Product Data Sheet

Anhybor®

21.5% B

Grades: 12-mesh, 30-mesh, and fine

$Na_2B_4O_7$

Anhydrous Borax

Boron, an essential plant nutrient

Boron is one of seven micronutrients essential to all plant growth. Its role was recognized first in the 1920s and since that time, boron deficiency has been recognized in a wide range of crops.

Correcting boron deficiency

Boron deficiency can be remedied by the correct application of a borate containing material in solid or liquid fertilizers, to the seedbed in annual crops or under the foliar canopy of perennial crops.

Detecting boron deficiency

Boron deficiency shows in clearly defined ways in certain crops. Generally, by the time visible symptoms are seen, yields will already have been adversely affected. The best way to establish need is either through soil testing or through tissue analysis. In this way, boron supplementation can form part of a 'balanced nutrition' approach to crop fertilization.

Predicting boron deficiency

Certain crops worldwide are known to be more susceptible to boron deficiency than others. These are shown in the tables.

There are several factors which need to be taken into account when boron deficiency may be suspected:

- High rainfall
- Recent liming (pH over 6.6)
- Previous cropping
- Boron removal by previous crops
- No boron nutrition
- Sandy soils
- High organic matter

Susceptible to B deficiency		
Alfalfa (Lucerne)	Coffee	Peanuts
Apple	Cotton	Pine
Broccoli	Eucalyptus	Red beet
Carnation	Grape	Rutabaga
Cauliflower	Mangold	Sugar beet
Carrot	Oil palm	Sunflower
Celery	Oilseed rape	Swede
Chrysanthemum	Olive	Turnip

Moderately susceptible to B deficiency		
Banana	Cocoa	Pear
Brussels sprout	Coconut	Poppy
Cabbage	Flax linseed	Potato
Chinese cabbage	Hop	Tea
Citrus	Maize Corn	Tobacco
Clover	Papaya	Tomato

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Advantages of *Anhybor*

Natural product

Anhybor is a product resulting from the dehydration and fusion of borax.

Made for fertilizer manufacturers

Anhybor is designed with fertilizer manufacturers in mind. It is a versatile product that, depending on the grade, can be used to produce boron-enriched compound fertilizers or to coat different fertilizer products, such as NPK fertilizers, with the aid of a binder system. U.S. Borax recommends the use of a binder material during the coating process.

The 12-mesh and 30-mesh grades of *Anhybor* are specifically created so fertilizer manufacturers can add boron to their products before granulation or compaction. *Anhybor* is ideal for this application due to not having structural water, which gives a better finish product. Additionally, its high boron content allows less material to be used while keeping the targeted boron content.

For those seeking to coat/impregnate NPK fertilizers with boron, *Anhybor* Fine is the ideal product due to its small particle size and good coatability property. U.S. Borax recommends the use of a binder material during the coating process. This type of application gives fertilizer manufacture or retailers flexibility to adjust boron rate based on the cropping system.

Ease of blending

Anhybor does not rehydrate under ordinary storage conditions, and can be handled in bulk.

Solubility

It is 100% water-soluble but with a gradual release rate.

Boron concentration or content

Anhybor is a high purity product with the quality consistency that is synonymous of U.S. Borax products. It is one of the highest boron content fertilizer materials in the market.

Main uses

Depending on the grade, *Anhybor* can be used in the following applications:

- Micronutrient coating: *Anhybor* is designed to coat granular and compacted fertilizers giving flexibility on the micronutrient rate and assuring an even distribution in the field. U.S. Borax recommends the use of a binder material during the coating process.
- Compound fertilizer: *Anhybor* can be used as a raw material to produce compound or fortified fertilizers
- Direct soil application: Depending upon the cropping system, *Anhybor* can be soil applied via fertilizer mixture

ANHYBOR®

Additional reading

Boron Deficiency—Its Prevention and Cure, by V.M. Shorrocks (available from U.S. Borax on request)

Mineral Nutrition of Higher Plants, by Horst Marschner, Academic Press.

Boron and its Role in Crop Production, by Umesh C. Gupta. CRC Press