, yellow and other colorants, it is possible to obtain green, purple and other neutral colours.

LINABLUE is fully in compliance with regulatory criterias for coloring food in EU and USA as well as in Japan, Korea and other Asian countries. It complies also with the new US criteria "microcystin free", for which DIC group has own analysis function in USA.

Like chlorophyll and carotenoid, phycocyanin takes part in photosynthesis. It is an antioxidant and has other important properties to support a healthy lifestyle.

Phycocyanin has a combined chemical structure of phycocyanobilin and protein. Nori, seaweed, eaten widely in Japan and Korea as daily foodstuff, contains phycocyanin.

Unlike artificial colorants, the tongue will not be colored blue as LINABLUE has almost no dyeing effect.

Properties

■ Solubility

LINABLUE powder can dissolve quickly in cold and warm water to make homogeneously transparent solution.

■ pH stability

Its color shade is stable at around pH 4,5 - 8,0.

Aggregation and precipitation occur at around pH 4,2 as phycocyanin has a combined structure with protein. Used together with milk, egg or other ingredients containing protein, its color stability improves.

■ Heat stability

Being a colorant combined with protein, it is recommended to add LINABLUE in solution after cooled down or at about 60°C and cool it down immediately after adding. Its stability improves in high density sucrose solution.

■ Light stability

Its color shade deteriorates when exposed to light, but when used together with antioxidation agent like sodium ascorbate, its color stability can improve.

■ Solubility in alcohol

Precipitation occurs if used in 100% alcohol, but it can dissolve in solution with less than 20% alcohol.

Appearance

■ When dissolved in water, the color shade is vivid sky blue.

■ The color shade of LINABLUE is much more brilliant and vivid than gardenian blue.

How to use

■ Add LINABLUE in 0,01 - 0.1% volume weight. Recommended to add after heat treatment of solution.

■ Used together with red, yellow and other colorants, it is possible to obtain several different neutral colors.



Earthrise Nutritional LLC



DIC Corporation

Product

LINABLUE G1

appearance: blue powder
color value: (10% E) 180 – 190
storage condition: room temperature
packing: 5 kg in aluminium bag
in carton box.

Indication for food labels

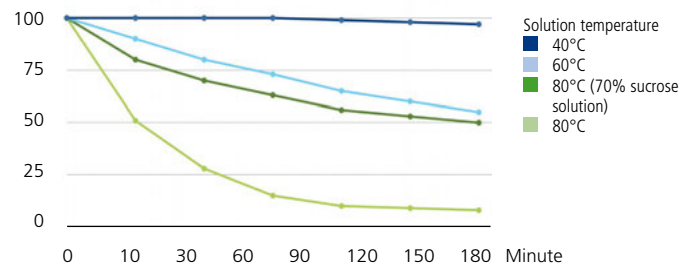
„Spirulina extract“ both
in EU and USA

Safety

- Acute toxicity
LD 50 NLT 30.000 mg/kg
- Chronic toxicity
Neither carcinogenicity nor adverse effect was observed.
- Contamination
Free from pesticide residue
Free from microcystin

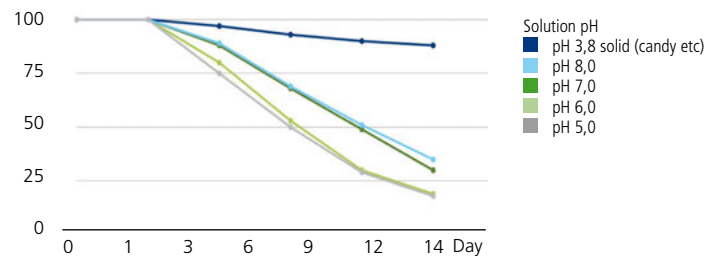
Heat Stability

The remainings of blue colorant %, pH = neutral



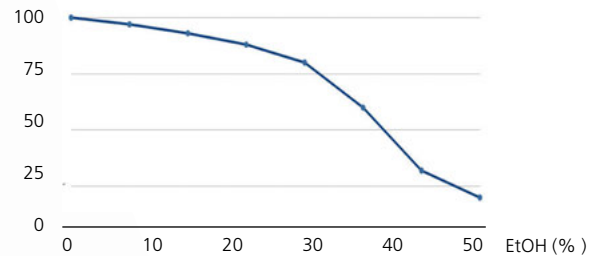
Light Stability

The remainings of blue colorant %



Alcohol Stability

The remainings of blue colorant %



pH Stability

The remainings of blue colorant %

