



## Amylo™ 300

Amylo 300 is a food grade fungal amyloglucosidases used to convert non-fermentable sugars into fermentable sugars and widely applied in breweries and wineries.

This exoenzyme produces glucose units from starch, dextrans and maltose. It acts by sequentially hydrolyzing both  $\alpha$ -1,4 and  $\alpha$ -1,6 glycosidic bonds in these starch polymers and maltose, releasing glucose. Amylo 300 digest starch, releasing one glucose molecule at a time. They proceed from the non-reducing end of a dextrin or starch molecule until they reach a 1-6 branch point from which they cannot proceed any further. The gelatinization and liquefaction by alpha amylase of starch molecules plays directly into the efficiency of Amylo 300 enzyme's performance.

Amylo 300 is majorly used in brewing to increase wort sugar levels and thus wort fermentability, resulting in improved alcohol yields and "low carb" beer. Most brewers use Amylo to overcome malt varietal differences/ levels of modification and high level of adjunct (rice, corn, wheat) usage.

### USAGE AND APPLICATION INFORMATION.

Amylo 300 is recommended for use in brewhouse mash conversion, or in the fermentation/ maturation stages of brewing.

**Process addition step:** There are various points for adding Amylo 300 depending on the brewers desired goals.

- a. **Mashing and Wort separation** - direct addition to mash during Saccharification rest, addition to wort before kettle boiling
- b. **Fermentation and Maturation** – Direct addition to cold wort enroute to fermenter, and addition to storage /matured beer before filtration.

### pH and Temperature of use in Brewhouse

it works optimally well in brew house mash at temperature of 55-62°C~ (131-144°F) and pH ranges of 5.4 - 5.6. Amylo 300 is active up to 65°C (149°F).

Amylo is added to mash at saccharification conversion rest for a determined rest time and temperature. After mash conversion, it is subsequent heated up to 78°C~ (172 °F) before mash filtration to give more consistency of results and ensure that residual enzymatic activity is terminated by the subsequent wort boiling step. Therefore, most brewers prefer addition of the enzyme during mash conversion(Saccharification).



**Application rate:**

Recommended dosage rate in brewhouse mash is 250 -1200ml/tonne.

Recommended dosage rate in Fermentation/ Maturation is 1-4g/hl.

**Benefits:**

- 1.Improved mash saccharification and beer attenuation by production of maltose.
2. Increase the fermentability of wort
3. Maximizes the conversion of starch
4. Eliminates residual starch in wort and prevent starch/dextrin turbidity in finished beer.
5. Eliminates slow or “stuck” fermentation
6. Provides a high degree of attenuation.
7. Production of high alcohol and low carbohydrate beers
8. Unlocks sweetness naturally.