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# AlphaStar PLUS

## PRODUCT # 207

(For Consideration in Food, Brewing and Animal Feed Applications)

### I. DESCRIPTION

**AlphaStar PLUS** is a food grade, bacterial Alpha Amylase of *Bacillus subtilis* origin. The enzymes are endoamylases capable of randomly hydrolyzing the predominating  $\alpha$ (alpha)-D-(1→4) glucosidic linkages of starch. Consequently, the viscosity of gelatinous starch is rapidly reduced.

### II. PROPERTIES

Appearance: Amber to light brown liquid  
(color does not affect or reflect activity)  
Odor: Free of offensive odor  
pH (1% soln): 6.0 – 6.5  
Guaranteed Activity: Alpha Amylase 1,200 KMWU/g

### III. EFFECT OF pH

Optimum pH range 6.0 – 7.0  
Effective pH range 5.0 – 7.5  
pH Stability 5.0 – 10.0

### IV. EFFECT OF TEMPERATURE

Optimum Temperature 70°C  
Effective Temperature Range 65°C - 75°C  
Temperature Stability Up to 90°C

### V. APPLICATIONS

Starch Liquifaction and reduction of viscosity  
Production of maltodextrins and low DE syrups  
Fruit Juice Removal of starch hazes  
Brewing Liquefaction of adjuncts and removal of starch haze  
Fermentation Liquefaction of starch fermentation media

### VI. USE LEVEL

Enzyme requirements are generally dictated by processing conditions. Under optimal conditions, 0.03% to 0.06% AlphaStar PLUS on a dry starch basis (DSB) will adequately liquefy a 40% starch slurry (DSB) in approximately 15 to 30 minutes.

### **VII. STORAGE STABILITY**

In sealed containers, under cool dry conditions, the loss of activity is normally less than 10% over six months. Storage life can be extended by storing under refrigeration at 5°C (41°F).

### **VIII. TECHNICAL SERVICE:**

Information covering specific applications for this product is available from your Dyadic International sales/technical representative. We will work with your technical personnel to resolve problems and optimize your process.

### **VIII. SAFETY AND HANDLING:**

For detailed information please refer to the **AlphaStar PLUS** MSDS available upon request.

*Nothing disclosed is to be construed as a recommendation to use our products in violation of any patents. The information presented is believed to be accurate. However, said information and products are offered without warranty or guarantee, except as to the composition and purity stated herein since the ultimate conditions of use and variability of the materials treated is beyond our control. We recommend that the prospective user determine the suitability of our materials and suggestions before adopting them on a commercial scale. The goods described herein are sold "as is" and "with all faults". The seller specifically disclaims all warranties in connection with the sale of the goods, both express and implied, including, without limitation, the warranties of merchantability and fitness for any particular purpose, as those terms are defined in the uniform commercial code of Florida. The seller shall not be liable for any incidental or consequential damages whatsoever.*